

Relationships Among Trauma Type, Posttraumatic Stress, and Posttraumatic Growth

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Abstract

The goal of this study was to provide insight into two research questions: 1) Does trauma type (interpersonal versus non-interpersonal) relate to how posttraumatic stress (PTS) and posttraumatic growth (PTG) develop in relation to one another? and 2) Do differences in individuals' reports of PTS symptoms or PTG domains exist based on trauma type? Adults seeking behavioral health or medical treatment ($N = 158$) were recruited from a community integrated health care agency and a men's residential support program located in the Southeastern United States. The results of the study did not show a significant curvilinear relationship between PTS and PTG for interpersonal or non-interpersonal trauma types. A significant negative linear relationship was observed between the post-trauma outcomes for non-interpersonal trauma, but no significant linear relationship was observed for interpersonal trauma. Additionally, individuals who reported an interpersonal trauma had significantly higher scores on total PTSD symptom severity, as well as specific symptom clusters, than those who reported a non-interpersonal trauma. Finally, there was no significant difference in PTG scores for those who reported interpersonal and non-interpersonal trauma. Results from the current study indicated that trauma type may be an important factor in the nature of the PTS and PTG relationship, and seems to be associated with PTSD symptom severity, but less important in the reporting of PTG.

Keywords: Trauma, Posttraumatic Stress Disorder, Posttraumatic Growth

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CHAPTER ONE

Introduction

Experiencing traumatic events is common among adults in the United States (U.S.), with some research indicating that approximately 61% of men and 51% of women report they have experienced a trauma (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). A more recent epidemiological study of traumatic events in the general population revealed that almost 90% of adults reported experiencing at least one traumatic event using *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5, American Psychiatric Association [APA], 2013) criteria (Kilpatrick et al., 2013). While experiencing traumatic events seems to have increased over the years when comparing the prevalence rates in these studies, the increase may be partially accounted for by methodological differences between the studies (e.g., using different DSM versions and methods of interviewing).

Given the notable prevalence of traumatic events among adults in the U.S. and changes in definitions of what constitutes a traumatic event, continued study of how specific types of trauma are associated with the experience of post-trauma outcomes using the most up-to-date criteria in DSM-5 is critical. Further, determining whether certain posttraumatic outcomes vary in relation to type of trauma may assist with developing more targeted interventions based on the event experienced. Central to the aim of the current study was the investigation of specific posttraumatic outcomes and how they relate to one another in the context of distinct trauma types.

Posttraumatic Stress and Posttraumatic Growth

Posttraumatic stress and posttraumatic growth are two of the most commonly studied post-trauma outcomes in the research literature. Posttraumatic stress (PTS) is the experience of negative emotional, psychological, and sometimes physical symptoms for an extended period of

time after experiencing a traumatic event (APA, 2013). The DSM-5 suggests four symptom clusters are present for people with Posttraumatic Stress Disorder (PTSD): intrusive symptoms, avoidant symptoms, negative alterations in cognition and mood, and increased arousal (APA, 2013). If a multitude of negative symptoms lasts for a month or more after the traumatic event, an individual may meet full criteria for a diagnosis of PTSD.

Studies of PTSD prevalence rates found that between 6 and 10 percent of people who experience trauma will go on to meet full criteria for PTSD at some point in their lifetimes (Breslau et al., 1998; Kessler et al., 1995; Kilpatrick et al 2013). Even if an individual does not meet full criteria for PTSD, a sizeable percentage have subclinical PTSD symptoms, with one meta-analysis indicating that approximately 15% of individuals had subclinical PTSD levels (e.g., individuals who report some symptoms of PTSD but would not meet full criteria for a PTSD diagnosis; Brancu et al., 2016). Symptoms of PTS can have a negative effect on people even if they do not meet full criteria for a PTSD diagnosis (Dickstein et al., 2015; Pietrzak, Goldstein, Southwick, & Grant, 2011).

Posttraumatic growth (PTG), on the other hand, is the positive psychological change experienced as a result of the struggle with highly challenging life circumstances (Tedeschi & Calhoun, 1996; 2004). Tedeschi and Calhoun's (1996) model of PTG described five domains in which people report growth after trauma: greater appreciation of life, more intimate personal relationships, greater sense of personal strength, becoming aware of new possibilities in life, and spiritual development. Similar to PTSD, not everyone who experiences trauma will report experiencing PTG. One study with combat veterans (Hijazi, Keith, & O'Brian, 2015) found that 32.2% of their sample reported moderate to high levels of growth. Further, in a sample of

ambulance drivers, almost all (98.6%) reported experiencing at least some growth in one of the five domains (Shakespeare-Finch, Smith, Gow, Embelton, & Baird, 2003). Even among a sample of survivors of the most severe traumatic events such as sexual assault and physical assault, the majority of participants (99%) reported experiencing some level of growth as a result of their traumatic experience (Grubaugh & Resick, 2007).

In an effort to understand how these posttraumatic outcomes develop, the relationship between PTS and PTG has been studied extensively (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Kleim & Ehlers, 2009; Lowe, Manove, & Rhodes, 2013; Solomon, & Dekel, 2007; Taku, Tedeschi, & Cann, 2015). Research that has examined PTS and PTG simultaneously has generally found either a positive linear relationship (Dekel, Ein-Dor, & Solomon, 2012; Tsai, Sippel, Mota, Southwick, & Pietrzak, 2015) or an inverted-U curvilinear relationship (McCaslin et al., 2009; McLean et al., 2013; Lechner, Carver, Antoni, Weaver, & Phillips, 2006). Studies that have found a linear relationship indicate that as levels of PTS increase, levels of PTG also increase (Hall, Saltzman, Canetti, & Hobfoll, 2015), suggesting that PTS and PTG can and do co-occur and are not opposite ends of a single spectrum. Research indicating a curvilinear relationship in the form of an inverted-U (McCaslin et al., 2009; McLean et al., 2013; Lechner et al., 2006) suggests that a traumatic event must produce a certain amount of stress within a person to facilitate the cognitive processing that must take place for growth to occur. If the stress of the trauma becomes too much, the relationship becomes negatively correlated. Therefore, people who report the most growth would simultaneously report a moderate amount of stress. Finally, limited research has suggested that no relationship (Grubaugh, & Resick, 2007) or a negative linear relationship (Frazier, Conlon, Steger, Tashiro, & Glaser, 2006) exists between the two outcomes.

In their meta-analysis of 42 studies, Shakespeare-Finch and Lurie-Beck (2014) found that, while the majority of evidence supported a linear relationship between PTS and PTG, results also demonstrated that a significantly stronger curvilinear relationship between the variables existed. In addition, this meta-analysis indicated that the type of trauma experienced and the age of participants were related to the PTS-PTG relationship. Previous research has examined the nature of the relationship by trauma type but this work has largely focused on a single trauma within one study or using a mixed trauma sample where comparisons related to trauma type were not made. The current study adds to the literature by comparing the nature of the PTS and PTG relationship (i.e., curvilinear vs. linear) for interpersonal and non-interpersonal trauma types.

Type of Trauma

One diagnostic criterion that has not been challenged throughout the history of PTSD is the presence of Criterion A, the experience of an external traumatic event. A person can be exposed to trauma according to the *DSM-5* (APA, 2013) in four ways: by directly experiencing the traumatic event; witnessing the event; learning that the traumatic event happened to a close family member or close friend, with the event being violent or accidental; or by experiencing repeated or extreme exposure to aversive details of the traumatic events. Research (May & Wisco, 2016) has suggested that direct (i.e., experiencing or witnessing in person) versus indirect (i.e., hearing about the event) experiences of trauma lead to a greater probability of developing PTSD. May and Wisco (2016) concluded that the change in Criterion A from *DSM-IV-TR* to *DSM-5* was warranted because it might be instrumental in differentiating PTSD from related disorders such as adjustment disorder or grief.

Kilpatrick et al. (2013) found the most common traumatic events reported were physical/sexual assault (53.1%), death of a family member or close friend due to violence/accident/disaster (51.8%), disasters (50.5%), and accident/fire (48.3%). The prevalence of PTSD associated with these trauma types was 7.3%, 4.3%, 0.4%, and 0.9%, respectively, indicating that type of trauma experienced likely is associated with the development of PTSD.

Trauma and post-trauma outcomes are most commonly evaluated in multiple ways in the literature. The first method is through epidemiological studies that examine the general population, where the focus is on prevalence of trauma and PTSD (Creamer, Burgess & McFarlane, 2001; Frans, Rimmö, Åberg, & Fredrikson, 2005; Hapke, Schumann, Rumpf, John & Meyer, 2006; Kessler et al., 1995; Kilpatrick et al., 2013; Olaya et al., 2015). Other studies have focused on investigating specific types of trauma such as sexual or physical assault (Kleim, Ehlers & Glucksman, 2007; Valdez & Lilly, 2015), accidents (Ehring, Ehlers, & Glucksman, 2006; Rabe, Zöllner, Maercker & Karl, 2006), natural disasters (Lowe et al., 2013; Pietrzak et al., 2012), and bereavement (Moore, Cerel & Jobes, 2015).

