The Effect of Trauma Type on Posttraumatic Growth

An Honors Thesis (PSYS 499)

by

Megan D. Schott

Thesis Advisor
Dr. Thomas M. Holtgraves

Signed

Ball State University
Muncie, Indiana

May 2016

Expected Date of Graduation

May 2016
Abstract

Traumas are events that a person finds exceptionally taxing or disturbing, and posttraumatic growth is the idea that you can grow from these experiences. The current study aimed to identify differences in posttraumatic growth as a function of the type of trauma experienced. Data regarding traumatic experiences and posttraumatic growth was collected from individuals who had experienced trauma. Trauma types explored include type 1 (single episode) and type 2 (multiple episodes) trauma, as well as attachment, identity, interdependence, achievement, survival traumas. Differences in growth as a function of childhood trauma exposure were also examined. There was no difference in posttraumatic growth (PTG) between type 1 and type 2 trauma. Childhood trauma exposure lead to less PTG in attachment, interdependence, survival, and type 1 trauma relative to those exposed to trauma in adulthood. The frequency of the trauma, age when the trauma was first experienced, and individual appraisal of the trauma were good predictors of PTG in attachment, survival, and type 1 trauma, with age of first experience being the strongest predictor. Survival traumas yielded lower levels of PTG than interdependence trauma in PTG factors new possibilities and spiritual change, and identity trauma yielded lower levels of PTG than interdependence trauma in spiritual change. A proposed hierarchy of trauma based on Maslow’s hierarchy of needs is provided, with suggestions for future research.

Keywords: trauma, posttraumatic growth, trauma types
I would like to thank Dr. Thomas Holtgraves for his guidance throughout the research process, in addition to equipping me with the skills necessary to conduct further research in my field. I would also like to thank Dr. John Wallace and Dr. Thomas Holtgraves for their instruction in the classroom on how to conduct research. Dr. Shireen Kanakri and Dr. Alan Yen also contributed to my success by allowing me to serve as a research assistant during my time as an undergraduate.
The Effect of Trauma Type on Posttraumatic Growth

Megan D. Schott

Ball State University
Abstract

Traumas are events that a person finds exceptionally taxing or disturbing, and posttraumatic growth is the idea that you can grow from these experiences. The current study aimed to identify differences in posttraumatic growth as a function of the type of trauma experienced. Data regarding traumatic experiences and posttraumatic growth was collected from individuals who had experienced trauma. Trauma types explored include type 1 (single episode) and type 2 (multiple episodes) trauma, as well as attachment, identity, interdependence, achievement, survival traumas. Differences in growth as a function of childhood trauma exposure were also examined. There was no difference in posttraumatic growth (PTG) between type 1 and type 2 trauma. Childhood trauma exposure lead to less PTG in attachment, interdependence, survival, and type 1 trauma relative to those exposed to trauma in adulthood. The frequency of the trauma, age when the trauma was first experienced, and individual appraisal of the trauma were good predictors of PTG in attachment, survival, and type 1 trauma, with age of first experience being the strongest predictor. Survival traumas yielded lower levels of PTG than interdependence trauma in PTG factors new possibilities and spiritual change, and identity trauma yielded lower levels of PTG than interdependence trauma in spiritual change. A proposed hierarchy of trauma based on Maslow's hierarchy of needs is provided, with suggestions for future research.

Keywords: trauma, posttraumatic growth, trauma types
The Effect of Trauma Type on Posttraumatic Growth

The negative effects of trauma are well documented and apparent in research concerning posttraumatic stress disorder. However, experiencing trauma can also lead to positive outcomes referred to as posttraumatic growth (Tedeschi & Calhoun, 1996). Several studies have looked at posttraumatic growth in specific populations, such as cancer survivors, refugees, bone marrow transplant recipients, and victims of terrorist attacks (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Laufer & Solomon, 2006; Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2004). Others have looked at predictors of posttraumatic growth such as religiosity and spirituality (Shaw & Linley, 2005). Still others have looked at how posttraumatic stress disorder varies as a function of trauma type (Ehring & Quack, 2010). However, what has not been investigated is how posttraumatic growth varies as a function trauma type, which is what the current study investigates.

Psychological Distress and Trauma

Trauma can be difficult to define because what is considered trauma depends on the subjective appraisal of the experience by the individual, and therefore varies across the population. Traumatogenic stimuli are stressors an individual appraises as exceptionally physically or mentally taxing (Kira, 2001). Just as what constitutes trauma is variable, responses to traumatic events vary from individual to individual. Sometimes symptoms are anxiety- or fear-based, while other responses are more maladaptive, including anhedonic and dysphoric symptoms, externalizing angry and aggressive symptoms, and dissociative symptoms (American Psychological Association, 2013).

The Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) is sensitive to this, and has a more dimensional approach to diagnosing and treating trauma- and stressor-
related disorders. Disorders resulting from psychological distress and trauma include reactive attachment disorder, disinhibited social engagement disorder, posttraumatic stress disorder (PTSD), acute stress disorder, and other adjustment disorders (American Psychological Association, 2013).

Posttraumatic Stress Disorder

Trauma can have a devastating impact on the psyche of the victim, and may result in the development of PTSD. The DSM-5 specifies that the trauma causing PTSD may be related to death, serious injury, or sexual violence (American Psychological Association, 2013). The person may be exposed to the trauma in several ways, but the DSM-5 specifies four. One way is by experiencing the trauma directly, also called direct trauma. Common events that constitute direct traumas are sexual assaults, motor vehicle accidents, or invasive medical procedures as experienced by the victim. Another way to experience trauma is by witnessing the trauma as it happens to someone else, also called indirect trauma. Common indirect traumatic events include witnessing a crime or act of violence, such as the September 11 attacks. A person may also experience PTSD after learning that the traumatic event happened to a loved one. Parents, for example, may experience PTSD after learning their daughter was sexually assaulted. Lastly, a person may have repeated, extreme exposure to traumatic events. This is common in military personnel, police officers, and emergency personnel.

Symptomology includes recurrent, distressing memory of the traumatic event, recurrent, distressing dreams about the traumatic event, flashbacks, intense psychological distress, avoidance of stimuli associated with the traumatic event, negative alteration in cognition, alterations in arousal, depersonalization, and derealization (American Psychological Association,
It is evident that there is the potential for significant negative outcomes and suffering following the experience of a traumatic event or crisis.

**Trauma Classifications**

Kira (2001) proposes two taxonomies to classify traumatic events. The first is based on individual function, and includes attachment trauma, autonomy or identity trauma, interdependence trauma, achievement or self-actualization trauma, and survival trauma. These types stem from developmental theory, and are classified based on the emerging developmental functions affected by the trauma (Kira et al., 2013). Attachment trauma occurs when a child's feelings of attachment or companionship with an adult are somehow thwarted. Common examples include divorce or death of a parent. Autonomy or identity trauma are traumas that damage a person's self-efficacy or sense of identity. This type of trauma may include sexual assault or domestic violence. Interdependence trauma occurs when an individual's social network or support system is threatened, compromising feelings of safety and security. A common example is moving to a new location, which is often very troubling for young children and adolescents. Achievement or self-actualization traumas are traumas that occur after failing to reach a goal or target. Examples include loss of job, loss of health, and loss of money. Survival traumas are traumas that pose a threat to the ability of a person to survive or thrive. Examples include, homicide, motor vehicle accidents, attempted suicide, and natural disasters. Kira (2008) expanded this model by separating identity trauma into personal and collective, interdependence trauma into indirect and secondary, and survival trauma into nature and man-made.

Kira (2001) also proposes a second classification based on experiential objective external criteria of the traumatic event. The traumatogenic stimuli can be either factitious or real.
Factitious trauma occurs when normal stressors that should not have trauma-like effects induce trauma because a cascade of them occur in a short period of time and have an additive effect.

Kira (2001) suggests that traumatogenic stimuli can also be indirect or vicarious, meaning that the trauma is not experienced by the person, but rather by a loved one, and then transmitted to the person. One-step transmission of trauma occurs when a loved one experiences the traumatic event, but the person who is indirectly involved is still affected. Parents may experience one-step transmission of indirect trauma if their child is a victim of sexual assault.

Trauma can also be transmitted across-generations. The first transmission method is generational family trauma transmission, which occurs when the effects of trauma are transmitted across generations. This often occurs in the cycle of domestic violence or abuse. A woman may have witnessed domestic violence as a child, and then seek relationships with partners who are abusive. This trauma can then be transmitted to the children of these parents, resulting in generational family trauma transmission. Trauma can also be transmitted across generations with collective cross-generational trauma transmission. The first kind is historical trauma, where a trauma such as the Holocaust is inflicted on a group of people can have effects on multiple generations. The second kind is multigenerational transmission of structural violence, which is characterized by extreme social disparities across generations. Poverty, unemployment, inadequate housing, low socioeconomic status and malnutrition can all have an effect on multiple generations, which can lead to the chronic cycle of poverty and leave multiple generations at a disadvantage.

Traumatologic stimuli can also be direct traumas (Kira, 2001). These are traumas directly experienced by an individual. Single unexpected direct traumas are called type I traumas, and is characterized by a single, sudden trauma. Complex traumas are traumas that can have a more
severe impact on functioning. Type II traumas are a series of related, repeated, or sustained traumas. Common examples include prolonged domestic violence or combat military experience. Type II traumas can be ongoing chronic traumatic conditions, meaning they are currently happening, or past extended traumatic conditions that are no longer occurring. Type III traumas are a torrent of traumatic events that affect multiple areas of functioning. These can be direct, indirect, type I, or type II.

**Definition of Posttraumatic Growth**

While there is the potential to be inhibited or incapacitated in some way following a traumatic event, it is also possible to grow from the experience in a radically positive way. Calhoun & Tedeschi (1999, 2001) define posttraumatic growth (PTG) as positive psychological change experienced as a result of the struggle with highly challenging life circumstances. There are several life crises that can elicit PTG, which will be discussed in great detail in a later section.

**Post Traumatic Growth Factors**

Calhoun & Tedeschi (1996) have identified five factors associated with PTG, which were derived first using qualitative data, and then using factor analysis.

**Relating to others.** Following exposure to a traumatic event, individuals may experience a new appreciation for the human race, accompanied by an increased sense of compassion (Calhoun & Tedeschi, 2014). After experiencing a tragedy, individuals may feel a greater connection to other human beings and ability to experience intimacy with other persons.

**New possibilities.** People who experience PTG often report evolution of new possibilities in their lives (Calhoun & Tedeschi, 2014). This may take the form of career changes, educational
opportunities, interest in new activities, or beginning a new chapter in life. These persons allow
new possibilities to emerge as a result of coping with their traumatic experiences.

**Personal strength.** Calhoun & Tedeschi (2014) summarize personal strength emerging
from PTG as, “I am more vulnerable than I thought, but much stronger than I ever imagined” (p.
5). Traumatic experiences immerse victims in the unpredictability, dangers, and inherent
mortality of the world. This may force the person to confront the fact that they are vulnerable and
susceptible to all of the world’s challenges, as no one is immune. However through confronting
these challenges and facing the trials of life, they learn that they have more personal strength
than they once believed.

**Spiritual change.** Experiencing a traumatic event may cause a person to have an
existential or spiritual crisis in which they find a sense of purpose or clarify the meaning of life
(Calhoun & Tedeschi, 2014). Embracing new religions may also be a consequence of spiritual
change, which can provide answers to some of life’s questions for individuals.

**Appreciation of life.** Suffering from a significant loss or crisis often changes the
priorities of the individual recovering. Persons find joy in the little things, and realize that life is
precious and should not be taken for granted (Calhoun & Tedeschi, 2014). Things that once had
significant meaning may no longer be seen as important. Those who experience a new
appreciation for life recognize their own mortality, and value and absorb all of the life they have
left to live.