Both methods of studying trauma come with benefits. If the goal is to estimate how prevalent the experience of trauma is for a population, large samples are needed for the studies to be generalizable. However, these epidemiological studies are not as helpful in addressing questions about specific types of trauma. Studies that examine specific types of trauma are useful in answering more detailed questions about how individuals adjust after these experiences (Karanci et al., 2012; Shakespeare-Finch & Armstrong, 2010). For example, Karanci et al. (2012) evaluated the differences in PTG domains among three types of traumatic events (i.e., accidents, natural disasters, bereavement). They found that the type of event experienced was associated with PTG in the areas of relating to others and having an appreciation for life. No

significant differences among trauma types were found for the PTG domains of believing in new possibilities, an increase in personal strength, or experiencing a spiritual change. Although an important addition to the literature, the main goal of the Karanci et al. study was not to examine the differences among trauma types. The authors reported that trauma type was not purposefully selected at the outset of the study; therefore, the current study aimed to provide more information about how trauma type relates to the reporting of PTS symptoms and PTG domains.

The importance of examining multiple trauma types across a single study lies in the standardization of sampling technique, definition and measurement of concepts, and the methods used to analyze data (Linley and Joseph, 2004; Shakespeare-Finch & Armstrong, 2010). Comparing the relationships of different trauma types becomes easier when the sample comes from a single study with standardized methods and measures. This design thereby allows for direct evaluation of outcomes and more accurate comparison. To address these issues, besides the Karanci et al. (2012) study above, one other study (Shakespeare-Finch & Armstrong, 2010) examined multiple traumas within a single study while examining specific outcomes in an adult population.

Shakespeare-Finch and Armstrong (2010) specifically examined survivors of sexual assault, motor vehicle accidents, and those experiencing bereavement in a single study to see how each type of trauma was related to the report of DSM-IV-TR PTS symptoms and PTG domains. Another aim of their study was to examine whether the relationship between PTS and PTG was linear or curvilinear. Differences were observed in post-trauma adjustment between the three groups suggesting that type of trauma may be associated with the development of PTS and PTG. The bereaved group reported higher levels of growth than the sexual assault group

specifically, in the PTG domains of “appreciation of life” and “relating to others,” while all three groups reported similar amounts of growth for the domain of “personal strength.”

In terms of PTS, sexual assault survivors reported more PTS symptoms than the other two groups, replicating previous studies where physical and sexual assaults consistently have high prevalence rates for lifetime and current diagnoses of PTSD compared to other trauma types (Frans et al., 2005; Hapke et al., 2006; Kilpatrick et al 2013). The results did not support a curvilinear relationship between PTS and PTG, finding only a positive linear relationship, which is consistent with prior research (Calhoun & Tedeschi, 2006; Morris, Shakespeare-Finch, Rieck, & Newbery, 2005). However, the sample only included participants that reported their traumas were “severe” which may have only represented a portion of what could be a curvilinear relationship. The current study differs in that no restrictions were placed on reported severity of trauma in order to examine the full range of possible reactions to the experience of a traumatic event.

At times, researchers have utilized broader categories of types of traumatic events, such as interpersonal or non-interpersonal. The World Health Organization (WHO; 2002) defines interpersonal trauma as acts of violence perpetrated by lone individuals or small groups and includes child abuse, elder abuse, violence between intimate partners and other family members, assaults by strangers, and violence in institutional settings. Elderton, Barry, and Chan (2017) reviewed the literature related to interpersonal trauma during adulthood and posttraumatic growth and found the nature of the PTS and PTG relationship was inconsistent across studies. Linear (Cole & Lynn, 2010; Frazier, Conlon, & Glaser 2001), curvilinear (Kleim & Ehlers, 2009) and non-significant relationships (Borja, Callahan, & Long, 2006; Cobb, Tedeschi, Calhoun, & Cann 2006; Kunst, 2010, 2011) were all observed as findings for PTS and PTG

among these studies. Investigating the factors that influence each response is crucial because responses to trauma are not universal. Thus, the current study examined the nature of the PTS and PTG relationship for these broader categories of trauma types, interpersonal (i.e., physical/sexual assault as an adult or a child) and non-interpersonal (i.e., car accidents, natural disasters, death of a loved one).

The Current Study

The goal of the current study is to provide insight into two research questions: 1) Does trauma type (interpersonal versus non-interpersonal) relate to how PTS and PTG develop in relation to one another? and 2) Do differences in individuals' reports of PTS symptoms or PTG domains exist based on trauma type? Regarding the first question, evidence exists for both linear and curvilinear relationships between the two outcomes when considering single trauma types such as assault survivors (Kleim & Ehlers, 2009) and bereaved individuals (Taku, Tedeschi, & Cann, 2015). Linear and curvilinear relationships also have been observed when samples have been comprised of multiple traumas and using the total scale scores (Shakespeare-Finch & Lurie-Beck, 2014). However, to the researcher's knowledge, the relationships between PTSD symptom clusters and PTG domains have not been investigated for multiple types of traumatic events within a single sample. Previous studies have only used one type of trauma for their sample or have investigated this issue using meta-analyses. The current study adds to the literature by examining the PTS/PTG relationship across two groupings of trauma types, interpersonal trauma and non-interpersonal trauma. Two hypotheses were developed for the first research question.

Hypothesis 1: PTS and PTG will have a curvilinear relationship for the interpersonal trauma type (i.e., physical or sexual assault as a child or an adult) because the variability in PTS scores will be wide enough to show the full range of growth. PTS is needed for some growth to

occur but too much stress can impede the growth process and, at a certain point of too much stress, growth starts to decline (Kleim & Ehlers, 2009; McCaslin et al., 2009).

Hypothesis 2: PTS and PTG will have a significant positive linear relationship for the non-interpersonal trauma type (i.e., accidents, natural disasters, sudden and unexpected death of a loved one. etc.) but no significant curvilinear relationship will be found. These traumas may produce the stress needed for growth to occur but not enough stress for growth to begin to decline (Lowe et al., 2013).

Additionally, the current study investigated a second research question: whether significant differences based on trauma type existed in overall PTSD symptom severity and the symptom clusters as well as overall PTG and the PTG domains. Studies have examined PTG domains and DSM-IV-TR PTSD symptoms by trauma type (Karanci et al., 2012; Shakespeare-Finch & Armstrong, 2010) and found that symptoms of PTS and PTG domains differ significantly based on trauma type. However, to the researchers' knowledge, few studies have purposefully compared PTS and PTG outcomes by trauma type, within the same study, with the intent of examining the role trauma type plays in the reporting of PTS symptoms and PTG domains. To address research question 2, the current study examined the following hypotheses based on the previous literature (May & Wisco, 2016, Karanci et al., 2012; Shakespeare-Finch & Armstrong, 2010).

Hypothesis 3: Significant differences will be found on total PTSD symptom severity and subscales based on trauma type. Specifically, the interpersonal trauma group will report more severe symptoms of PTSD.

Hypothesis 4: Significant differences will be found on reports of total PTG and domains based on trauma type. Specifically, individuals experiencing non-interpersonal traumas will report the most overall growth compared with individuals experiencing interpersonal traumas.

CHAPTER TWO

Method

Participants

G*Power was used to estimate the necessary sample size (Faul, Erdfelder, Buchner, & Lang, 2009) of 128 participants needed to ensure power at .80 and an effect size of .25 for all planned analyses. Adults seeking behavioral health or medical treatment ($N = 158$) were recruited from a community integrated health care agency and a men's residential support program located in the southeastern United States. Eleven participants did not indicate any traumas as emotionally bothersome and were excluded from analyses bringing the total number of participants to 147. Participants were 73.3% women and 26.5% male. The mean age was 43.64 years ($SD = 13.45$, range 18 to 72). The majority of participants were European-American (87.5%) with 5.5 % Multiethnic (reporting more than one ethnicity), 4.8% African-American, 1.9% Hispanic-America/Latino, and 0.7% Native-American.

The majority of the sample was single (26.5%), with 24.5 % reporting being married, 17.0% divorced, 12.9% living with a partner/significant other, 7.5% separated, 7.5% widowed, and 2.7% dating. Regarding employment, 48.3% reported being disabled/unable to work (48.3%), 14.3% working full-time, 12.9% working part-time, 6.1% unemployed/laid off, 4.8 % retired, 6.8% looking for work, and 6.8% keeping house/raising kids. The majority had a high school diploma (60.5%) with 13.6% earning an associate's degree, 8.8% bachelor's degree, 8.2% other (i.e. GED, vocational training), 8.2% less than a high school diploma, and 2.7% master's degree. Regarding income, 24% reported earning less than \$5000 a year, with other ranges including \$5,000-\$11,999 (21.1%), \$12,000- \$15,999 (18.4%), \$25,000- \$34,999 (12.2%), \$35,000- \$49,999 (6.2%),

\$16,000- \$24,999 (6.1%), and \$50,000 and up (4.1%). The average number of distinct traumas reported per person was 6.63 (SD = 3.05, range 1 to 13) and the average time since their reported most traumatic event was 17.30 years (SD = 14.46, range 0 to 56 years). Additionally, 75.5% of the sample reported having a mental health diagnosis and 65.3% reported taking medication for the mental health diagnosis.