**Type 1 and Type 2 Trauma**

Exposure to multiple traumas yields different effects compared to exposure to a single,
unexpected trauma. Suliman et al. (2009) studied 922 South African adolescents who had been
exposed to very serious traumatic events as measured by the Trauma Checklist (Elliot & Briere,
They found that when controlling for sex, stressful life experiences, and childhood adversity, adolescents who were exposed to multiple traumas (type 2 trauma) experienced more severe PTSD and depressive symptoms than adolescents exposed to a type 1 trauma. Resnick, Kilpatrick, Dansky, Saunders, and Best (1993) suggest that this may be because persons exposed to multiple traumas may already have PTSD from an earlier trauma that could amplified following another trauma exposure.

Green et al. (2000) also studied the effects of repeated trauma exposure in 1,909 undergraduate women in the Washington, DC area. Participants took the Stressful Life Events Screening Questionnaire (Goodman, Corcoran, Turnter, Yuan, & Green, 1998) and Trauma Symptom Inventory (Briere, 1995) to assess their traumatic experiences and symptoms. The questionnaires separated the women into four groups: no trauma exposure, exposure to a serious non-Criterion A event only, exposure to several unique noninterpersonal and interpersonal events, and exposure to multiple interpersonal events. They found that while women exposed to serious non-criterion A events only, and those exposed to several unique noninterpersonal and interpersonal events, had elevated symptoms, symptoms were much more severe in women who were exposed to multiple interpersonal events as compared to any of the other groups.

Breslau, Chilcoat, Kessler, and Glenn (1999) investigated how previous exposure to trauma can influence PTSD after subsequent trauma exposures. They interviewed 2,181 persons in southeast Michigan by phone to assess lifetime history of traumatic events according to the DSM-IV. They found that previous exposure to trauma put participants at greater risk of PTSD following subsequent traumas. In terms of assaultive violence, participants who were exposed to traumatic assaultive violent events during childhood were more likely to experience PTSD as adults regardless of whether the exposure was type 1 or type 2.
Cloitre et al. (2009) investigated differences in PTSD symptomatology in sustained, repeated, or multiple traumas in childhood and adulthood. They studied 582 women who were abused as children and being treated for trauma-related symptoms for whom both childhood and adulthood data were available. The Childhood Maltreatment Interview Schedule (Briere, 1992) and Sexual Assault and Additional Interpersonal Violence Schedule (Resick & Schnicke, 1992) were used to assess childhood and adulthood trauma, respectively. They found that symptom complexity was strongly associated with cumulative childhood trauma, but not adulthood trauma. In fact, symptom complexity increased with each additional type of childhood trauma.

Research suggests that in general, cumulative trauma is more likely to yield negative symptomatology compared to exposure to a single, unexpected trauma (Breslau, Chilcoat, & Glenn, 1999; Cloitre et al., 2009; Green et al. 2000; Suliman et al., 2009). However, there are some confounding variables. Those exposed to assaulitive violence in childhood are more likely to experience PTSD, regardless of whether the trauma was a single episode or multiple episodes (Breslau et al., 1999). In addition, Cloitre et al. (2009) report that PTSD symptom complexity is associated with cumulative childhood trauma, but not adulthood trauma. Despite these confounding variables, research suggests that the cumulative effect of trauma increases the likelihood of a person developing PTSD symptoms. Thus, I expect that persons who experience type 2 trauma will be less likely to experience posttraumatic growth than persons who experience type 1 trauma.

Hypothesis 1: Posttraumatic growth will be more prevalent among persons who experience type 1 trauma as compared to type 2 trauma.
Hypothesis 1a: Childhood trauma exposure will yield lower levels of posttraumatic growth as compared to trauma exposure in adulthood, regardless of whether the trauma was type 1 or 2.

Effect of Trauma Type

While there is research on how different trauma types can lead to distressing symptoms, there is a gap in the literature in terms of how trauma type influences posttraumatic growth. Ehrin and Quack (2010) looked specifically at how trauma type can influence emotional regulation and PTSD symptom severity. A total of 616 participants took the Trauma History Questionnaire (Green, 1996) and were divided into four groups based on their results: survivors of noninterpersonal traumas, survivors of late-onset interpersonal traumas, survivors of early-onset single or repeated interpersonal traumas that lasted for less than one year, and survivors of early-onset chronic interpersonal traumas that lasted for at least one year. Participants also took the Impact of Event-Scale-Revised (Weiss & Marmar, 1997) to assess their PTSD symptom severity, as well; as the Difficulties in Emotion Regulation Scale (Gatz & Roemer, 2004), Emotion Regulation Questionnaire (Gross & John, 2003), and Acceptance and Action Questionnaire (Hayes et al., 2004) to assess characteristics of emotion regulation. They reported that all four groups differed significantly in terms of emotion regulation variables, and survivors of early-onset chronic interpersonal trauma had higher levels of emotional dysregulation and PTSD symptom severity than the other groups.

Attachment Trauma

Attachment is defined as, “a reciprocal, enduring, emotional, and physical affiliation between a child and caregiver, typically parents” (James, 1994, pp. 16). Attachment trauma occurs when feelings of closeness, attachment, or connectedness are disturbed as a result of a
traumatic experience such as abandonment, abuse, or death of a loved one (Kira, 2001). Attachment traumas can disturb many aspects of a person's life, particularly intimate relationships. Persons who experience attachment trauma may go on to have an ambivalent attachment style, and avoid closeness with other people. Chronic or repeated abuse during childhood may compromise and disturb attachment relationships (James, 1994).

Children who are victims of child abuse or neglect are especially vulnerable to attachment trauma, emotional disturbances, and relationship problems (Pearlman & Courtois, 2005). To investigate how childhood abuse or neglect influences a person's propensity to develop PTSD, Widom (1999) interviewed 1,196 people, 676 of whom were abused and/or neglected as children. Widom used the National Institute of Mental Health Diagnostic Interview Schedule to assess for PTSD. Participants who experienced childhood abuse were at an increased risk for current PTSD, as well as meeting criteria for lifetime PTSD.

Brent, Melhem, Donohoe, and Walker (2009) investigated incidence of depression in 176 youth aged 7-25 who lost a parent to suicide, accident, or sudden natural death 9 and 21 months after death using a battery of assessments. While 8.5 percent of individuals experienced PTSD within the first 9 months after death, all but one experienced remission. 2.8 percent of individuals experienced incident PTSD during the second year, and two of the five individuals had remissions. While these rates of PTSD were significantly higher than the control group, the vast majority of participants did not experience PTSD.

Research also suggests people who experience attachment trauma can experience PTG. Oginska-Bulik (2014) studied 74 participants who were given the Posttraumatic Growth Inventory to assess PTG, the Formal Characteristics of Behaviour-Temperament Inventory to assess temperament, and the Resiliency Assessment Scale to assess resilience. Individuals who
recently lost a loved one had similar levels of PTG as those who had serious illnesses. Ogińska-Bulik reported that no participant stated a lack of positive change following the trauma. In a previous study, Felcyn-Koczweska & Ogińska-Bulik (2012) reported that 27.7 percent of individuals who lost a loved one experienced low levels of PTG, 38.6 percent of individuals experienced average levels of PTG, and 33.7 percent of individuals experienced high levels of PTG.

While the experience of attachment trauma can lead to disturbed emotional outcomes, such as ambivalent attachment styles, it is also true that persons who experience attachment traumas can grow (Ogińska-Bulik, 2014; Pearlman & Courtois, 2005). Research also suggests that while PTSD is more prevalent among individuals who experienced attachment trauma compared to the general population, an overwhelming majority do not experience PTSD symptoms (Brent et al., 2009).

**Autonomy or Identity Trauma**

Kira (2001) asserts that autonomy or identity trauma occurs when a person’s sense of identity, agency, or self-efficacy is shattered. Traumas that can cause identity trauma include sexual abuse, slavery, and domestic violence. If such traumas occur during childhood, identity and autonomy formation could be disturbed, while if the traumas occur in adulthood feelings of helplessness are common. These traumas can be either collective or personal (Eyerman, 2001; Kira, 2001). Eyerman (2001) refers to this collective trauma as cultural trauma, and defines it as, “a dramatic loss of identity and meaning, a tear in the social fabric, affecting a group of people that has achieved some degree of cohesion” (p. 2).

Dunmore, Clark, and Ehlers (2001) investigated PTSD in 57 participants who had been physically or sexually assaulted within the previous four months and assessed the incidence of
PTSD using the Posttraumatic Diagnostic Scale. There was a significant decline in PTSD symptom severity following the initial assessment at both the six and nine month follow-up. They suggest that PTSD symptom severity is mediated by negative appraisals of the initial symptoms, negative perceptions of other people’s reactions, and beliefs about being permanently damaged.

Kilpatrick, Edmunds, and Seymour (1992) report that one-third of female rape victims experience PTSD at some point following their assault. Ullman & Filipas (2001) researched potential predictors of PTSD symptoms severity in 323 college students, community volunteers, and mental health agency clients who were victims of sexual assault. Participants who thought their life was in danger experienced more PTSD symptom severity, as did participants who had an assault-related injury. Lastly, participants who knew their assailants had less severe PTSD symptoms than participants whose assailant was a stranger. Lev-Wiesel, Amir, and Besser (2004) found similar results among 93 persons who had been sexually abused during childhood from either a stranger or family member. Results suggest that persons who were sexually abused by a family member experienced higher levels of both PTSD and PTG compared to persons whose assailant was a stranger.

Cobb, Tedeschi, Calhoun, and Cann (2006) investigated whether persons who experienced intimate partner violence would experience PTG, and how abuse severity, depression, and relationship characteristics could affect PTG. The study assessed 60 women who had been or were currently in a relationship with intimate partner violence and were utilizing shelter services. They reported that mean PTGI scores suggested that women in the study had higher scores than breast cancer survivors (Weiss, 2002) and persons who were victims of
violent crimes (Peltzer, 2000). Cobb et al. also reported that severity of abuse was only positively related to the PTG factor of appreciation of life, not overall.

Research suggests that while PTSD may occur following identity trauma, persons who did experience it are the minority (Kirkpatrick, Edmunds, & Seymour; Lev-Weisel, Amir, & Baser, 2004) and that over time (21 months), nearly all will experience remission (Dunmore, Clark, & Ehlers, 2001). PTG in women who were victims of intimate partner violence was higher than breast cancer survivors (survival trauma), and those who were victims of violent crimes (survival or autonomy trauma), and abuse severity only had an effect on one factor of PTG (Cobb, Tedeschi, Calhoun, & Cann, 2006).

**Interdependence Trauma**

Agnew (2000) defines interdependence theory as, “a broad yet flexible theory of human social behavior that provides a set of concepts for characterizing any given dyadic or group situation, and describes the ways in which different situations shape motivation and behavior in dyads, including romantically-involved couples” (p. 387). He asserts that dissolution of important relationships can be emotionally disturbing. Interdependence trauma occurs when a person loses their social connectedness that provides safety, security, and community, or an event threatens their social circle. Examples of this type of trauma include uprootedness from refugee experiences, genocide, or being suspended or forced out (Kira, 2001). As demonstrated by McCollum (1990), even simply moving can be especially traumatic for women.

Pham, Weinstein, and Longman (2004) examined how the 1994 genocide in Rwanda, which resulted in the death nearly 1 million inhabitants, affected PTSD symptoms in 2091 persons in four communes, three-quarters of whom were forced out of their homes. In addition, nearly three-quarters of participants lost a close member of their family or had property
destroyed or lost. All of these instances can be considered interdependence trauma, as they threaten the social connections of the persons involved. One-quarter of participants met PTSD symptoms criteria according to the PTSD Checklist—Civilian version. It should be noted, however, that these results may be biased due many participants being exposed to multiple traumas.