Measures

Demographic Questionnaire. Participants were asked to complete questions related to age, gender, ethnicity, relationship status, education, employment status, income and current mental health diagnoses, and any medications they were taking related to those diagnoses.

Trauma History. The Trauma History Screen (THS; Carlson et al., 2011) is a self-report measure developed to assess an individual's history of traumatic events in clinical and nonclinical samples. The measure consists of two parts. Respondents first indicate whether or not they have experienced any of a 14-item checklist of traumatic stressors using a "YES" or "NO" scale. Example items include "A really bad car, boat, train or airplane accident" and "Sudden, unexpected, or violent death of close family or friend." If participants report that they have experienced a particular event, then they also are asked to specify how many times they experienced the event and whether the event "emotionally bothered them." For events that emotionally bothered respondents, several follow-up questions about the event are completed (e.g., "Describe what happened" and "When this happened did someone get hurt or killed"). Participants also answer questions about the duration of distress (e.g., 1-week to a month or more) and the severity of the emotional disturbance from not at all (0) to very much (4). In the current study, participants were instructed to indicate which event was the *most* emotionally bothersome and answer the second part of the THS about that specific event.

The THS had good one to two-week test-retest reliability in samples of veterans in residential rehabilitation, trauma-exposed individuals in a hospital setting, community young adults and adults, and college students (r s ranging from .74 - .93; Carlson et al., 2011). Convergent validity of the THS has been supported by significant differences on trauma symptom scale scores for individuals who did and did not endorse emotionally disturbing events (Carlson et al., 2011). The THS also had high correlations with similar trauma event checklists, again supporting convergent validity. Internal reliability for the THS was not reported because it is not necessary that the events reported show high consistency for measures of individual experience (Carlson et al., 2011).

Posttraumatic Stress. The PTSD Checklist-5 (PCL-5; Weathers, et al., 2013) is a 20-item self-report questionnaire used to assess *DSM-5* (APA, 2013) symptoms of PTSD. Participants are instructed to indicate how much they have been bothered by a particular problem over the past month. An example item is “Repeated, disturbing, and unwanted memories of the stressful experience.” Items are scored using a 5-point scale, ranging from 0 (*Not at all*) to 4 (*Extremely*). Symptom severity can be calculated from a total score ranging from 0 to 80 or by summing 4 symptom clusters that correspond with the *DSM-5* symptom structure, Intrusion (Cluster B), Avoidance (Cluster C), Negative Alterations in Cognitions and Mood (Cluster D), and Alteration in Arousal and Reactivity (Cluster E). The National Center for PTSD (2016) has indicated that if respondents endorse a 2 = “Moderately” or higher for 1 cluster B, 1 cluster C, 2 cluster D, and 2 cluster E items or have a total score of 33 or higher a provisional diagnosis of PTSD can be made. The total score and the total of each subscale were used for data analysis with higher scores indicating more PTSD symptom severity.

The PCL-5 has demonstrated convergent validity through high correlations ($r = .84$ and above) with similar self-report measures of PTSD (Blevins, Weathers, Davis, Witte, & Domino, 2015). Discriminant validity was also acceptable as shown by moderate correlations with related constructs such as depression ($r = .60$), and lower correlations with constructs such as mania ($r = .31$) and antisocial personality traits ($r = .39$). High internal consistency has been reported with a Cronbach's alpha of .91 in active duty military (Wortmann et al., 2016) and .96 in a sample of veterans (Bovins et al., 2015). Good four-week test-retest reliability also has been demonstrated ($r = .84$; Bovins et al., 2015). Cronbach's alpha in the current study was .94 for the full scale, and .89, .87, .88 and .83 for re-experiencing, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity subscales, respectively.

Posttraumatic Growth. The Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) is a 21-item self-report questionnaire designed to assess posttraumatic growth in people who have experienced trauma. Participants are asked to indicate the degree to which they have experienced an item as a result of their crisis. Sample items include "Knowing that I can count on people in times of trouble" and "A feeling of self-reliance." Items are scored on a 6-point scale from 0 (*I did not experience this change as a result of my crisis*) to 5 (*I experienced this change to a very great degree as a result of my crisis*). A total score can be calculated for an overall PTGI score ranging from 0 to 105 with higher overall scores indicating more growth after the experience of trauma. The PTGI includes five subscales which will be used in the current study: Relating to Others (7 items), New Possibilities (5 items), Personal Strength (4 items), Spiritual Change (2 items), and Appreciation of Life (3 items). The total score and the total of each subscale was used for data analysis.

The PTGI demonstrated convergent validity through moderate correlations ($r = .18$ and above) with similar self-report measures such as resilience, hardiness, and self-esteem (Tedeschi & Calhoun, 1996). Discriminant validity was demonstrated by a non-significant correlation with social desirability for the total PTGI and low negative correlation with the Appreciation of Life subscale ($r = -.15$). Internal consistency of the PTGI was acceptable with Cronbach's alpha of .90 for the total score and alphas for the subscales ranging from .67 (appreciation of life) to .85 (relating to others and spiritual change; Tedeschi & Calhoun, 1996). Test re-test reliability for the PTGI over a two-month period was $r = .71$ (Tedeschi & Calhoun, 1996). Cronbach's alpha for the PTGI in the current study was .93 for the total score and .86, .82, .76, .82, .72, for the subscales Relating to Others, New Possibilities, Personal Strength, Spiritual Change, and Appreciation of Life, respectively.

Procedure

Data collection occurred through in-person and online recruitment at a local community health agency and at a men's residential assistance organization in a southeastern state. The community agency provides integrated care, offering physical as well as mental healthcare. The men's residential assistance organization provides housing services and substance abuse treatment for homeless veterans and non-veteran individuals who need substance treatment. In-person recruitment occurred in the lobby area of multiple locations of the community health agency and through attending groups at both organizations. Online recruitment occurred through flyers that were placed around the various offices of the community mental health agency and the main office of the men's residential assistance organization with a link to the survey hosted on Qualtrics.

At the community health agency, announcements were made at treatment team meetings to inform the providers at each location about the study and to provide them with flyers to post on their doors, and research announcements also were made directly to potential participants at groups. At the men's residential assistance organization, the first author attended groups and announced the research opportunity. Finally, survey packets were left at offices of each organization with instructions for participants about how to complete the surveys. The packets were then sealed and placed in a locked collection box for the researcher to retrieve. Collection of the surveys from the locked boxes occurred weekly. Five hundred- twenty-five paper surveys were printed and distributed throughout the data collection process. Of that, 119 paper surveys were returned, leaving a return rate of approximately 23%. The return rate for online participation could not be calculated because the number of people who took flyers but did not participate is unknown. All potential participants who were 18 years or older and reported a trauma history had the opportunity to participate whether they were seeking mental health treatment or medical treatment.

After indicating interest to take part in the study, if participants were recruited in person they were presented with the informed consent, which they signed and detached from the packet. Participants were given a copy of the informed consent to take with them. In the online version of the survey, participants were presented with the informed consent at the beginning and were asked to select "Yes" to consent to participate. The online informed consent provided links to mental health agencies and prompted participants to print the informed consent page. Once participants gave consent they were directed through the survey material. If participants did not select "Yes" they were directed out of the survey and thanked for their time. All participants were informed that their data was kept confidential and in no way affected their treatment at the

community agency or the services they received from the men's residential assistance organization. Once the surveys were complete, participants filled out an information sheet to be entered into a raffle for one of forty-five \$20 gift cards for completing the survey. As per the local university Institutional Review Board (IRB) policy, the raffle was open to all those who would like to enter regardless of participation in the study. All procedures were approved by the university IRB as well as the local mental health agency's IRB.

CHAPTER THREE

Results

Data Screening and Preparation

All data analyses were conducted using SPSS version 23. Data provided via the paper and pencil surveys was entered manually. Data provided via the online surveys was downloaded, formatted and combined with the manually entered data. Once combined, the data were checked for errors in entry. After the data set was checked, it was cleaned and assessed for the assumptions of the intended tests. All variables were checked for missing values, outliers, and assumptions of normality. There were no cases with more than 20% missing data; therefore, data was estimated using SPSS expectation maximization procedure with imputation (Tabachnik & Fidell, 2007). Responses were assumed to be missing completely at random using Little's test for missing data ($X^2 = 667.17$ $df = 772$, ns).

Preliminary Analysis

Means, standard deviations, and bivariate correlations were calculated for all the variables of interest and can be found in Table 2. Participants were asked to endorse traumatic events they had experienced from the list provided on the THS. They were then asked to briefly describe one event as being currently the most emotionally disturbing. This event was used to group participants into interpersonal and non-interpersonal types. The interpersonal trauma group had 57 (38.8%) individuals and the non-interpersonal type had 90 (61.2%) individuals. A series of *t*-tests showed no significant difference on age ($t(144) = -1.74$, ns) or total number of traumas ($t(145) = 1.33$, ns) of the interpersonal and non-interpersonal trauma groups. However, there was a significant difference for time since trauma for the interpersonal and non-interpersonal trauma groups ($t(139) = 4.31$, $p = .000$), with those who reported non-interpersonal traumas experiencing the trauma more recently than those who reported interpersonal traumas.

Additionally, a series of chi-square tests were used to compare the groups in categorical domains. The trauma types were not significantly different in terms of ethnicity, $X^2(5, N = 146) = 4.34, ns$, relationship status, $X^2(6, N = 145) = 8.57, ns$, employment status, $X^2(6, N = 147) = 4.06, ns$, education, $X^2(5, N = 147) = 4.19, ns$, income, $X^2(10, N = 142) = 6.81, ns$, or whether they were currently prescribed medications, $X^2(1, N = 129) = .616, ns$.

However, the trauma types did differ significantly with respect to gender, $X^2(1, N = 146) = 9.37, p = .002$, with significantly more males in the non-interpersonal trauma group than in the interpersonal trauma group. Additionally, those with current mental health diagnoses were significantly different between the trauma types, $X^2(1, N = 125) = 10.51, p = .001$. There were significantly more with mental health diagnoses among the interpersonal trauma group than in the non-interpersonal trauma group.

Test of Hypotheses

First, zero order correlations between the PCL-5 with all its symptom clusters and the PTGI with all of its subdomains were calculated for interpersonal type (Table 2) and non-interpersonal type (Table 3). Type of trauma was included in the correlation table because there was a significant difference among the types of trauma. However, time since trauma was not significantly correlated with the total PCL-5 or the total PTGI, therefore it was not included in further analyses. To address hypothesis 1, the correlation between PTGI and PCL-5 were examined to see if a significant linear relationship existed between the variables for those who endorsed an interpersonal trauma. No significant correlation was found between the PTGI total score and the PCL-5 total score ($r = -.08, ns$). In the hierarchical regression analysis, the linear PCL-5 total score was entered into the first step with the quadratic term (PCL-5 total centered and squared) entered into the second step. There was no significant R^2 change, therefore the data

showed a non-significant curvilinear relationship between PTG and PTS for the interpersonal trauma type, $R^2 = .01$, $F(1,55) = .367$, *ns*. Therefore, the first hypothesis was not supported by the present data.

In terms of hypothesis 2, a significant negative correlation was found between PTS and PTG for the non-interpersonal trauma type at the linear level ($r = -.25$, $p = .020$), indicating that as PTG increases PTS decreases. Hierarchical regression analysis was conducted to test whether a quadratic relationship would exist above and beyond the linear relationship for the non-interpersonal type (Table 4). The first step in the regression model, containing the centered PCL total score, significantly explained 6.1% the variance in PTGI total score, $R^2 = .06$, $F(1,86) = 5.62$, $p = .020$. However, when the quadratic term (PCL-total centered and squared) was added in the second step of the regression, there was no significant increase in the R^2 , $R^2 = .06$, adjusted $R^2 = .04$, $F(2, 85) = 2.78$, *ns*, indicating that no significant curvilinear relationship existed between PTG and PTS for individuals who experience non-interpersonal types of trauma. This finding supports the second hypothesis.

To address the third hypothesis, a series of independent samples t-tests were conducted to compare the total scores of the PCL and PTGI, as well as the specific subscales of each measure by trauma type. All means and standard deviations can be found in Table 5. The total PCL, ranging from 0 to 80 was significantly higher, $t(143) = 3.103$, $p = .002$, for those who endorsed interpersonal trauma type, ($M = 54.04$, $SD = 17.59$), than for those who endorsed the non-interpersonal type ($M = 43.78$, $SD = 20.62$). Additionally, each of the PCL subscales was significantly higher for the interpersonal trauma type: Intrusion ($t(143) = 2.468$, $p = .014$); Avoidance ($t(143) = 2.671$, $p = .008$); Negative Alterations in Cognitions and Mood ($t(143) = 2.911$, $p = .004$); Alteration in Arousal and Reactivity ($t(143) = 2.649$, $p = .008$). This finding

supports hypothesis three and indicates that those who reported an interpersonal trauma type had more trauma.

Finally, to address hypothesis four, means of PTGI total score and the domains were compared between the two trauma types. The PTGI total score was not significantly different for those in the interpersonal trauma group versus those in the non-interpersonal trauma group. Additionally, there was no significant difference between the interpersonal type and the non-interpersonal type for the five PTG domains. Thus, hypothesis four was not supported.

CHAPTER FOUR

Discussion

The first aim of this study was to test whether the type of trauma a person experiences would be associated with the relationship between PTS and PTG. Specifically, we hypothesized that the relationship between PTS and PTG would be curvilinear in nature for people who experienced interpersonal traumas and linear in nature for people who experienced a non-interpersonal trauma. Our results did not support our first hypothesis or prior research (McCaslin et al., 2009; McLean et al., 2013; Lechner et al., 2006) that found a curvilinear relationship between PTG and PTS.

Our conflicting results related to the curvilinear relationship between PTS and PTG may be due to differences in traumatic stress severity. For example, McLean et al. (2013) examined the PTS and PTG relationship in a sample of military medical personnel who were exposed to healthcare stress in a combat zone. The level of trauma for these military medical personnel was ongoing and persistent; therefore, this stress may be higher than the stress endorsed for the current sample. The current literature has yet to define the specific level of distress needed for growth to occur. Additionally, the specific amount of trauma exposure needed for growth to decline has yet to be determined. Future studies may focus on the specific amount of trauma needed for an individual to report PTG as well as the point at which trauma exposure and the subsequent PTS symptoms influence a decline in PTG. Nevertheless, the current results are consistent with Shakespeare-Finch and Lurie-Beck's (2014) meta-analysis findings that no relationship existed between PTG and PTS for individuals who experienced sexual assaults. Individuals who experienced sexual assaults were a large proportion (59.6%) of the interpersonal trauma type in this study. It is also possible that this lack of variability within the interpersonal

trauma type group may have related to the PTG and PTS relationship for the sample in this study.

Our second hypothesis that PTS and PTG would have a significant positive linear relationship for the non-interpersonal trauma type was partially supported, as stress and growth were significantly negatively linearly related. This result supports the findings of Frazier et al. (2006) that the most growth was endorsed for those reporting the least amount of stress at the time of data collection. One explanation for this negative linear relationship could be the point in time data collection. The cross-sectional method of collecting data reflects what the current PTG and PTS relationship, but cannot determine what the relationship was closer to the time of the trauma or how the relationship may change in the future. The relationship between posttraumatic stress and posttraumatic growth may be better explored through a repeated measures longitudinal study using multiple measurements of both stress and growth to track them over time. Since the reporting of PTS and PTG may be temporally related to the trauma from which symptoms are reported, point in time measurement could be critical. Previous studies have used this methodology examining specific groups of trauma survivors such as ex-prisoners of war (Dekel, Ein-Dor, & Solomon, 2012), Israeli Jews and Palestinians during ongoing violence (Hall et al. 2015), and earthquake survivors (Chen, Zhou, Zeng, & Wu, 2015), and found that PTS and PTG were positively related with linear and curvilinear relationships. Subsequent studies would benefit from using longitudinal methodologies while comparing types of trauma within the same sample to control for differences in demographics, measures used, and other factors that may be associated with the PTS and PTG relationship.

Shakespeare-Finch and Lurie-Beck (2014) make the assertion that there is no longer a question of whether PTS and PTG are related, but that the question still remains as to how and

what factors are associated with this relationship. The findings from the current study partially support this assertion in that PTS and PTG were negatively linearly related for individuals who experienced non-interpersonal trauma. Future research studies examining posttraumatic outcomes should include measures of both PTS and PTG and examine the relationship between the two. Clinical implications of this finding relate to the aspects of PTS clinicians attend to when individuals present with trauma history. It would be beneficial for practitioners to attend to symptoms of PTS and be familiar with domains of PTG in order to help guide clients toward aspects of positive adjustment post-trauma.

The second aim of this study was to explore how trauma type influences the reporting of PTS symptoms as well as PTG domains. Our third hypothesis that significant differences would be reported for PTSD symptom severity based on trauma type was supported. Individuals who experienced an interpersonal trauma such as physical or sexual assault as an adult or a child reported more severe PTS symptoms than individuals who reported experiencing non-interpersonal traumas, such as a car accident or the death of a loved one. Breslau et al (1998) found that the risk for PTSD was increased by the experience of assaultive traumas. More recently, Kilpatrick et al. (2013) found that individuals who experienced physical/sexual assault had a PTSD prevalence rate of 7.3%. This study provides evidence that after an interpersonal trauma, PTSD symptom severity may increase (Kelley, Weathers, McDevitt-Murphy, Eakin, & Flood, 2009).