Powell, Rosner, Butollo, Tedeschi, and Calhoun (2003) investigated PTG among 75 former refugees and 75 displaced people in Sarajevo, defined as individuals who were either 1) forced to leave their homes, or 2) refugees who subsequently crossed the border to former Yugoslavia. They found that former refugees reported more growth than displaced persons. In addition, they report that levels of PTG were significantly lower than those found in other studies (Calhoun, Cann, Tedeschi, & McMillan, 2000; Maercker & Langner, 2001; Peltzer, 2000; Polatinsky & Esprey, 2000; Tedeschi & Calhoun, 1996). However, this may be confounded by the war in former Yugoslavia.

**Achievement or Self-Actualization Trauma.**

Kira (2001) suggests that failure to reach a goal that is viewed as essential to survival can be traumatic. Examples that constitute achievement trauma include failure to achieve life goals, prolonged unemployment, and substantial loss of money. In fact, Kira reports that when unemployment rates rise one percentage point in the United States, homicides increase nearly 6 percent, suicides approximately 4 percent, mental hospital admissions approximately 3 percent, and death due to stress-related disorders nearly 2 percent (Schwebel, 1998).

Job security and chronic unemployment may make an individual feel as though they have failed to achieve something important. Jobs are needed to survive, and the loss of a job could have devastating consequences for the persons involved. Ferrie, Shipley, Stansfeld, and Marmot
(2002) studied 10,308 participants from an all London based office staff to examine how chronic job insecurity or a change in job security could impact minor psychiatric morbidity. They found that although small, the loss of job security was associated with depression in both men and women.

In addition, women who are infertile may feel like they have failed to achieve their goal of becoming a mother. Miscarriages and stillbirths in particular have been associated with posttraumatic symptoms such as re-experiencing, avoidance, and hyperarousal (Schwerdtfeger & Shreffler, 2009). Schwerdtfeger and Shreffler examined a sample of 4,712 women of childbearing age from the National Survey of Fertility Barriers to see how pregnancy loss and infertility can affect women. They report that pregnancy loss and other fertility barriers resulted in significantly lower levels of life satisfaction and higher levels of depression. Over one-third of participants who were both childless and had experienced a loss felt cheated by life, like they were being punished, were angry at God, or felt like failures as a woman, and nearly half felt inadequate.

While research suggests that failing to achieve significant life goals may have a negative impact on mental health, (Ferrie et al., 2002; Schwebel, 1998; Schwerdtfeger & Shreffler, 2009), there are other factors that need to be considered. While most people do not experience job insecurity or infertility, over 10 percent of women in the United States have an impaired ability to get pregnant or carry a baby to term (Center for Disease Control, 2013) and over 5 percent of people in the United States were unemployed during any given month in 2014 (Bureau of Labor Statistics, 2015). Therefore, one should be cautious when considering how events that are within the realm of the normal human experience can cause PTG.

Survival Trauma
Survival trauma occurs when a person experiences an event in which they believed their life was in danger (Kira, 2001). Kira posits that death thoughts likely cause deep automatic activation of terror (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). Examples of such trauma include surviving a terminal illness, natural disaster, military combat, or traffic accidents.

Cordova, Cunningham, Carlson, and Andrykowski (2001) examined how surviving breast cancer can have positive outcomes by studying 70 Stage 0-IIB breast cancer patients less than or equal to five years postdiagnosis from the University of Kentucky Comprehensive Breast Care Center. Nearly all of the patients were Stage I or Stage II at the time of diagnosis, and over three-quarter believed the cancer was a threat to life or physical integrity. Compared to the healthy control group, the breast cancer survivors experience greater PTG overall, specifically on the relating to others, spiritual change, and appreciation of life subscales. Interestingly, PTG was not related to social support.

Morris and Shakespeare-Finch (2011) also looked at PTG in 335 persons who were treated at the oncology clinic at a hospital in Australia. They report that relationship status, ethnicity, education, whether the patient was currently in treatment, or time since diagnosis did not affect PTG scores. However, perceptions of traumatic severity (not traumatic, mildly traumatic, moderately traumatic, or very traumatic) varied in terms of PTG scores, with those who viewed their diagnosis as not or mildly traumatic having significantly lower PTG scores than those who viewed their trauma as moderately or very traumatic.

Cryder, Kilmer, Tedeschi, and Calhoun (2006) investigated PTG in 46 youth who were severely impacted by Hurricane Floyd in 1999. In line with Cordova, et al. (2001), social support was not correlated with PTG. Participants had an average score of 65.11 out of a possible 84 and
minimum 21, indicating PTG. Authors caution that because the participants were children, the nature and relationship between trauma and PTG was not clear, and future research is needed.

**Trauma Types and PTG Factors**

Kira et al. (2013) studied a highly traumatized (according to the Cumulative Trauma Scale) Palestinian sample of 132 adults recruited with snowballing techniques, and examined how different trauma types are related to the five PTG factors and PTSD. Researchers found that survival and type 1 traumas were related to PTG, while attachment and identity traumas were not. Type 2 traumas were positively related to greater appreciation of life, personal strength, and new possibilities. They suggest that trauma may have a curvilinear relationship with PTG; moderate levels of trauma correspond with the greatest growth, while high and low levels of traumas and symptoms may not.

**Maslow’s Hierarchy of Needs**

Maslow (1943) proposed a basic theory of human motivation, coined the “hierarchy of needs.” This theory suggests that humans have three drives or needs: basic, psychological, and self-fulfillment. Needs at the bottom of the pyramid must be satisfied before an individual can progress up the hierarchy. He suggests that at the bottom of the pyramid are physiological needs, such as the need for food, water, sleep, and sex. Once these needs are met, an individual can progress to have his or her safety needs met. This encompasses the basic resources an individual needs to feel safe, such as security of financial resources, shelter, and health. For infants, this means having a caregiver who is capable of making them feel safe and secure, and having a sense of familiarity. When needs of safety and security are satisfied, needs for love and belonging will emerge. This is the human desire for connection with friends, family, or a spouse. Next, a person will desire self-esteem, or feelings of adequacy, confidence, achievement, self-
worth, or capability. Only once all of these needs are satisfied will the individual begin to feel discontent, and a need for self-actualization will emerge. This is when an individual needs to feel as though they have a purpose in life.

When examining Kira’s (2008) proposed types of trauma, the parallels between the classifications and Maslow’s hierarchy of needs become clear. Basic, physiological needs are compromised when an individual experiences survival trauma, when their life is in danger. When attachment traumas occur, the need for security and familiarity are thwarted. When social ties and networks are damaged, which is the case with interdependence trauma, and individual’s feelings of love and belonging are inadequate. Feelings of self-efficacy and self-worth are shattered in identity traumas, which fails to satisfy esteem needs. Finally, achievement traumas align with self-actualization, where goals are not met. Therefore, I propose the following hierarchy of traumas, based on Maslow’s hierarchy of needs (see Figure 1).

Figure 1. Hierarchy of trauma.
I suggest there is a certain threshold for trauma, with those at the bottom of the period possessing the highest potential for posttraumatic growth. However, I expect attachment trauma to be the exception because most attachment traumas are experienced in childhood, which is associated with higher levels of negative post-trauma symptomology. In addition, I expect identity trauma to have a high potential for posttraumatic growth because survivors are often victims of sexual assault, which are most often (82%) perpetrated by an acquaintance, relative, or significant other and not by a stranger (Rape, Abuse, and Incest National Network, 2009). This relates to attachment trauma, where feelings of closeness or attachment with a family member, for example, are disturbed. Thus, I hypothesize identity trauma will have a high potential for PTG. In addition, because achievement traumas are so high on the pyramid, I do not expect them to reach the threshold for growth.

Trauma Type Hypotheses

Throughout the literature there is this concept that trauma must reach a certain threshold before PTG is possible (Cryder at al., 2006; Morris et al., 2011; Park, Cohen, & Murch, 1996; Tedesachi & Calhoun, 1996). The nature of survival and identity traumas, where life is threatened or self-efficacy is seriously compromised, makes reaching this threshold very likely. In contrast, achievement traumas, in part due to their prevalence throughout life, are unlikely to reach this threshold. Thus, I propose the following:

Hypothesis 2: Survival traumas will yield the highest levels of posttraumatic growth, followed by identity traumas, regardless of whether the trauma was type 1 or type 2.

Hypothesis 3: Achievement traumas will yield the lowest levels of posttraumatic growth, regardless of whether the trauma was type 1 or type 2.
Method

Participants

Data was collected from an initial sample of 502 participants: 225 recruited from Amazon Mechanical Turk, and 277 from the Ball State University Communication Center. From the initial sample of 502, 34 participants were excluded because they had not experienced a traumatic event, three because they were under 18 years of age, 27 because they spent less than 2.5 minutes taking the survey, and five because they had a cumulative trauma score of less than one, meaning they did not have any traumas. The final sample consisted of 433 participants: 201 recruited from Amazon Mechanical Turk, and 232 from the Ball State University Communication Center.

The average age of participants was 30.90 years, and nearly three-quarters identified as Caucasian ($N = 314$). Nearly two-thirds of participants were female ($N = 260$), and over one-third were affiliated with some form of Christianity ($N = 142$). Over half of participants reported being single, never married ($N = 241$), and nearly one-third were married or in a domestic partnership ($N = 135$). Nearly half of participants reported working full time ($N = 186$), and nearly one-third were students ($N = 131$). Over two-thirds of participants reported having some college ($N = 159$), followed by nearly one-third who reported having a bachelor's degree ($N = 132$). To view this and other demographic information, see Table 1 in Appendix F.

Independent samples t-tests were conducted to determine whether participants recruited via the Ball State University Communication Center differed from those recruited from Amazon Turk on overall posttraumatic growth, cumulative trauma occurrence, and cumulative trauma appraisal. Levene’s test was not significant for total PTG, therefore equal variances are assumed. Levene’s test was significant for cumulative trauma occurrence, cumulative trauma appraisal,
and cumulative trauma frequency, therefore equal variances are not assumed and adjusted t-values are reported. Participants recruited from Amazon Turk had higher total PTG scores ($M = 87.04$) than those from Ball State ($M = 77.07$), $t(416) = 4.257, p < .001$. Participants from Ball State also scored higher on cumulative trauma frequency ($M = 45.61$) than those recruited from Amazon Turk ($M = 31.58$), $t(427.63) = 2.36, p < .05$. No other significant differences were found. Despite these differences, data from both methods of recruitment was analyzed together.

Materials

Participants completed a slightly modified version of the Cumulative Trauma Scale (Short Form) (Kira, 2008) to assess the type of trauma they experienced, and the Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996) to assess the extent of their posttraumatic growth. Demographic information was also collected.

**Cumulative Trauma Scale (Short Form).** The cumulative trauma scale (short form) had 32 items (Kira, 2008). Participants were asked to indicate whether they have experienced a variety of attachment, identity, interdependence, achievement, and survival traumas by selecting yes or no. If the participant selected yes, the survey asked for the approximate number of times the trauma was experienced, as well as the age of the participant at the time of the trauma. Attachment traumas assessed included separation or abandonment by caregiver, divorce/separation, death of a parent, close friend, or loved one, abuse by a caregiver, and serious rejection/failure in relationships. Identity traumas assessed included sexual abuse/rape and discrimination based on ethnicity, culture, religion, gender, or national origin. Interdependence traumas assessed include being uprooted and forced to leave environment, town, village, or country, and being part of a poor family. Achievement traumas assessed included experiencing employment termination, lay off, or business failure, and experiencing frequent failures in
school. Survival traumas assessed included witnessing natural disasters, life-threatening accidents, involvement in war or combat, robbery, and being physically attacked.

The Cumulative Trauma Scale (Short Form) for measuring cumulative trauma dose and types has acceptable internal consistency overall (α = .847), as well as for males (α = .839), females (α = .854), adolescents (α = .778), and adults (α = .850). Evidence also supports convergent and divergent validity, as well as reliability (Kira, 2008). Kira et al. (2008, 2011) also report adequate reliability (alphas ranging from .80 to .92) and acceptable construct and predictive validity.