In terms of clinical implications, practitioners may use these finding to inform their conceptualization and treatment planning for individuals who present with a trauma background that includes sexual or physical assault. It may be beneficial for practitioners to thoroughly assess for PTSD with these clients, since it may be more likely that PTSD symptoms are related

to their current functioning. Furthermore, future research would benefit from examining PTSD symptom severity within different types of interpersonal trauma. Knowing broadly that interpersonal trauma has the tendency to produce more severe PTSD symptoms is helpful in general, but the more closely we can examine symptom severity, the better practitioners can tailor their choice of interventions. A study that compares PTSD symptom severity across interpersonal trauma types (i.e., physical assault as an adult, physical assault as a child, sexual assault as an adult, sexual assault as a child) is warranted to address some remaining questions about the role of trauma type in the prevalence of PTSD and PTSD symptom severity.

Future research should also explore how the experience of interpersonal trauma affects core beliefs to help address lingering questions related to PTSD symptom severity and trauma type. Janoff-Bulman (1989) suggests the schemas we build as a part of development cause us to have assumptions about the world that relate to how we function. According to her theory, when a person experiences a traumatic event these basic assumptions are violated or “shattered,” causing distress to increase, sometimes to the point of developing a psychological disorder (Janoff-Bulman, 1992). There may be something unique about being physically or sexually assaulted by another person that disrupts the core beliefs about the safety and predictability of the world. This unique characteristic may not be present in the experience of an accident or some sudden event that does not involve an interpersonal component.

Based on the work of Janoff-Bulman, Cann et al. (2010) created a measure that incorporated individuals’ basic assumptions, as well as how much they have been disrupted by the experience of trauma. Since its development, the Core Beliefs Inventory (CBI) has been used in several studies to determine associations among disrupted core beliefs, PTS, and PTG (Cann et al., 2010; Taku, Cann, Tedeschi, & Calhoun 2015; Triplett et al., 2012). Future research

should focus on exploring the differences in the violation of core beliefs for individuals who experience interpersonal vs. non-interpersonal traumas.

Finally, the fourth and final hypothesis predicted that significant differences would be observed on reports of PTG based on trauma type. However, no significant differences in total PTG or the PTG domains were observed for the interpersonal and the non-interpersonal types. There is a dearth of literature that compares average amounts of growth for trauma types within the same study. One study to do so examined bereaved individuals, sexual assault survivors, and those who had been in motor vehicle accidents (Shakespeare-Finch & Armstrong, 2010). The authors found that the bereaved group scored higher on two sub-domains of growth (i.e. relating to others, appreciation for life) than the sexual assault group. All the groups had similar scores on personal strength and spiritual change. The researchers reported a trend toward difference for the domain of new possibilities between those who were bereaved and those who experienced a motor vehicle accident, but this trend toward difference was not observed between the motor vehicle accident group and the sexual assault survivors. No significant differences were found for any of the sub-domains of growth between the motor vehicle accident group and the sexual assault group. This suggests that growth can occur at similar levels across multiple types of trauma, but also can be domain-specific based on trauma type. In the current study, it could be that to see a difference in the reporting of PTG among trauma type, the interpersonal and non-interpersonal trauma groups need to be further divided into sub-categories similar to the approach taken by Shakespeare-Finch and Armstrong. Thus, examining the total PTGI score while comparing multiple types of trauma should be a consideration for future research.

In the current study, the report of PTG for both trauma groups was low (PTGI total = 57.9). According to Cobb et al. (2006), the mean growth for participants in this study represents

a small degree of growth (e.g., scores between 42 and 63). This small degree of growth may be attributed to the fact that the entire sample was a community treatment-seeking sample with multiple psychosocial factors affecting their overall functioning. There were individuals in supportive housing, in intensive outpatient programs, and homeless. The majority (65.3%) of the sample was taking some kind of psychiatric medication for a mental health diagnosis at the time of the survey. Thus, the overall level of psychosocial functioning of the sample may have been a factor that influenced their reported levels of growth. This sample may have been less likely to have experienced the deliberate processing that Calhoun and Tedeschi (2006) theorize as being necessary in order for growth to occur. Using a longitudinal design to assess the difference between interpersonal types and non-interpersonal types for PTG at multiple time points could help illuminate the role trauma type plays in the reporting of PTG.

Limitations and Directions for Future Research

There are limitations to acknowledge when considering the findings from this study. The current study is a cross-sectional design and relies on self-reported retrospective information which may have an effect the reliability of the results reported. The average time since the index trauma was 17.30 years, which could relate to recall of details from an event. Additionally, the sample was taken from a treatment-seeking community sample in the Southeastern region of the United States. The majority of the sample was European-American, reported being disabled or unable to work, had a high school diploma, were women, and made less than \$5,000 a year. This sample is not representative of the larger population; therefore, these results may not generalize to the greater public.

Additionally, some of the demographics of the population may contribute to long-lasting stressors that may be associated with post-trauma outcomes. For example, a sample that has a

higher average income, has more education, and/or is more ethnically diverse may report different outcomes related to the experience of trauma. Finally, gender did significantly differ based on trauma type in that there were less men who reported experiencing an interpersonal trauma. We were unable to control for gender in our analyses due to issues with power and sample size. Future research should explore gender as a potential contributing variable in the relation between trauma type and PTSD symptoms.

Gaining access to this population was a barrier in the current study. The population of interest was from a rural region and had limited access to resources such as the Internet. The ability to recruit participant via electronic communication meant that the sample that was included in the study was limited to those who were able to make it to the various community clinics. Even those who were able to complete the study online were only able to learn about the study through flyers at the clinic. There are clients that may be affiliated with the agency, but may only visit once in three months for medication appointments or yearly for their physical examination. Without the means of mass electronic communication, potential participants may have not had an equal opportunity to be included in the study.

Moreover, the primary mode of data collection was through paper and pencil surveys which presented the challenge of having potential participants forget or never return the packet to the clinic. Differences between individuals who returned the surveys and those who did not cannot be determined. Future research would benefit from exploring new and innovative ways to engage low-income, rural, community populations in order to have more representative samples in the literature. This sample was not taken from individuals that have clinical levels of PTSD. The overall average on the PCL-5 was 47.81(20.06%) which higher than the suggested clinical cutoff of 33: however, the PCL is a

screening tool and not the gold standard in PTSD diagnosis. Therefore, although the sample had relatively high PTSD symptom severity, we were unable to determine how many were formally diagnosed with PTSD. The literature would benefit from an examination of the current hypotheses with a sample that has clinical levels of PTSD and been diagnosed with PTSD using a standardized clinical interview. The relationship between PTS and PTG may look different based on trauma type for individuals who meet diagnostic criteria for PTSD.

To summarize, the result from the current study indicated that people with high amounts of posttraumatic growth from non-interpersonal types of trauma such as car accidents, the unexpected death of a loved one, and accidents were likely to have lower levels of PTS. This relationship was not observed for individuals who experienced interpersonal types of trauma such as physical or sexual assault as a child or an adult. Additionally, the finding that reports of PTS symptom severity differed according to trauma type can provide guidance to clinicians working with sexual and physical assault survivors by allowing them to concentrate their efforts on decreasing PTS symptoms. This study also provides more evidence that the specific type of trauma may not be related to overall reports of PTG for interpersonal and non-interpersonal traumas; however, more research is needed to examine when trauma type does matter in the reporting of PTG.

Finally, despite the limitations noted above this study adds to the current understanding of the PTG and PTS relationship, specifically, by examining this relationship within one study with different trauma types. Using this study design allows for consistency across sampling and data analysis. In addition, it is evident from this study that more research is needed to see how PTS symptoms and PTG domains vary based on more specific types of trauma as opposed to broad categories of trauma.

REFERENCES

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed. rev.). Washington D.C.: Author
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed. Text Rev.). Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress, 28*, 489-498.
doi:10.1002/jts.22059
- Borja, S. E., Callahan, J. L., & Long, P. J. (2006). Positive and negative adjustment and social support of sexual assault survivors. *Journal of Traumatic Stress, 19*, 905–914.
doi:10.1002/jts.20169
- Bovin, M. J., Marx, B. P., Weathers, F. W., Gallagher, M. W., Rodriguez, P., Schnurr, P. P., & Keane, T. M. (2015). Psychometric properties of the PTSD Checklist for Diagnostic and Statistical Manual of Mental Disorders–Fifth Edition (PCL-5) in veterans. *Psychological Assessment. Advance online publication*. doi:10.1037/pas0000254
- Brancu, M., Mann-Wrobel, M., Beckham, J. C., Wagner, H. R., Elliott, A., Robbins, A. T., . . . Runnals, J. J. (2016). Subthreshold posttraumatic stress disorder: A meta-analytic review of DSM–IV prevalence and a proposed DSM–5 approach to measurement. *Psychological Trauma: Theory, Research, Practice, and Policy, 8*, 222-232. doi:10.1037/tra0000078
- Breslau, N., Kessler, R. C., Chilcoat, H. D., Schultz, L. R., Davis, G. C., & Andreski, P.