A few minor adjustments were made to the scale for the purpose of the current study. The modified version of the assessment leaves number of occurrences as an open ended question, while the original form asks the participant to select never, once, two times, three times, or many times. A few minor changes were made to specific questions as well. Participants were asked to indicate yes or no to, “I have experienced being part of a poor family with many hardships.” Participants were then asked, “If yes, how poor were you?” Response options were changed from 0 = never, 1 = poor, 2 = somewhat poor, 3 = real poor, 4 = very poor, 5 = extremely poor to 1 = never, 2 = slightly poor, 3 = moderately poor, 4 = very poor, 5 = extremely poor. These modifications warranted a slight change in directions.

Each participant received occurrence, frequency and appraisal scores for cumulative trauma, identity trauma, interdependence trauma, attachment trauma, achievement trauma, survival trauma, type 1 trauma, and type 2 trauma. Occurrence scores were calculated by finding the number of participants who experienced at least one trauma belonging to each type. Frequency scores were calculated by finding the average number of times each type of trauma was experienced. Appraisal scores were calculated by averaging how each of the trauma types
affected each participant on a 7-point likert scale (1 = extremely positive, 7 = extremely negative). Cumulative trauma scores were derived from items 1-18, 20-30, and 32-35, identity trauma scores were calculated from items 10, 12-13, 17, 24, and 27, interdependence trauma scores were gleaned from item 23, attachment traumas were taken from items 15-16, achievement trauma scores came from items 22 and 29, survival trauma scores were derived from items 1-3, 6-7, and 9, type I trauma scores were calculated from items 1-2, 6-8, and 24, and items 3, 10, 12-16, 22, 25, and 27 were used to obtain type II trauma scores.

Post Traumatic Growth Inventory. The posttraumatic growth inventory (Tedeschi & Calhoun, 1996) has 21 items. Posttraumatic growth factors assessed include relating to others, new possibilities, personal strength, spiritual change, and appreciation of life. They were judged on a Likert scale (1 = I did not experience this change as a result of my crisis and 6 = I experienced this change to a very great degree as a result of my crisis).

In terms of reliability, Taku et al. (2008) report internal consistency of the total score as $\alpha = .90$, which is considered satisfactory. Reliability coefficients for relating to others, new possibilities, personal strength, spiritual change, and appreciation of life are reported as .85, .84, .72, .85, and .67, respectively, and test-retest reliability is reported as .71. Taku et al. (2008) report that the construct validity of the five-factor model for PTG has been well-established.

An overall posttraumatic growth score was calculated by adding all of the responses, with potential scores ranging from 21 to 126. Individual posttraumatic growth scores were calculated for factors relating to others, new possibilities, personal strength, spiritual change, and appreciation of life by finding the average across each factor. Items 6, 8-9, 15-16, and 20-21 were averaged for factor relating to others, items 3, 7, 11, 14, and 17 were averaged for new
possibilities, items 4, 10, 12, and 19 were averaged for personal strength, item 5 was scored for spiritual change, and items 1-2 and 13 were averaged for appreciation of life.

Procedure

Participants were recruited from Amazon Mechanical Turk and the Ball State University Communications Center, which sent a recruitment email inviting participation to all students, faculty, and staff at the university with a link to Qualtrics to complete the survey. Following data collection from Ball State University, the remaining participants were recruited via Amazon Mechanical Turk for specific types of trauma that had low responses in the first sample. They elected to participate after reading a description of the study. After providing informed consent, a preliminary question assessing whether the participant has experienced one of a number of traumas was asked to determine if the participant was eligible to participate. If they were not eligible, the survey skipped to the end and they were not compensated. If they were eligible, the survey began with the Cumulative Trauma Scale, followed by the Posttraumatic Growth Inventory, then demographic questions. Upon completion, participants recruited from Amazon Mechanical Turk were compensated $1.00 for their participation, and participants recruited from the Ball State Communications Center were redirected to another survey so responses could remain anonymous where they could provide their name and email if they wished to be entered in a drawing to win $50.00

Results

Participants were asked to indicate the number of times they experienced specific traumas from 0 to 100. For analysis purposes, if participants experienced the trauma more than 100 times (which was often the case for abuse or people who experience oppression or discrimination), 101 times was used. If participants indicated they experienced a trauma a few times, 3 times was
assigned. If numerous, many, several, multiple, or a handful of times was indicated, 5 times was used. Responses of often, a lot, plenty, or frequently, were scored as 10 times. If participants indicated dozens, a conservative 2 dozen (24 times) was used. If participants indicated they experienced a trauma daily, all throughout [specified period of time], such as childhood or high school, countless, lifetime, or all the time, 101 times was used. If participants gave a range for number for times, such as 5-10 times, only the lowest number was included for analysis purposes. When participants indicated they were not sure how many times they had experienced a trauma, 2 times was used. In order for frequency to be scored on a five-point scale in accordance with Kira (2008), where many times = 4+, frequency scores were then recoded such that any score of 4 or greater was recoded as 4. Participants were also asked to indicate approximate ages for when they experienced specific traumas. If participants experienced traumas at multiple ages, the ages of first and last occurrence were kept for analysis purposes.

**Descriptive Statistics**

Participants were most likely to have experienced at least one survival trauma, followed by identity trauma, achievement trauma, attachment trauma, and interdependence trauma, respectively (see Table 2 in Appendix F). The average cumulative trauma frequency score was 39.10 (SD = 63.07). On average, identity trauma had the highest frequency score (M = 17.64, SD = 38.79), followed by survival trauma (M = 4.32, SD = 8.53), achievement trauma (M = 3.85, SD = 8.56), attachment trauma (M = 3.35, SD = 11.28), and interdependence trauma (M = 3.01, SD = 3.81), respectively. The average cumulative trauma appraisal score, which was calculated on a 7-point Likert scale (1 = extremely positive, 7 = extremely negative) was 5.38 (SD = 0.95). On average, identity trauma had the highest negative appraisal (M = 5.70, SD = 1.25), followed by attachment trauma (M = 5.46, SD = 1.62), achievement trauma (M = 5.25, SD = 1.54), survival
trauma ($M = 5.13, SD = 1.17$), and interdependence trauma ($M = 4.87, SD = 1.73$), respectively (see Table 2 in Appendix F).

Frequency scores for the cumulative trauma measure were converted into a 5-point scale from 0 through 4+. Average frequency, standard deviations, average age of first occurrence, and average appraisal score were calculated for each individual item (see Table 3 in Appendix F).

The average overall posttraumatic growth score was 81.84 ($SD = 24.39$). The PTG factor with the highest growth was appreciation of life ($M = 4.41, SD = 4.67$), followed by personal strength ($M = 4.31, SD = 1.34$), new possibilities ($M = 3.87, SD = 1.36$), relating to others ($M = 3.64, SD = 1.33$), and spiritual change ($M = 3.58, SD = 1.82$), respectively. To view this and other information about PTG scores, see Table 1.

Table 1

*Posttraumatic Growth Scores ($N = 418$)*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall PTG</td>
<td>81.84</td>
<td>85.00</td>
<td>96.00</td>
<td>24.39</td>
</tr>
<tr>
<td>Relating to Others</td>
<td>3.64</td>
<td>3.71</td>
<td>5.00</td>
<td>1.33</td>
</tr>
<tr>
<td>New Possibilities</td>
<td>3.87</td>
<td>4.00</td>
<td>5.00</td>
<td>1.36</td>
</tr>
<tr>
<td>Personal Strength</td>
<td>4.31</td>
<td>4.75</td>
<td>6.00</td>
<td>1.34</td>
</tr>
<tr>
<td>Spiritual Change</td>
<td>3.58</td>
<td>4.00</td>
<td>1.00</td>
<td>1.83</td>
</tr>
<tr>
<td>Appreciation of Life</td>
<td>4.41</td>
<td>4.67</td>
<td>6.00</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Hypothesis Testing

**Type 1 vs. Type 2 traumas.** A one-way univariate Analysis of Variance (ANOVA) was conducted to evaluate differences in posttraumatic growth (overall and separately for each of its five factors) as a function trauma type (type 1 or type 2). Participants were assigned a trauma
category based on their self-reported most frequent trauma (type 1 or type 2). If type 1 and 2
traumas occurred at the same frequency, participants were assigned to a third group. The
independent variable, the type of trauma experienced, had three levels: type 1, type 2, and both.
The dependent variable was the posttraumatic growth score, in addition to each of its factors.
Results were not significant for total posttraumatic growth, $F(4, 379) = .033, p > .10$, relating to
others, $F(4, 379) = .246, p > .10$, new possibilities, $F(4, 379) = .238, p > .10$, personal strength,
$F(4, 379) = 1.011, p > .10$, spiritual change, $F(4, 379) = .779, p > .10$, or appreciation of life,
$F(4, 379) = .540, p > .10$. Therefore, hypothesis 1 was not supported.

**Childhood trauma.** An independent samples t-test was conducted to evaluate the
hypothesis that childhood trauma exposure yields lower levels of total posttraumatic growth as
compared to trauma exposure in adulthood for each of the trauma types. A cutpoint of 18 was
used for childhood trauma exposure. Levene’s test was significant for interdependence ($F =
4.641, p < .05$) and attachment trauma ($F = 4.195, p < .05$), therefore equal variances are not
assumed and adjusted t-values are reported. Results were significant for interdependence trauma,
attachment trauma, survival trauma, and type 1 trauma, indicating that posttraumatic growth
scores were lower for individuals who experienced the trauma in childhood. Results for
achievement trauma approached but did not reach significance, and was the only trauma where
PTG scores were actually lower if the trauma was experienced in adulthood (see Table 2).
Therefore, hypothesis 1a was partially supported.
Trauma types. Descriptive statistics are provided to determine a hierarchy of total posttraumatic growth and each of its factors based on the type of trauma experienced. Participants were assigned a trauma category based on their self-reported most frequent trauma. Seventy-five participants were excluded from the analysis because no single trauma was the most frequent. Interdependence trauma yielded the highest levels of posttraumatic growth, followed by attachment trauma, achievement trauma, identity trauma, and survival trauma, respectively (see Table 3).
Table 3

Means and Standard Deviations for PTG and Factors by Trauma Type

<table>
<thead>
<tr>
<th></th>
<th>Total Relating Others</th>
<th>New Possibilities</th>
<th>Personal Strength</th>
<th>Spiritual Change</th>
<th>Appreciation of Life</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Survival</strong></td>
<td>M 78.85</td>
<td>3.65</td>
<td>3.65</td>
<td>4.00</td>
<td>3.46</td>
</tr>
<tr>
<td>(N = 114)</td>
<td>SD 26.69</td>
<td>1.36</td>
<td>1.48</td>
<td>1.47</td>
<td>1.76</td>
</tr>
<tr>
<td><strong>Attachment</strong></td>
<td>M 86.06</td>
<td>3.98</td>
<td>4.10</td>
<td>4.72</td>
<td>3.56</td>
</tr>
<tr>
<td>(N = 16)</td>
<td>SD 24.77</td>
<td>1.39</td>
<td>1.26</td>
<td>1.17</td>
<td>1.90</td>
</tr>
<tr>
<td><strong>Identity</strong></td>
<td>M 81.86</td>
<td>3.55</td>
<td>3.88</td>
<td>4.40</td>
<td>3.48</td>
</tr>
<tr>
<td>(N = 159)</td>
<td>SD 24.16</td>
<td>1.35</td>
<td>1.39</td>
<td>1.34</td>
<td>1.86</td>
</tr>
<tr>
<td><strong>Interdependence</strong></td>
<td>M 88.41</td>
<td>3.60</td>
<td>4.38</td>
<td>4.63</td>
<td>4.88</td>
</tr>
<tr>
<td>(N = 17)</td>
<td>SD 16.45</td>
<td>1.26</td>
<td>0.82</td>
<td>0.82</td>
<td>1.50</td>
</tr>
<tr>
<td><strong>Achievement</strong></td>
<td>M 85.55</td>
<td>3.73</td>
<td>4.28</td>
<td>4.47</td>
<td>3.66</td>
</tr>
<tr>
<td>(N = 38)</td>
<td>SD 21.29</td>
<td>1.26</td>
<td>1.18</td>
<td>1.09</td>
<td>1.82</td>
</tr>
</tbody>
</table>

A one-way univariate Analysis of Variance (ANOVA) was conducted to examine whether different trauma types yield different levels of overall posttraumatic growth, in addition to each of the posttraumatic growth factors. The independent variable, the type of trauma...
experienced, had five levels: survival, attachment, identity, interdependence, and achievement. The dependent variable was the posttraumatic growth score, in addition to each of its PTG factors.