- (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit area survey of trauma. *Archives of General Psychiatry*, 55, 626-632.
- Calhoun, L., & Tedeschi, R. (2006). The foundations of posttraumatic growth: An expanded framework. In L. Calhoun & R. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 1–23). Mahwah, NJ: Erlbaum.
- Calhoun, L. G., Cann, A., & Tedeschi, R. G. (2010). The posttraumatic growth model: Sociocultural considerations. In T. Weiss & R. Berger (Eds.), *Posttraumatic growth and culturally competent practice: Lessons learned from around the globe* (pp. 1-14). Hoboken, NJ: John Wiley.
- Carlson, E. B., Smith, S. R., Palmieri, P. A., Dalenberg, C., Ruzek, J. I., Kimerling, R.,... Spain, D. A. (2011). Development and validation of a brief self-report measure of trauma exposure: The trauma history screen. *Psychological Assessment*, 23, 463-477.
doi:10.1037/a0022294
- Chen, J., Zhou, X., Zeng, M., & Wu, X. (2015). Post-traumatic stress symptoms and post-traumatic growth: Evidence from a longitudinal study following an earthquake disaster. *PLoS ONE*, 10, 10. doi:1707074335?accountid=14766
- Cobb, A. R., Tedeschi, R. G., Calhoun, L. G., & Cann, A. (2006). Correlates of posttraumatic growth in survivors of intimate partner violence. *Journal of Traumatic Stress*, 19, 895–903. doi:10.1002/jts.20171
- Cole, A. S., & Lynn, S. J. (2010). Adjustment of sexual assault survivors: Hardiness and acceptance coping in posttraumatic growth. *Imagination, Cognition and Personality*, 30, 111–127. doi:10. 2190/IC.30.1.g

- Cordova, M. J., Cunningham, L. L. C., Carlson, C. R., & Andrykowski, M. A. (2001).
Posttraumatic growth following breast cancer: A controlled comparison study. *Health Psychology, 20*, 176-185. doi:10.1037/0278-6133.20.3.176
- Creamer, M., Burgess, P., & McFarlane, A. C. (2001). Post-traumatic stress disorder:
Findings from the Australian National Survey of Mental Health and Well-being.
Psychological Medicine, 31, 1237-1247. doi:10.1017/S0033291701004287
- Dekel, S., Ein-Dor, T., & Solomon, Z. (2012). Posttraumatic growth and posttraumatic
distress: A longitudinal study. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*, 94-101. doi:10.1037/a0021865
- Dickstein, B. D., Weathers, F. W., Angkaw, A. C., Nievergelt, C. M., Yurgil, K., Nash, W. P.,...
Litz, B. T. (2015). Diagnostic utility of the posttraumatic stress disorder (PTSD) checklist
for identifying full and partial PTSD in active-duty military. *Assessment, 22*, 289-297.
doi:10.1177/1073191114548683
- Elderton, A., Berry, A., & Chan, C. (2017). A systematic review of posttraumatic growth in
survivors of interpersonal violence in adulthood. *Trauma, Violence, & Abuse, 18*, 223-
236. doi:http://dx.doi.org/10.1177/1524838015611672
- Ehring, T., Ehlers, A., & Glucksman, E. (2006). Contribution of cognitive factors to the
prediction of post-traumatic stress disorder, phobia and depression after motor vehicle
accidents. *Behaviour Research and Therapy, 44*, 1699-1716.
doi:10.1016/j.brat.2005.11.013
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses

- using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.
- Frans, Ö., Rimmö, P. -A., Åberg, L., & Fredrikson, M. (2005). Trauma exposure and post-traumatic stress disorder in the general population. *Acta Psychiatrica Scandinavica*, 111, 291-299. doi:10.1111/j.1600-0447.2004.00463.x
- Frazier, P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. *Journal of Consulting & Clinical Psychology*, 69, 1048–1055. doi:10.1037/0022-006X.69.6.1048
- Frazier, P., Conlon, A., Steger, M., Tashiro, T., & Glaser, T. (2006). Positive life changes following sexual assault: A replication and extension. *Posttraumatic stress: New research* (pp. 1-22). Hauuppauge, NY: Nova Science Publishers.
- Grubaugh, A. L., & Resick, P. A. (2007). Posttraumatic growth in treatment-seeking female assault victims. *Psychiatric Quarterly*, 78, 145-155. doi:10.1007/s11126-006-9034-7
- Hall, B. J., Saltzman, L. Y., Canetti, D., Hobfoll, S. E. (2015). A longitudinal investigation of the relationship between posttraumatic stress symptoms and posttraumatic growth in a cohort of Israeli Jews and Palestinians during ongoing violence. *PLoS ONE*, 10:e0124782. doi:10.1371/journal.pone.0124782
- Hapke, U., Schumann, A., Rumpf, H., John, U., & Meyer, C. (2006). Post-traumatic stress disorder: The role of trauma, pre-existing psychiatric disorders, and gender. *European Archives of Psychiatry and Clinical Neuroscience*, 256, 299-306. doi:10.1007/s00406-006-0654-6

- Hijazi, A. M., Keith, J. A., & O'Brien, C. (2015). Predictors of posttraumatic growth in a multiwar sample of U.S. combat veterans. *Peace and Conflict: Journal of Peace Psychology*, 21, 395-408. doi:10.1037/pac0000077
- Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: Applications of the schema construct. *Social Cognition*, 7, 113-136. doi:10.1521/soco.1989.7.2.113
- Janoff-Bulman, R. (1992). *Shattered assumptions*. New York, NY: Free Press.
- Karanci, A. N., Işıklı, S., Aker, A. T., Gül, E. İ., Erkan, B. B., Özkol, H., & Güzel, H. Y. (2012). Personality, posttraumatic stress and trauma type: Factors contributing to posttraumatic growth and its domains in a Turkish community sample. *European Journal of Psychotraumatology*, 3, 17303. doi:10.3402/ejpt.v3i0.17303
- Kelley, L. P., Weathers, F. W., McDevitt-Murphy, M., Eakin, D. E., & Flood, A. M. (2009). A comparison of PTSD symptom patterns in three types of civilian trauma. *Journal of Traumatic Stress*, 22, 227-235. doi:http://dx.doi.org/10.1002/jts.20406
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the national comorbidity survey. *Archives of General Psychiatry*, 52, 1048-1060. doi:10.1001/archpsyc.1995.03950240066012
- Kilpatrick, D. G., Resnick, H. S., Freedy, J. R., Pelcovitz, D., Resick, P. A., Roth, S. H., & Van der Kolk, B. A. (1998). Posttraumatic stress disorder field trial: Evaluation of the PTSD construct—Criteria A through E. In T. A. Widiger, A. J. Frances, H. A. Pincus, R. Ross, M. B. First, W. W. Davis, & M. Kline (Eds.), *DSM-IV sourcebook* (Vol. 4, pp. 803–838). Washington, DC: American Psychiatric Association.

- Kilpatrick, D. G., Resnick, H. S., Milanak, M. E., Miller, M. W., Keyes, K. M., & Friedman, M. J. (2013). National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. *Journal of Traumatic Stress, 26*, 537-547. doi:10.1002/jts.21848
- Kleim, B., & Ehlers, A. (2009). Evidence for a curvilinear relationship between posttraumatic growth and posttrauma depression and PTSD in assault survivors. *Journal of Traumatic Stress, 22*, 45-52. doi:10.1002/jts.20378
- Kleim, B., Ehlers, A., & Glucksman, E. (2007). Early predictors of chronic post-traumatic stress disorder in assault survivors. *Psychological Medicine, 37*, 1457-1467. doi:10.1017/S0033291707001006
- Kunst, M. J. J. (2010). Peritraumatic distress, posttraumatic stress disorder symptoms, and posttraumatic growth in victims of violence. *Journal of Traumatic Stress, 23*, 514–518. doi:http://dx.doi.org/10.1002/jts.20556
- Kunst, M. J. J. (2011). Affective personality type, post-traumatic stress disorder symptom severity and post-traumatic growth in victims of violence. *Stress and Health, 27*, 42–51. doi:10.1002/smi.1318
- Lechner, S. C., Carver, C. S., Antoni, M. H., Weaver, K. E., & Phillips, K. M. (2006). Curvilinear associations between benefit finding and psychosocial adjustment to breast cancer. *Journal of Consulting and Clinical Psychology, 74*, 828-840. doi:10.1037/0022-006X.74.5.828
- Linley, P., & Joseph, S. (2004). Positive changes following trauma and adversity: A review. *Journal of Traumatic Stress, 17*, 11–21. doi:10.1023/B:JOTS.0000014671.27856.7e