Results were significant for PTG factor personal strength, $F(4, 339) = 2.525, p < .05$. The strength of relationship between trauma type and personal strength was assessed by $\eta^2$, with trauma type accounting for 2.9% of variance of the dependent variable. Results were also significant for spiritual change, $F(4, 339) = 2.451, p < .05$. Trauma type accounted for 2.8% of variance in PTG factor spiritual change, as assessed by $\eta^2$. Results for new possibilities, $F(4, 339) = 2.310, p < .10$, and appreciation of life $F(4, 339) = 2.072, p < .10$ approached but did not reach significance. Results were not significant for overall posttraumatic growth, $F(4, 339) = 1.068, p > .10$ or relating to others, $F(4, 339) = .481, p > .10$.

Post-hoc tests were conducted to evaluate pairwise comparisons across the means. Because the variances among the five groups ranged from 270.6 to 712.36 for total posttraumatic growth, we chose not to assume that the variances were homogeneous and conducted post hoc comparisons with Dunnett's $C$ test. For PTG factor new possibilities, there was a significant difference in the means between survival ($M = 3.65, SD = 1.48$) and interdependence trauma ($M = 4.37, SD = 0.82$). There was also a significant difference between survival ($M = 3.46, SD = 1.76$) and interdependence trauma ($M = 4.88, SD = 1.50$) for spiritual change, in addition to a difference between identity ($M = 3.48, SD = 1.86$) and interdependence trauma ($M = 4.88, SD = 1.50$). No other significant differences were found. This does not show support for hypothesis 2, which predicted that survival traumas would yield highest levels of posttraumatic growth, followed by identity trauma. Hypothesis 3 was not supported either, which predicted achievement traumas would yield the lowest levels of posttraumatic growth.
Exploratory Analyses

**Correlates of posttraumatic growth.** A correlation matrix was conducted to identify correlates of posttraumatic growth and each of its factors, including current age, frequency scores, appraisal scores, and first age of each of the seven trauma types while controlling for gender, education, and marital status. In general, higher levels of PTG were associated with lower frequency scores, especially among achievement and survival traumas. Interestingly, none of the appraisal scores were correlated with total PTG; the only significant result was achievement appraisal was negatively correlated with appreciation of life (Factor V), indicating the more positively the individual appraised the trauma, the higher the factor V PTG score. Results indicated that age of first occurrence and PTG were not associated with one another, however current age was positively correlated with spiritual change. To view these and other correlation coefficients, see Table 5 in Appendix F.

**Frequency, appraisal, and first age of experience predictions.** Seven multiple linear regression analyses were conducted to test if age of first traumatic experience, frequency score, and appraisal score could predict posttraumatic growth for each trauma type. All variables were entered simultaneously. Results indicate that these scores were not good predictors of posttraumatic growth for interdependence trauma, $F(3, 63) = .788, p > .10$, and achievement trauma, $F(3, 154) = 1.005, p > .10$. Identity trauma, $F(3, 297) = 2.167, p < .10$, and type 2 trauma, $F(3, 316) = 2.411, p < .10$ approached but did not reach significance.

PTG in attachment trauma was predicted by age of first experience, frequency score, and appraisal score, $F(3, 92) = 4.792, p < .01$. The sample multiple correlation coefficient was .368, accounting for approximately 14% of variance in PTG. In Table 9, we present correlations to indicate the relative strength of the individual predictors. First age of attachment trauma was the
only significant bivariate \((p < .05)\) and partial \((p < .001)\) correlation with PTG. Based on these results, it is tempting to conclude that the only useful predictor in PTG with achievement trauma is the age in which they first experienced the trauma. It alone accounted for 12\% \((.344 = .12)\) of variance in PTG, while the other variables accounted for only an additional 2\% \((14\% - 12\% = 2\%)\). However, judgments about the relative importance of these predictors should be exercised with caution because all predictors are significantly correlated except frequency and first age of attachment trauma experience, with correlations ranging from -.170 to .176.

Age of first experience, frequency score, and appraisal scores were also significant predictors for PTG in survival trauma, \(F(3, 338) = 5.071, p < .01\). The sample multiple correlation coefficient was .208, indicating that approximately 4.3\% of variance in PTG can be accounted for by the linear combination of these survival trauma measures. In Table 4, we present indices to indicate the relative strength of the individual predictors (see Appendix F). All bivariate correlations between PTG and survival trauma predictors were significant except appraisal score \((p < .05)\), and the relationship between PTG and survival frequency was negative. Only the partial correlation between PTG and age of first survival trauma experience was significant. Age of first occurrence alone accounted for 3.8\% \((.197 = .038)\) of variance of total PTG, while other variables contributed only an additional 0.5\% \((4.3\% - 3.8\% = 0.5\%)\), so it can be tempting to conclude that age of first occurrence is the most significant predictor. However, interpretations about the relative importance of these predictors should be done with caution because they are all significantly correlated except appraisal and frequency, with correlations ranging from -.265 to .197.

Frequency score, appraisal score, and age of first traumatic experience were significant predictors of PTG in type 1 trauma, \(F(3, 302) = 3.579, p < .05\). The sample correlation
coefficient was .185, accounting for approximately 3.4% of variance in PTG. In Table 9, we present correlations to indicate the relative strength of the individual predictors. Frequency of type 1 trauma was the only significant bivariate \( (p < .01) \) and partial \( (p < .01) \) correlation with PTG.

**Discussion**

The purpose of this research was to identify whether specific types of trauma have different propensities for posttraumatic growth. The idea was that by determining which traumas yield the highest levels of posttraumatic growth, practitioners can better manage their expectations while working with trauma survivors. Throughout the literature, there is this concept that trauma must reach a certain threshold before posttraumatic growth is possible (Cryder et al., 2006; Morris et al., 2011; Park, Cohen, & Murch, 1996; Tedeschi & Calhoun, 1996). Prior research has demonstrated that social support and relationship status are not related to posttraumatic growth, and thus I expected attachment and interdependence traumas to have the lowest levels of posttraumatic growth (Cordova et al., 2001; Cryder et al., 2006; Morris et al., 2011). Due to the nature of survival and identity traumas, where life is threatened or self-efficacy is seriously compromised, I expected these traumas to reach the threshold and have the highest potential for PTG. Because achievement traumas are prevalent throughout life, I predicted they would be unlikely to reach the threshold.

Research also suggests that in general, cumulative trauma (type 2) is more likely to yield negative symptomology compared to exposure to a single, unexpected trauma (type 1) (Breslau, Chilcoat, & Glenn, 1999; Cloitre et al., 2009; Green et al. 2000; Suliman et al, 2009). However, prior research has demonstrated that there are some confounding variables. Childhood exposure to assaultive violence and childhood exposure to trauma in general are associated with PTSD.
symptomology (Breslau et al, 1999; Cloitre et al., 2009). Thus, I expected that type 2 traumas would yield lower levels of PTG compared to type 1 traumas. In addition, I hypothesized that childhood trauma exposure would have lower levels of PTG compared to those exposed to trauma in adulthood.

In general, I found partial support for the hypothesis that individuals exposed to trauma in childhood would have lower levels of PTG across all trauma types. Results suggest that individuals exposed to interdependence, attachment, survival, and type 1 trauma in childhood have lower levels of PTG relative to those who experienced the trauma in adulthood, however there was no difference in those who experienced achievement, identity, and type 2 traumas. Attachment is especially pertinent in childhood, which is likely why children have lower levels of PTG if they experience attachment trauma. In fact, children learn attachment styles they will later possess as adults in childhood. I speculate that because achievement traumas are at the top of the trauma hierarchy, the time of trauma exposure is irrelevant. In addition, because identity traumas are most often experienced as physical abuse in childhood or sexual abuse in adulthood, and both are associated with similar PTSD symptoms, they may also have similar levels of PTG.

Results indicate that there was no difference between type 1 and type 2 trauma survivors in terms of PTG, which could explain why those exposed to type 2 trauma in childhood and adulthood have similar levels of PTG. This does not align with prior research, which suggests that being exposed to type 2 traumas yields more negative symptoms (Breslau, Chilcoat, & Glenn, 1999; Cloitre et al., 2009; Green et al. 2000; Suliman et al, 2009). However because individuals experienced both type 1 and type 2 traumas, and for analysis purposes only the most frequent trauma exposure was used, these results may be confounded. Exploratory analyses indicate that in general, higher levels of PTG were associated with lower frequency scores,
especially among achievement and survival traumas. This is consistent with the literature, and may be a more accurate explanation for how cumulative trauma influences PTG. Because age of first trauma exposure, frequency score, and appraisal score were good predictors of PTG in attachment, survival, and type 1 trauma, with age of first traumatic experience being the strongest predictor, it follows that these types of trauma would have different levels of PTG dependent on when the individual was exposed to the trauma. This partially replicates Kira et al., (2013), who found that survival and type 1 traumas were related to PTG, while attachment and identity traumas were not. Type 2 traumas were positively related to greater appreciation of life, personal strength, and new possibilities.

Kira et al., (2013) suggest that trauma may have a curvilinear relationship with PTG, with moderate levels of trauma corresponding with the greatest growth, but high and low levels of traumas and symptoms may not. Following the proposed hierarchy of trauma, this would imply that survival and achievement traumas would yield the lowest levels of PTG, identity and attachment traumas would yield moderate levels of PTG, and interdependence traumas would yield the highest levels of PTG. Results suggest that survival traumas have lower levels of PTG than interdependence in spiritual change and new possibilities. Identity traumas also had lower levels of PTG for spiritual change than interdependence traumas.

I speculate after a person experiences a specific trauma, the need corresponding with Maslow’s hierarchy must be met again before the individual can experience growth (see Figure 1). For example, if a person experiences an interdependence trauma, their need for love and belonging must be satisfied before they can recover and grow from their traumatic experience. In addition, I suspect there were some confounding variables in this study, which may explain why no other significant differences between the types of trauma were found.
Limitations

In this research I assumed that individuals would not be exposed to multiple types of trauma, which was not the case. In fact, over four-fifths (81 percent) of participants had been exposed to at least two types of trauma, and nearly half (45 percent) were exposed to at least three types of trauma. In addition, because participants were recruited using quota sampling, the sample is not representative of the entire population, and therefore may not be generalizable. Lastly, the Cumulative Trauma Scale (Short form) is a relatively new survey that has not been cited by many in the literature. Thus, the reliability and validity of the measure have yet to be established and replicated. Because of this, interpretation of results should be made with caution.

Future Research

One of the most interesting findings of this study was that childhood exposure to trauma was associated with lower levels of PTG in some but not all types of trauma. However, because an assessment of negative PTSD symptomology was not given, conclusions cannot be made regarding whether these specific types of trauma have a higher likelihood of PTSD in addition to lower levels of PTG. I suggest future research addresses this limitation, and add a PTSD assessment to the battery of assessments. In addition, I recommend future research continue looking at trauma and its possible curvilinear relationship with PTG through the lens of Maslow’s hierarchy of needs, and examine how satisfying the needs compromised can facilitate growth.


Appendix A

Cumulative Trauma Scale (Short Form)

Directions
Many people have experienced different kinds of events and situations in their lives. These
following questions will ask you about some specific events. For each event, please indicate
whether it happened, and if it did, the number of times, approximate age when the event occurred
(use your best guess if you are not sure), and how much it affected you negatively or positively
on the provided scale.

1. In my life I witnessed or experienced natural disasters, for example, earthquake,
hurricane, or flood.
   a. Yes
   b. No
If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

2. I have experienced life-threatening accidents, for example, motor vehicle accidents.
   a. Yes
   b. No
If yes, please indicate the number of times.

If yes, please indicate approximate ages.
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

3. I have been involved in or witnessed a war or combat.
   a. Yes
   b. No

If yes, please indicate the number of times.

__________________________
If yes, please indicate approximate ages.

__________________________
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

4. I have experienced sudden death of one of my parents, of a close friend, or of loved ones.
   a. Yes
   b. No

If yes, please indicate the number of times.

__________________________
If yes, please indicate approximate ages.

__________________________
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

5. I have experienced a life-threatening or permanently disabling event for loved ones (e.g., parents, close friends).
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

6. I have experienced life-threatening illness or permanently disabling event (e.g., cancer, stroke, serious chronic illness, or major injury).
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

7. I have experienced robbery involving a weapon (robbed or mugged).
   a. Yes
   b. No
If yes, please indicate the number of times.
   _______________________
If yes, please indicate approximate ages.
   _______________________
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

8. I have witnessed severe assault of acquaintance or stranger (e.g., got shot, stabbed, or severely beaten up).
   a. Yes
   b. No
If yes, please indicate the number of times.
   _______________________
If yes, please indicate approximate ages.
TRAUMA TYPES AND POSTTRAUMATIC GROWTH

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

9. I have been threatened to be killed or to be seriously harmed.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

10. I have been physically abused, pushed hard enough to cause injury, or beaten up by a caretaker, for example, by a parent.
    a. Yes
    b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

11. I have witnessed or heard one of my parents or caregivers hurting, and/or threatening to kill my other parent or caregiver.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

12. I was led to sexual contact by someone older than me.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

13. I was sexually abused, raped, or involved in unwanted sex with one or more persons.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

14. I have been jailed and/or tortured.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative
15. My mother has abandoned or left me, or separated from me when I was young.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

16. My father has abandoned or left me, or separated from me when I was young.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

17. I was put down, threatened, or discriminated against by someone else's negative attitudes, stereotypes, or actions because of my ethnicity, race, culture, religion, or national origin.
   a. Yes
   b. No

If yes, please indicate the number of times.
If yes, please indicate approximate ages.

If yes, how has this affected you?

a. Extremely positive
b. Moderately positive
c. Slightly positive
d. Neither positive nor negative
e. Slightly negative
f. Moderately negative
g. Extremely negative

18. My parents went through divorce and/or separation.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?

a. Extremely positive
b. Moderately positive
c. Slightly positive
d. Neither positive nor negative
e. Slightly negative
f. Moderately negative
g. Extremely negative

19. My race has history of being oppressed, discriminated, or threatened by genocide.
   a. Yes
   b. No

If yes, how much?

a. never
b. little like it
c. partially like it
d. moderately like it
e. very much like it

If yes, how has this affected you?

a. Extremely positive
b. Moderately positive
c. Slightly positive
d. Neither positive nor negative
e. Slightly negative
f. Moderately negative
g. Extremely negative

20. I have experienced a nervous breakdown or felt like I was about to have one (e.g., about to lose control) due to some seemingly small but recurrent or unremitting hassles or chronic stressors.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
c. Slightly positive
d. Neither positive nor negative
e. Slightly negative
f. Moderately negative
g. Extremely negative

21. At least one of my parents or siblings was involved in war, combat, or being tortured.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
c. Slightly positive
d. Neither positive nor negative
e. Slightly negative
f. Moderately negative
g. Extremely negative

22. I have experienced frequent failures in school.
TRIUMA TYPES AND POSTTRAUMATIC GROWTH

23. I was uprooted and forced to move from my favorite environment in town, village, or country.
   a. Yes
   b. No
   If yes, please indicate the number of times.
   __________________________
   If yes, please indicate approximate ages.
   __________________________
   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

24. I have been physically attacked, beaten up by another stronger person or group of persons, and caused injury.
   a. Yes
   b. No
   If yes, please indicate the number of times.
   __________________________
   If yes, please indicate approximate ages.
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

25. I was led to sexual contact by one of my caregivers/parents.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

26. I was put down, denied my rights, or discriminated against in the society (not by family members), by someone else’s negative attitudes, stereotypes, or actions, or by institutions because of my gender (being a girl/woman or a boy/man).
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.
If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

27. I have experienced serious rejection or failure in my relationships.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.

If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

28. I have experienced loss of a child or spouse.
   a. Yes
   b. No

If yes, please indicate the number of times.

If yes, please indicate approximate ages.
29. I have experienced employment termination, been laid off, or failed in business.
   a. Yes
   b. No
   If yes, please indicate the number of times.
   ____________________________
   If yes, please indicate approximate ages.
   ____________________________
   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

30. I have remarried.
   a. Yes
   b. No
   If yes, please indicate the number of times.
   ____________________________
   If yes, please indicate approximate ages.
   ____________________________
   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative
31. I have experienced being part of a poor family with many hardships.
   a. Yes
   b. No

   If yes, how poor were you?
   a. Extremely poor
   b. Very poor
   c. Moderately poor
   d. Somewhat poor
   e. Not poor at all

   If yes, please indicate approximate ages.

   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

32. I was put down, threatened, or discriminated against by some other family members (e.g., parents, siblings) negative attitudes, stereotypes, or actions because of my gender: being a boy or girl.
   a. Yes
   b. No

   If yes, please indicate the number of times.

   If yes, please indicate approximate ages.

   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative
33. I have had to harm another person
   a. Yes
   b. No

   If yes, please indicate the number of times.

   If yes, please indicate approximate ages.

   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

34. I lived in a community full of violence and criminal activities
   a. Yes
   b. No

   If yes, please indicate the number of times.

   If yes, please indicate approximate ages.

   If yes, how has this affected you?
   a. Extremely positive
   b. Moderately positive
   c. Slightly positive
   d. Neither positive nor negative
   e. Slightly negative
   f. Moderately negative
   g. Extremely negative

35. I have been told my birth was a complicated birth.
   a. Yes
   b. No

   If yes, please indicate the number of times.

   If yes, please indicate approximate ages.
If yes, how has this affected you?

a. Extremely positive
b. Moderately positive
c. Slightly positive
d. Neither positive nor negative
e. Slightly negative
f. Moderately negative
g. Extremely negative
### Post Traumatic Growth Inventory

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the crisis/disaster you indicated in the previous survey, using the following scale.

- **0** = I did not experience this change as a result of my crisis.
- **1** = I experienced this change to a very small degree as a result of my crisis.
- **2** = I experienced this change to a small degree as a result of my crisis.
- **3** = I experienced this change to a moderate degree as a result of my crisis.
- **4** = I experienced this change to a great degree as a result of my crisis.
- **5** = I experienced this change to a very great degree as a result of my crisis.

<table>
<thead>
<tr>
<th>Possible Areas of Growth and Change</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I changed my priorities about what is important in life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I have a greater appreciation for the value of my own life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I developed new interests.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I have a greater feeling of self-reliance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I have a better understanding of spiritual matters.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I more clearly see that I can count on people in times of trouble.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I established a new path for my life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I have a greater sense of closeness with others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I am more willing to express my emotions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I know better that I can handle difficulties.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I am able to do better things with my life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I am better able to accept the way things work out.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I can better appreciate each day.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. New opportunities are available which wouldn't have been otherwise.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I have more compassion for others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I put more effort into my relationships.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I am more likely to try to change things which need changing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I have a stronger religious faith.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I discovered that I'm stronger than I thought I was.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. I learned a great deal about how wonderful people are.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. I better accept needing others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C

Demographics

1. What was your age at your last birthday? ________ years
2. What is your sex?
   a. Male
   b. Female
   c. Intersex
3. With what ethnicity do you identify?
   a. Caucasian
   b. Hispanic/Latino
   c. Native American or American Indian
   d. Asian/Pacific Islander
   e. Other (please specify)
4. What is the highest level of education you have completed?
   a. Some high school
   b. High school diploma or its equivalent
   c. Some college
   d. Associate degree
   e. Bachelor's degree
   f. Master's degree
   g. Professional degree
   h. Doctorate degree
5. What is your marital status?
   a. Single, never married
   b. Married or domestic partnership
   c. Separated
   d. Divorced
   e. Widowed
6. With what religion do you identify?
   a. Some form of Christianity
   b. Catholicism
   c. Judaism
   d. Islam
   e. Buddhism
   f. Hinduism
   g. Wiccan
   h. Atheist
   i. Agnostic
   j. Unaffiliated
TRAUMA TYPES AND POSTTRAUMATIC GROWTH

k. Nothing in particular
l. Other (please specify)

7. What is your current employment status?
   a. part-time
   b. full-time
   c. unemployed
   d. student
Appendix D
INFORMED CONSENT FORM

Study Title: The Effect of Trauma Type on Posttraumatic Growth

Study Purpose and Rationale
The goal of this research project is to gain a better understanding of what precipitates posttraumatic growth, by uncovering a link between posttraumatic growth and specific trauma types. Results found in the current study will be useful to clinical practitioners, as they will have a better understanding of what to expect in terms of growth based on the type of trauma experienced by the person.

Inclusion/Exclusion Criteria
To be eligible for participation in this study, you must have experienced some type of trauma and be at least 18 years of age.

Participation Procedures and Duration
You will be asked to complete two surveys for this project assessing your traumatic experience and posttraumatic growth. You will also be asked to provide demographic information. The surveys will take approximately 30 minutes to complete.

Confidentiality
Data collected during this study will be anonymous, meaning no personal identifying information will be collected that could connect you to your answers.

Storage of Data
Data collected for this study will be stored on a password-protected computer for seven years so the researcher can use it for future projects, and then erased.

Benefits of Participation
There are no anticipated benefits for participation in this study.

Risks of Participation
During the survey, you will be asked to think about traumatic events you have experienced in life. Should this cause you discomfort, you are free to skip any question that makes you feel uncomfortable or quit at any time. Should you experience discomfort during the study, you may call the suicide prevention hotline number at 1-800-273-8255 or visit the U.S. Department of Veterans Affairs National Center for PTSD website at http://www.ptsd.va.gov/index.asp. If you are a Ball State University student, you have free access to counseling services available through the Counseling Center in Lucina Hall, room 320, which can be contacted at 765-285-1736.

Cost/Compensation
Upon completion of the survey, you will be entered in a drawing to win a $50 visa.

Voluntary Participation
Your participation in this study is completely voluntary, and you are free to withdraw your participation at any time for any reason without penalty.

IRB Contact Information
If you have questions about your rights as a research participant, please contact the Office of Research Integrity at irb@bsu.edu or 765-285-5070.

Researcher Contact Information
Principal Investigator:  
Megan Schott, Undergraduate Student  
Department of Psychological Science  
Ball State University  
Muncie, IN 47306  
Email: mdschott@bsu.edu

Faculty Supervisor:  
Dr. Thomas Holtgraves, Professor  
Department of Psychological Science  
Ball State University  
Muncie, IN 47306  
Email: hohtgraves@bsu.edu
INFORMED CONSENT FORM

Study Title: The Effect of Trauma Type on Posttraumatic Growth

Study Purpose and Rationale
The goal of this research project is to gain a better understanding of what precipitates posttraumatic growth, by uncovering a link between posttraumatic growth and specific trauma types. Results found in the current study will be useful to clinical practitioners, as they will have a better understanding of what to expect in terms of growth based on the type of trauma experienced by the person.