- Lowe, S. R., Manove, E. E., & Rhodes, J. E. (2013). Posttraumatic stress and posttraumatic growth among low-income mothers who survived Hurricane Katrina. *Journal of Consulting and Clinical Psychology, 81*, 877-889. doi:10.1037/a0033252
- May, C.L., Wisco, B.E. (2016). Defining trauma: How level of exposure and proximity affect risk for posttraumatic stress disorder. *Psychological Trauma: Theory, Research, Practice, and Policy, 8*, 233-240. doi:10.1037/tra0000077
- McCaslin, S. E., de Zoysa, P., Butler, L. D., Hart, S., Marmar, C. R., Metzler, T. J., & Koopman, C. (2009). The relationship of posttraumatic growth to peritraumatic reactions and posttraumatic stress symptoms among Sri Lankan university students. *Journal of Traumatic Stress, 22*, 334-339. doi:10.1002/jts.20426
- McLean, C. P., Handa, S., Dickstein, B. D., Benson, T. A., Baker, M. T., Isler, W. C., . . . Litz, B. T. (2013). Posttraumatic growth and posttraumatic stress among military medical personnel. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*, 62-68. doi:10.1037/a0022949
- Moore, M. M., Cerel, J., & Jobes, D. A. (2015). Fruits of trauma? Posttraumatic growth among suicide-bereaved parents. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 36*, 241-248. doi:10.1027/0227-5910/a000318
- Morris, B. A., Shakespeare-Finch, J., Rieck, M., & Newbery, J. (2005). Multidimensional nature of posttraumatic growth in an Australian population. *Journal of Traumatic Stress, 18*, 575-585. doi:10.1002/jts.20067
- National Center for PTSD. (2016). PTSD Checklist for DSM-5 (PCL-5). Retrieved from:

- <http://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp>
- Olaya, B., Alonso, J., Atwoli, L., Kessler, R. C., Vilagut, G., & Haro, J. M. (2015). Association between traumatic events and post-traumatic stress disorder: Results from the ESEMeD-spain study. *Epidemiology and Psychiatric Sciences*, 24, 172-183. doi:10.1017/S2045796014000092
- Pietrzak, R. H., Goldstein, R. B., Southwick, S. M., & Grant, B. F. (2011). Prevalence and axis I comorbidity of full and partial posttraumatic stress disorder in the united states: Results from wave 2 of the national epidemiologic survey on alcohol and related conditions. *Journal of Anxiety Disorders*, 25, 456-465. doi:10.1016/j.janxdis.2010.11.010
- Pietrzak, R. H., Tracy, M., Galea, S., Kilpatrick, D. G., Ruggiero, K. J., Hamblen, J. L., . . . Norris, F. H. (2012). Resilience in the face of disaster: Prevalence and longitudinal course of mental disorders following Hurricane Ike. *PLoS ONE*, 7, doi:10.1371/journal.pone.003896
- Rabe, S., Zöllner, T., Maercker, A., & Karl, A. (2006). Neural correlates of posttraumatic growth after severe motor vehicle accidents. *Journal of Consulting and Clinical Psychology*, 74, 880-886. doi:10.1037/0022-006X.74.5.880
- Solomon, Z., & Dekel, R. (2007). Posttraumatic stress disorder and posttraumatic growth among israeli ex-POWs. *Journal of Traumatic Stress*, 20, 303-312. doi:10.1002/jts.20216
- Shakespeare-Finch, J., & Armstrong, D. (2010). Trauma type and posttrauma outcomes: Differences between survivors of motor vehicle accidents, sexual assault, and bereavement. *Journal of Loss and Trauma*, 15, 69-82. doi:10.1080/15325020903373151
- Shakespeare-Finch, J., & Lurie-Beck, J. (2014). A meta-analytic clarification of the

- relationship between posttraumatic growth and symptoms of posttraumatic distress disorder. *Journal of Anxiety Disorders*, 28, 223-229. doi:10.1016/j.janxdis.2013.10.005
- Shakespeare-Finch, J., Smith, S. G., Gow, K. M., Embelton, G., & Baird, L. (2003). The prevalence of post-traumatic growth in emergency ambulance personnel. *Traumatology: An International Journal*, 9, 58-71. doi:10.1177/153476560300900104
- Taku, K., Tedeschi, R. G., & Cann, A. (2015). Relationships of posttraumatic growth and stress responses in bereaved young adults. *Journal of Loss and Trauma*, 20, 56-71. doi:10.1080/15325024.2013.824306
- Taku, K., Cann, A., Tedeschi, R. G., & Calhoun, L. G. (2015). Core beliefs shaken by an earthquake correlate with posttraumatic growth. *Psychological Trauma: Theory, Research, Practice, and Policy*, 7, 563-569. doi:10.1037/tra0000054
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455– 471. doi:10.1002/jts.2490090305
- Tedeschi, R. G., & Calhoun, L. G. (2004). Target article: "posttraumatic growth: Conceptual foundations and empirical evidence". *Psychological Inquiry*, 15, 1-18. doi:10.1207/s15327965pli1501_01
- Tsai, J., Sippel, L. M., Mota, N., Southwick, S. M., & Pietrzak, R. H. (2015). Longitudinal course of posttraumatic growth among U.S. military veterans: Results from the national health and resilience in veterans study. *Depression and Anxiety*, 33,9-18 doi:10.1002/da.22371
- Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P.

(2013). *The PTSD Checklist for DSM-5 (PCL-5)*. Scale available from the National Center for PTSD at www.ptsd.va.gov.

Wortmann, J. H., Jordan, A. H., Weathers, F. W., Resick, P. A., Dondanville, K. A., Hall-Clark, B., Foa, E. B., Young-McCaughan, S., Yarvis, J. S., Hembree, E. A., Mintz, J., Peterson, A. L., & Litz, B. T. (2016). Psychometric analysis of the PTSD Checklist-5 (PCL-5) among treatment- seeking military service members. *Psychological Assessment*. Advance online publication. <http://dx.doi.org/10.1037/pas0000260>

APPENDIX

Appendix A.

Table 1.

Descriptive Table of Participant Characteristics

Characteristics	<i>f</i>	%	<i>M</i>	Min- Max	<i>SE</i>	<i>SD</i>
Age (in years)	146	99	43.64	18-72	1.11	13.45
Number of Traumas Reported			6.63	1-13	.25	3.05
Years since trauma	141		17.30	0-59	1.22	14.46
Gender						
Male	39	26.5				
Female	107	73.3				
Ethnicity						
European-American	126	87.5				
African-American	9	4.8				
Hispanic-American/Latino	2	1.9				
Multiethnic	8	5.5				
Native American/First Nation	1	.7				
Marital Status						
Single	39	26.5				
Married	36	24.5				
Living with partner	19	12.9				
Dating	4	2.7				
Separated	11	7.5				
Divorced	25	17.0				
Widowed	11	7.5				
Employment						
Working Full-time	21	14.3				
Unemployed/Laid Off	9	6.1				
Disabled/Unable to Work	71	48.3				
Retired	7	4.8				
Working Part-time	19	12.9				
Looking For Work	10	6.8				
Keeping House/Raising Kids	10	6.8				
Educational level						
< High School	9	8.2				
High School	89	60.5				
Associates	20	13.6				
Bachelors	13	8.8				
Masters	4	2.7				
Other (i.e. GED, vocational)	12	8.2				

Table 1. Continued.

Descriptive Table of Participant Characteristics

Characteristics	<i>f</i>	%	<i>M</i>	Min- Max	<i>SE</i>	<i>SD</i>
Income						
Less than \$5000	36	24.5				
\$5000- \$11,999	31	21.1				
\$12,000- \$15,999	27	18.4				
\$16,000- \$24,999	9	6.1				
\$25,000- \$34,999	18	12.2				
\$35,000- \$49,999	9	6.2				
\$50,000 and up	6	4.1				
Previous Mental Health Diagnosis						
Yes	111	75.5				
No	14	9.5				
Currently on Medications						
Yes	96	65.3				
No	33	22.4				

Table 2.

Mean, Standard Deviations, and Intercorrelations of the Variables of Interest for the Interpersonal Trauma Type

Variables (Range)	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Time Since Trauma	24.67	15.02	-	-.25	-.35**	-.36**	-.20	-.08	-.08	-.10	-.19	-.08	.15	.03
2. PCL-5 Total	54.06	17.47		-	.83**	.80**	.94**	.86**	-.08	-.01	-.01	-.15	-.22	-.08
3. Re-experiencing	13.01	4.78			-	.68**	.68**	.57**	-.05	.04	.08	-.13	-.31*	-.10
4. Avoidance	5.60	2.39				-	.75**	.53**	-.13	-.09	-.09	-.19	-.21	-.04
5. Negative Cognitions	19.24	7.12					-	.76**	-.16	-.08	-.09	-.21	-.22	-.16
6. Arousal	16.22	5.67						-	-.04	.07	.05	-.02	-.04	.08
7. PTGI Total	58.17	25.61							-	.89**	.89**	.86**	.65**	.81**
8. Relating to Others	17.78	9.75								-	.73**	.68**	.43**	.64**
9. New Possibilities	12.06	7.27									-	.73**	.52**	.64**
10. Personal Strength	12.49	5.23										-	.49**	.71**
11. Spiritual Change	5.48	3.67											-	.55**
12. Appreciation of Life	10.37	4.30												-

Note. N = 57. PCL-5 = PTSD Checklist-5 * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3.