Inclusion/Exclusion Criteria
To be eligible for participation in this study, you must have experienced some type of trauma and be at least 18 years of age.

Participation Procedures and Duration
You will be asked to complete two surveys for this project assessing your traumatic experience and posttraumatic growth. You will also be asked to provide demographic information. The surveys will take approximately 30 minutes to complete.

Confidentiality
Data collected during this study will be anonymous, meaning no personal identifying information will be collected that could connect you to your answers.

Storage of Data
Data collected for this study will be stored on a password-protected computer for seven years so the researcher can use it for future projects, and then erased.

Benefits of Participation
There are no anticipated benefits for participation in this study.

Risks of Participation
During the survey, you will be asked to think about traumatic events you have experienced in life. Should this cause you discomfort, you are free to skip any question that makes you feel uncomfortable or quit at any time. Should you experience discomfort during the study, you may call the suicide prevention hotline number at 1-800-273-8255 or visit the U.S. Department of Veterans Affairs National Center for PTSD website at http://www.ptsd.va.gov/index.asp. If you are a Ball State University student, you have free access to counseling services available through the Counseling Center in Lucina Hall, room 320, which can be contacted at 765-285-1736.

Cost/Compensation
Upon completion of the survey, you will be compensated $1.00 for your participation.

Voluntary Participation
Your participation in this study is completely voluntary, and you are free to withdrawal your participation at any time for any reason without penalty.

IRB Contact Information
If you have questions about your rights as a research participant, please contact the Office of Research Integrity at irb@bsu.edu or 765-285-5070.

Researcher Contact Information
Principal Investigator:            Faculty Supervisor:
Megan Schott, Undergraduate Student                  Dr. Thomas Holtgraves, Professor
Department of Psychological Science                  Department of Psychological Science
Ball State University                                  Ball State University
Muncie, IN 47306                                           Muncie, IN 47306
Email: mdschott@bsu.edu                                    Email: 00tholtgrav@bsu.edu
Hello!

You are invited to participate in the study: Effect of Trauma Type on Posttraumatic Growth. The purpose of this study is to examine how different types of trauma can cause a person to experience growth.

By participating in this study you will be entered in a drawing to win a $50 visa! You will be compensated $1.00 for your participation in this study!

Your participation in this study would be greatly appreciated, and will only take approximately 15-30 minutes to complete!

To participate in this study, you must be at least 18 years of age and have experienced a traumatic event, including but not limited to the following:

- crime
- mugging, robbery, burglary, home break-in, etc.
- serious accident (car, at work, etc.)
- natural disaster (tornado, hurricane, major earthquake, etc.)
- man-made disaster (building collapse, plane crash, fire, etc.)
- dangerous, life-threatening chemical exposure
- serious injury
- threat or witness of murder or serious injury
- murder or killing of a loved one
- death of a spouse, romantic partner, or child
- life-threatening illness
- military combat
- forced sexual contact
- attacked with gun, knife, or weapon
- physical abuse
- terrorist attack
- kidnapping
- torture
- forced to handle dead bodies
- loss of identity due to lay-off, demotion, or decline in health

If you are eligible and would like to participate in this study, please click the link below.

This study has been approved by the Ball State University Institutional Review Board.

Thank you for your participation!

Principal Investigator
Megan Schott, Undergraduate Student
Department of Psychological Science
Ball State University
Muncie, IN 47304
Email: mdschott@bsu.edu

Faculty Supervisor
Dr. Thomas Holtgraves, Professor
Department of Psychological Science
Ball State University
Muncie, IN 47304
Email: 00t0holtgrav@bsu.edu
Title: Traumatic Experiences Survey
Requester Megan Schott
Description: Take 2 short surveys about traumatic experiences.
Keywords: trauma, traumatic, PTSD,
Detailed Instructions: To take this survey you must be 18 and have experienced a traumatic event, including but not limited to:
- crime
- mugging, robbery, burglary, home break-in, etc.
- serious accident (car, at work, etc.)
- natural disaster (tornado, hurricane, major earthquake, etc.)
- man-made disaster (building collapse, plane crash, fire, etc.)
- dangerous, life-threatening chemical exposure
- serious injury
- threat or witness of murder or serious injury
- murder or killing of a loved one
- death of a spouse, romantic partner, or child
- life-threatening illness
- military combat
- forced sexual contact
- attacked with gun, knife, of weapon
- physical abuse
- terrorist attack
- kidnapping
- torture
- forced to handle dead bodies
- loss of identity due to lay-off, demotion, or decline in health
### Table 1

*Demographic Characteristics (N = 433)*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>155</td>
<td>37.0</td>
</tr>
<tr>
<td>Female</td>
<td>260</td>
<td>62.0</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>314</td>
<td>74.9</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>23</td>
<td>5.5</td>
</tr>
<tr>
<td>Native American or American</td>
<td>9</td>
<td>2.1</td>
</tr>
<tr>
<td>Indian Asian/Pacific Islander</td>
<td>47</td>
<td>11.2</td>
</tr>
<tr>
<td>Other</td>
<td>26</td>
<td>6.2</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some high school</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>High school diploma or</td>
<td>26</td>
<td>6.2</td>
</tr>
<tr>
<td>equivalent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>159</td>
<td>37.9</td>
</tr>
<tr>
<td>Associate’s Degree</td>
<td>30</td>
<td>7.2</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>132</td>
<td>31.5</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>45</td>
<td>10.7</td>
</tr>
<tr>
<td>Professional Degree</td>
<td>9</td>
<td>2.1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single, never married</td>
<td>241</td>
<td>57.7</td>
</tr>
<tr>
<td>Married or in domestic</td>
<td>135</td>
<td>32.3</td>
</tr>
<tr>
<td>partnership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separated</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>Divorced</td>
<td>24</td>
<td>5.7</td>
</tr>
<tr>
<td>Widowed</td>
<td>7</td>
<td>1.7</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>1.7</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some form of Christianity</td>
<td>142</td>
<td>33.9</td>
</tr>
<tr>
<td>Catholicism</td>
<td>55</td>
<td>13.1</td>
</tr>
<tr>
<td>Judaism</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>Islam</td>
<td>8</td>
<td>1.9</td>
</tr>
<tr>
<td>Buddhism</td>
<td>3</td>
<td>0.7</td>
</tr>
<tr>
<td>Hinduism</td>
<td>35</td>
<td>8.4</td>
</tr>
<tr>
<td>Wiccan</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Atheist</td>
<td>44</td>
<td>10.5</td>
</tr>
<tr>
<td>Agnostic</td>
<td>49</td>
<td>11.7</td>
</tr>
<tr>
<td>Unaffiliated</td>
<td>21</td>
<td>5.0</td>
</tr>
<tr>
<td>Nothing in particular</td>
<td>42</td>
<td>10.0</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>2.6</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time</td>
<td>73</td>
<td>17.4</td>
</tr>
<tr>
<td>Full-time</td>
<td>186</td>
<td>44.4</td>
</tr>
<tr>
<td>Unemployed</td>
<td>19</td>
<td>4.5</td>
</tr>
<tr>
<td>Student</td>
<td>131</td>
<td>31.3</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>2.4</td>
</tr>
</tbody>
</table>
### Table 2

*Trauma Occurrence, Frequency, and Appraisal Scores (N = 433)*

<table>
<thead>
<tr>
<th>Occurrence Score</th>
<th>Cumulative</th>
<th>Identity</th>
<th>Interdependence</th>
<th>Attachment</th>
<th>Achievement</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>433.00</td>
<td>313.00</td>
<td>71.00</td>
<td>99.00</td>
<td>162.00</td>
<td>356.00</td>
</tr>
</tbody>
</table>

- **Mean**: 7.67, 2.11, 0.17, 0.28, 0.46, 1.66
- **Median**: 7.00, 2.00, 0.00, 0.00, 0.00, 2.00
- **Mode**: 6.00, 1.00, 0.00, 0.00, 0.00, 1.00
- **Std. Dev.**: 4.36, 1.76, 0.37, 0.52, 0.63, 1.20
- **Minimum**: 1.00, 0.00, 0.00, 0.00, 0.00, 0.00
- **Maximum**: 34.00, 9.00, 1.00, 2.00, 2.00, 6.00

<table>
<thead>
<tr>
<th>Frequency Score</th>
<th>Mean</th>
<th>Identity</th>
<th>Interdependence</th>
<th>Attachment</th>
<th>Achievement</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>39.09</td>
<td>17.64</td>
<td>3.01</td>
<td>3.35</td>
<td>3.85</td>
<td>4.32</td>
</tr>
</tbody>
</table>

- **Mean**: 39.09, 17.64, 3.01, 3.35, 3.85, 4.32
- **Median**: 15.00, 5.00, 1.00, 1.00, 2.00, 3.00
- **Mode**: 7.00, 1.00, 1.00, 1.00, 1.00, 1.00
- **Std. Dev.**: 63.07, 38.79, 3.82, 11.28, 8.56, 8.53
- **Minimum**: 1.00, 1.00, 1.00, 1.00, 1.00, 1.00
- **Maximum**: 428.00, 302.00, 23.00, 110.00, 100.00, 107.00

<table>
<thead>
<tr>
<th>Appraisal Score</th>
<th>Mean</th>
<th>Identity</th>
<th>Interdependence</th>
<th>Attachment</th>
<th>Achievement</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>5.38</td>
<td>5.70</td>
<td>4.87</td>
<td>5.46</td>
<td>5.25</td>
<td>5.13</td>
</tr>
</tbody>
</table>