Mean, Standard Deviations, and Intercorrelations of the Variables of Interest for the Non-Interpersonal Trauma Type

Variables (Range)	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Time Since Trauma	15.10	13.03	-	-.15	-.19	-.14	-.14	-.05	.06	.04	-.02	.13	.19	-.06
2. PCL-5 Total	43.65	20.63		-	.84**	.80**	.92**	.86**	-.25*	-.19	-.31**	-.17	-.34**	.00
3. Re-experiencing	10.49	6.42			-	.72**	.64**	.57**	-.15	-.15	-.22*	-.04	-.24*	.09
4. Avoidance	4.30	2.96				-	.68**	.55**	-.10	-.09	-.14	-.03	-.21	.08
5. Negative Cognitions	15.45	7.98					-	.75**	-.32**	-.23*	-.37**	-.26*	-.40**	-.10
6. Arousal	13.41	6.44						-	-.21*	.15	-.26*	-.17	-.27**	-.01
7. PTGI Total	57.72	25.50							-	.88**	.88**	.85**	.67**	.72**
8. Relating to Others	17.67	9.69								-	.68**	.64**	.45**	.54**
9. New Possibilities	12.23	7.32									-	.69**	.53**	.62**
10. Personal Strength	11.53	5.86										-	.63**	.56**
11. Spiritual Change	5.90	3.82											-	.33**
12. Appreciation of Life	10.39	4.16												-

Note. N = 88; PCL-5 = PTSD Checklist-5 * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.

Hierarchical Multiple Regression Analysis Predicting the Relationship between PTG and PTS by Trauma Type

Trauma Type	Predictors	<i>B</i>	<i>SE B</i>	β	R^2	ΔR^2
Interpersonal Trauma						
Step 1	PCL	-0.12	0.20	-.08	.01	.01
Step 2	PCL					
	PCL ²	0.00	0.01	.01	.01	.00
Non-Interpersonal Trauma						
Step 1	PCL	-0.25	0.13	-.25	.06*	.05*
Step 2	PCL					
	PCL ²	0.00	0.01	-.01	.06	.04

Note. PCL = PTSD Checklist- 5; PCL² = Total PCL centered and squared; * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5.

PTS and PTGI Mean, Standard Deviation for different Trauma Types

Scale	Interpersonal Trauma (<i>n</i> =57)	Non-Interpersonal Trauma (<i>n</i> =88)	Cohen's <i>d</i>
PCL Total	54.04 (17.59)	43.78 (20.62)	.54**
Re-experiencing	12.98 (4.79)	10.54 (6.39)	.43*
Avoidance	5.58 (2.41)	4.32 (2.97)	.47**
Negative Cognitions	19.24 (7.11)	15.46 (8.00)	.50**
Arousal	16.23 (5.67)	13.46 (6.43)	.46**
PTGI- Total	58.30 (25.70)	58.06 (25.57)	.01
Relating To Others	17.80 (9.77)	17.81 (9.74)	.00
New Possibilities	12.13 (7.30)	12.17 (7.38)	.01
Personal Strength	12.50 (5.25)	11.69 (5.81)	.15
Spiritual Change	5.49 (3.68)	5.91 (3.83)	.11
Appreciation of Life	10.39 (4.24)	10.48 (4.06)	.02

Note. Standard Deviation is in parentheses. * $p < .05$, ** $p < .01$, $p < .001$ ***

Appendix B.

PARTICIPANTS NEEDED FOR RESEARCH SURVEY ON TRAUMATIC EXPERIENCES

We are looking for participants to complete a survey on their experiences with trauma. You must be 18 years or older to participate. As a participant in this survey, you would be asked to recall some details about a trauma you have experienced and your reactions to the event. The survey will take approximately 20-30 minutes for you complete. In appreciation of your time, you will receive the opportunity to enter a drawing for Wal-Mart gift card.

If you are interested, please inquire at the front desk or with your therapist or BHC or you may contact the researcher directly at

Elizabeth Thomas: Edavis58@vols.utk.edu

Thank you!

This study has been reviewed and approved by the
Institutional Review Boards at the University of Tennessee-Knoxville and Cherokee Health
Systems

INFORMED CONSENT

Trauma Experiences and Reactions

Dear Participant:

You are invited to participate in a research study conducted by Elizabeth Thomas M.A., a doctoral student at the University of Tennessee. The purpose of this study is to obtain information about symptoms people report after experiences of trauma.

To be eligible for this study, you must be at least 18 years or older, and experiencing a traumatic event. Your participation in this study is completely voluntary. You may choose not to participate or discontinue your participation at any time. Participation or non-participation will not impact the services you receive from Cherokee Health Systems.

If you choose to participate, you will be asked to complete a paper questionnaire that will take approximately 20-30 minutes to complete. Any information you provide will be kept confidential. Data from the study will be summarized and presented in group form. To thank you for your participation, you can enter an optional drawing awarding a \$20 gift card to 10 randomly selected persons. The \$20 gift cards are to a local merchant, such as Walmart. The entry sheet for the drawing is separate from your survey information so that we can assure confidentiality of your survey responses. All consent and drawing entry forms will be kept in a locked file drawer separate from survey data. If you wish to be entered into the drawing without participating in the study, please send an email to edavis58@vols.utk.edu requesting to do so. The winners of the drawing will be notified within four weeks after data collection is completed. Once drawing winners are selected and gift cards are sent electronically, all entry sheets with email addresses will be shredded.

Some individuals may experience discomfort when answering questions about information they consider sensitive or if certain items cause the recall of events or emotions that they find distressing. You do not have to answer any questions that you do not want to answer. If you do experience any distress or discomfort as a result of your participation, we encourage you to contact one of the following resources:

Cherokee Health Systems

<http://www.cherokeehealth.com/>

24-hour Crisis number 1-855-602-1082

Helen Ross McNabb

<http://www.mcnabbcenter.org/>

24-hour Crisis number 865-541-6958

The information you provide may be helpful in increasing our understanding of the relationship between types of trauma and possible trauma symptoms and responses, although the information collected may not benefit you directly.

If you have questions or comments at any time about this research project, you may contact the researcher, Elizabeth Thomas, at edavis58@vols.utk.edu, or her faculty advisor, Dr. Gina Owens, at gowens4@utk.edu or 865-974-2204. If you would like to receive a brief written summary of the results when the study is complete, please send a request to Elizabeth Thomas, via email at edavis58@vols.utk.edu (please write "Trauma Experiences Results" in the subject line). This protocol has been reviewed and approved by the Institutional Review Board for

protection of human subjects at the University of Tennessee-Knoxville. If you have questions about your rights as a participant, you may contact the University of Tennessee IRB Compliance Officer at utkirb@utk.edu or (865) 974-7697

CONSENT

I have read the above information. I have received a copy of this form. I agree to participate in this study.

Participant's Name (printed) _____

Participant's Signature _____

Raffle Entry Form

Please check one box:

☐

I would like to be entered into the drawing for a 1 of 10 \$20 gift cards

☐

I would not like to be entered into the drawing for 1 of 10 \$20 gift cards

Participant's Email: _____

Participant's Phone number: _____

Demographics

Age: _____

Gender (circle one):

Male Female Transgender

Ethnicity (circle all that apply):

Caucasian/White/European-American

Asian-American/Pacific Islander

Hispanic-American/Latino

Native American/First Nations/Native Alaskan

African-American

Multiethnic/Other (please specify)

What is your current relationship status?

_____ Single

_____ Separated

_____ Married

_____ Divorced

_____ Living with partner/significant other

_____ Widowed

_____ Dating a partner but not living together

What is your current employment status?

_____ Working full time

_____ Working part-time

_____ Unemployed or laid off

_____ Looking for work

_____ Disabled/Unable to work

_____ Keeping house or raising children full-time

_____ Retired

What is the highest degree you earned?

_____ High school diploma or equivalency (GED) _____ Associate degree (junior college)

_____ Bachelor's degree

_____ Master's degree

_____ Doctorate

_____ Professional (MD, JD, DDS, etc.)

_____ None of the above (less than High School) _____ Other specify:

Which of these categories best describes your total combined family income for the past 12 months?

____ Less than \$5,000

____ \$5,000 through \$11,999

____ \$12,000 through \$15,999

____ \$16,000 through \$24,999

____ \$25,000 through \$34,999

____ \$35,000 through \$49,999

____ \$50,000 through \$74,999

____ \$75,000 through \$99,999

____ \$100,000 and greater

____ Don't know

____ No response

What are your current mental health diagnoses?

What current medications are you taking?

VITA

After completing high school at Western Brown High School in, Mount Orab, Ohio Elizabeth went on to study psychology at Harding University in Searcy, Arkansas. She completed her Bachelor's of Arts in Psychology in December 2010. Elizabeth then went to study at Stephen F. Austin State University in August 2011 where she received her Master's of Arts in General Psychology in May 2013. Elizabeth completed the Counseling Psychology Doctoral Program at the University of Tennessee-Knoxville in August 2018.