- **Mean**: 5.38, 5.70, 4.87, 5.46, 5.25, 5.13
- **Median**: 5.50, 6.00, 5.00, 6.00, 5.00, 5.00
- **Mode**: 6.00, 7.00, 5.00, 7.00, 7.00, 5.00
- **Std. Dev.**: 0.95, 1.25, 1.73, 1.62, 1.54, 1.17
<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>Avg. Age First Time</th>
<th>Avg. Appraisal Score</th>
<th>Frequency of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural disaster experience</td>
<td>1.97</td>
<td>1.09</td>
<td>14.66</td>
<td>4.70</td>
<td>201 103 63 31 34</td>
</tr>
<tr>
<td>Accident experience</td>
<td>1.49</td>
<td>1.22</td>
<td>19.22</td>
<td>5.20</td>
<td>238 132 38 18 7</td>
</tr>
<tr>
<td>Warfare experience</td>
<td>2.09</td>
<td>1.23</td>
<td>19.80</td>
<td>5.03</td>
<td>401 15 6 4 7</td>
</tr>
<tr>
<td>Sudden death of a close friend</td>
<td>1.82</td>
<td>1.00</td>
<td>21.31</td>
<td>5.79</td>
<td>152 144 70 41 26</td>
</tr>
<tr>
<td>Life-threatening or disabled close friend</td>
<td>1.56</td>
<td>0.97</td>
<td>24.03</td>
<td>5.74</td>
<td>316 79 22 4 12</td>
</tr>
<tr>
<td>Had a life-threatening illness</td>
<td>1.51</td>
<td>0.93</td>
<td>21.99</td>
<td>5.51</td>
<td>332 72 16 4 9</td>
</tr>
<tr>
<td>Experienced robbery with a weapon</td>
<td>1.18</td>
<td>0.44</td>
<td>22.88</td>
<td>5.31</td>
<td>383 42 7 1 50</td>
</tr>
<tr>
<td>Witness severe assault of an acquaintance</td>
<td>1.88</td>
<td>1.13</td>
<td>19.17</td>
<td>5.05</td>
<td>368 35 13 7 10</td>
</tr>
<tr>
<td>Threatened to be killed</td>
<td>1.68</td>
<td>1.06</td>
<td>20.09</td>
<td>5.61</td>
<td>331 66 14 10 12</td>
</tr>
<tr>
<td>Physically abused</td>
<td>2.97</td>
<td>1.32</td>
<td>11.79</td>
<td>5.95</td>
<td>345 23 8 6 51</td>
</tr>
<tr>
<td>Witness family violence</td>
<td>2.66</td>
<td>1.29</td>
<td>9.95</td>
<td>6.11</td>
<td>372 17 13 5 26</td>
</tr>
<tr>
<td>Led to sexual contact by someone older</td>
<td>2.53</td>
<td>1.35</td>
<td>13.24</td>
<td>5.90</td>
<td>328 39 14 9 43</td>
</tr>
<tr>
<td>Sexual abuse or rape</td>
<td>2.12</td>
<td>1.27</td>
<td>15.87</td>
<td>6.35</td>
<td>320 54 23 5 31</td>
</tr>
<tr>
<td>Been jailed/tortured</td>
<td>1.28</td>
<td>0.68</td>
<td>23.00</td>
<td>5.22</td>
<td>393 33 4 2 1</td>
</tr>
<tr>
<td>Mother abandonment</td>
<td>1.60</td>
<td>1.09</td>
<td>8.06</td>
<td>5.61</td>
<td>398 25 4 1 5</td>
</tr>
<tr>
<td>Father abandonment</td>
<td>1.56</td>
<td>1.08</td>
<td>6.15</td>
<td>5.39</td>
<td>355 58 7 2 11</td>
</tr>
<tr>
<td>Trauma Type</td>
<td>Mean</td>
<td>Std Dev</td>
<td>Median</td>
<td>Mode</td>
<td>n Threatened</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>--------</td>
<td>---------</td>
<td>--------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>Threatened due to ethnicity</td>
<td>2.93</td>
<td>1.29</td>
<td>15.30</td>
<td>5.14</td>
<td>324</td>
</tr>
<tr>
<td>Parents divorced</td>
<td>1.31</td>
<td>0.74</td>
<td>9.76</td>
<td>5.13</td>
<td>260</td>
</tr>
<tr>
<td>Race has history of oppression</td>
<td>3.94</td>
<td>1.24</td>
<td>NA</td>
<td>4.90</td>
<td>NA</td>
</tr>
<tr>
<td>Nervous breakdown</td>
<td>3.03</td>
<td>1.17</td>
<td>19.71</td>
<td>5.91</td>
<td>237</td>
</tr>
<tr>
<td>Parent/sibling war or combat</td>
<td>1.42</td>
<td>0.73</td>
<td>14.81</td>
<td>4.50</td>
<td>390</td>
</tr>
<tr>
<td>Failures in school</td>
<td>2.95</td>
<td>1.05</td>
<td>15.58</td>
<td>5.23</td>
<td>358</td>
</tr>
<tr>
<td>Uprooted</td>
<td>2.03</td>
<td>1.24</td>
<td>12.18</td>
<td>4.87</td>
<td>362</td>
</tr>
<tr>
<td>Physically attacked</td>
<td>2.06</td>
<td>1.22</td>
<td>15.34</td>
<td>5.67</td>
<td>356</td>
</tr>
<tr>
<td>Led to sexual contact by parent/caregiver</td>
<td>2.71</td>
<td>1.21</td>
<td>10.18</td>
<td>6.29</td>
<td>416</td>
</tr>
<tr>
<td>Discrimination due to gender by society</td>
<td>2.94</td>
<td>1.28</td>
<td>15.51</td>
<td>5.53</td>
<td>351</td>
</tr>
<tr>
<td>Rejection/failure in relationships</td>
<td>2.11</td>
<td>1.14</td>
<td>20.86</td>
<td>5.72</td>
<td>257</td>
</tr>
<tr>
<td>Loss of child or spouse</td>
<td>1.31</td>
<td>0.71</td>
<td>33.43</td>
<td>6.17</td>
<td>404</td>
</tr>
<tr>
<td>Failure at job/business</td>
<td>1.57</td>
<td>0.82</td>
<td>27.15</td>
<td>5.16</td>
<td>316</td>
</tr>
<tr>
<td>Remarried</td>
<td>1.13</td>
<td>0.34</td>
<td>33.44</td>
<td>1.84</td>
<td>401</td>
</tr>
<tr>
<td>Poor family</td>
<td>3.94</td>
<td>1.24</td>
<td>9.77</td>
<td>4.69</td>
<td>NA</td>
</tr>
<tr>
<td>Threatened due to gender by family</td>
<td>3.29</td>
<td>1.09</td>
<td>11.60</td>
<td>5.61</td>
<td>395</td>
</tr>
<tr>
<td>Had to harm another person</td>
<td>1.86</td>
<td>1.09</td>
<td>18.65</td>
<td>5.08</td>
<td>398</td>
</tr>
<tr>
<td>Community violence</td>
<td>2.25</td>
<td>1.33</td>
<td>12.72</td>
<td>4.92</td>
<td>385</td>
</tr>
<tr>
<td>Complicated birth</td>
<td>2.24</td>
<td>1.38</td>
<td>8.48</td>
<td>4.15</td>
<td>382</td>
</tr>
</tbody>
</table>
Table 4
The Bivariate and Partial Correlations of the Predictors with PTG

<table>
<thead>
<tr>
<th>Type</th>
<th>Predictors</th>
<th>Correlation between each predictor and PTG</th>
<th>Correlation between each predictor and PTG controlling for all other predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival</td>
<td>Frequency Score</td>
<td>-0.104*</td>
<td>-0.053</td>
</tr>
<tr>
<td>(N = 342)</td>
<td>Appraisal Score</td>
<td>0.065</td>
<td>0.038</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.197***</td>
<td>0.717*</td>
</tr>
<tr>
<td>Attachment</td>
<td>Frequency Score</td>
<td>0.057</td>
<td>0.096</td>
</tr>
<tr>
<td>(N = 96)</td>
<td>Appraisal Score</td>
<td>0.035</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.344***</td>
<td>0.363***</td>
</tr>
<tr>
<td>Identity</td>
<td>Frequency Score</td>
<td>-0.049</td>
<td>-0.009</td>
</tr>
<tr>
<td>(N = 301)</td>
<td>Appraisal Score</td>
<td>-0.084</td>
<td>-0.078</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.124*</td>
<td>0.110</td>
</tr>
<tr>
<td>Achievement</td>
<td>Frequency Score</td>
<td>-0.036</td>
<td>0.025</td>
</tr>
<tr>
<td>(N = 158)</td>
<td>Appraisal Score</td>
<td>-0.117</td>
<td>-0.119</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.071</td>
<td>0.073</td>
</tr>
<tr>
<td>Interdependence (N = 67)</td>
<td>Frequency Score</td>
<td>-0.050</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>Appraisal Score</td>
<td>0.050</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.188</td>
<td>0.179</td>
</tr>
<tr>
<td>Type 1</td>
<td>Frequency Score</td>
<td>-0.049</td>
<td>-0.025</td>
</tr>
<tr>
<td>(N = 306)</td>
<td>Appraisal Score</td>
<td>0.070</td>
<td>0.054</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.175**</td>
<td>0.167**</td>
</tr>
<tr>
<td>Type 2</td>
<td>Frequency Score</td>
<td>0.024</td>
<td>0.053</td>
</tr>
<tr>
<td>(N = 320)</td>
<td>Appraisal Score</td>
<td>0.185</td>
<td>-0.050</td>
</tr>
<tr>
<td></td>
<td>Age of first occurrence</td>
<td>0.131**</td>
<td>0.139*</td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01, p < .001.
<table>
<thead>
<tr>
<th></th>
<th>Total PTG</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
<th>Factor IV</th>
<th>Factor V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency Score</td>
<td>.066</td>
<td>.040</td>
<td>.059</td>
<td>.055</td>
<td>.103*</td>
<td>.034</td>
</tr>
<tr>
<td>Type 1</td>
<td>-.25</td>
<td>-.135</td>
<td>.044</td>
<td>.107</td>
<td>-.335</td>
<td>-.018</td>
</tr>
<tr>
<td>Type 2</td>
<td>-.522</td>
<td>-.515</td>
<td>-.491</td>
<td>-.2.94</td>
<td>-.509</td>
<td>-.506</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.113</td>
<td>-.030</td>
<td>-.064</td>
<td>-.028</td>
<td>-.322</td>
<td>-.087</td>
</tr>
<tr>
<td>Achievement</td>
<td>-.553*</td>
<td>-.562*</td>
<td>-.535*</td>
<td>-.374</td>
<td>-.475*</td>
<td>-.726**</td>
</tr>
<tr>
<td>Survival</td>
<td>-.519</td>
<td>-.388</td>
<td>-.510</td>
<td>-.441</td>
<td>-.753**</td>
<td>-.595*</td>
</tr>
<tr>
<td>Interdependence</td>
<td>-.077</td>
<td>-.220</td>
<td>.028</td>
<td>-.074</td>
<td>.397</td>
<td>-.097</td>
</tr>
<tr>
<td>Identity</td>
<td>-.443</td>
<td>-.633*</td>
<td>-.394</td>
<td>-.200</td>
<td>-.039</td>
<td>-.433</td>
</tr>
<tr>
<td>Appraisal Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 1</td>
<td>-.144</td>
<td>-.173</td>
<td>-.214</td>
<td>-.044</td>
<td>.178</td>
<td>-.266</td>
</tr>
<tr>
<td>Type 2</td>
<td>-.325</td>
<td>-.297</td>
<td>-.369</td>
<td>-.196</td>
<td>-.100</td>
<td>-.436</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.179</td>
<td>-.155</td>
<td>-.208</td>
<td>-.090</td>
<td>-.030</td>
<td>-.277</td>
</tr>
<tr>
<td>Achievement</td>
<td>-.467</td>
<td>-.499</td>
<td>-.514</td>
<td>-.287</td>
<td>-.178</td>
<td>-.563*</td>
</tr>
<tr>
<td>Survival</td>
<td>-.087</td>
<td>-.138</td>
<td>-.149</td>
<td>-.010</td>
<td>.305</td>
<td>-.182</td>
</tr>
<tr>
<td>Interdependence</td>
<td>-.255</td>
<td>-.235</td>
<td>-.316</td>
<td>-.115</td>
<td>-.083</td>
<td>-.438</td>
</tr>
<tr>
<td>Identity</td>
<td>-.212</td>
<td>-.185</td>
<td>-.273</td>
<td>-.138</td>
<td>.074</td>
<td>-.273</td>
</tr>
<tr>
<td>Age First Occurrence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 1</td>
<td>.246</td>
<td>.287</td>
<td>.243</td>
<td>.199</td>
<td>.355</td>
<td>.168</td>
</tr>
<tr>
<td>Type 2</td>
<td>.210</td>
<td>.126</td>
<td>.301</td>
<td>.031</td>
<td>.539*</td>
<td>.101</td>
</tr>
<tr>
<td>Attachment</td>
<td>.360</td>
<td>.311</td>
<td>.399</td>
<td>.196</td>
<td>.472</td>
<td>.281</td>
</tr>
<tr>
<td>Achievement</td>
<td>-.196</td>
<td>-.155</td>
<td>-.177</td>
<td>-.111</td>
<td>-.166</td>
<td>-.154</td>
</tr>
<tr>
<td>Survival</td>
<td>.147</td>
<td>.212</td>
<td>.153</td>
<td>.163</td>
<td>.089</td>
<td>.041</td>
</tr>
<tr>
<td>Interdependence</td>
<td>.366</td>
<td>.508</td>
<td>.326</td>
<td>.153</td>
<td>.086</td>
<td>.296</td>
</tr>
<tr>
<td>Identity</td>
<td>.247</td>
<td>.402</td>
<td>.248</td>
<td>-.085</td>
<td>.273</td>
<td>.259</td>
</tr>
</tbody>
</table>

*Note.** $p < .05$, ** $p < .01$, *** $p < .001$. Italicized correlations approached but did not reach significance.*