Abstract

Trauma research has been predominantly focused on the study of the negative psychological sequelae of traumatic experience. Recently, however, increased empirical attention has been paid to the potential for positive changes, or posttraumatic growth, derived from survivors’ struggle with trauma. There is evidence accumulating in support of this phenomenon following various types of traumatic events. Using an online, cross-sectional design, the present study examined posttraumatic growth among 143 survivors of interpersonal violence. Furthermore, the relationship between posttraumatic growth and the severity of psychological distress symptoms, as well as between growth and hope was explored. Results indicated that the severity of depressive symptoms was negatively related to growth, while the severity of posttraumatic stress disorder symptoms and hope were found to positively predict growth. Associations between posttraumatic growth and demographic and interpersonal violence characteristics did not emerge. The potential implications of these findings and directions for future research are discussed.
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Chapter One:
Introduction

Interpersonal violence\(^1\) is a highly prevalent and serious problem that affects Canadians and individuals worldwide. In a national study, more than half (51\%) of Canadian women surveyed reported having experienced at least one incident of physical or sexual assault. Specifically, 12\% of women indicated that they had been assaulted by a spousal partner at least once in the preceding 5 years and 39\% reported having been sexually assaulted at the age of 16 years or older (Statistics Canada, 1993, as cited in Statistics Canada, 2006). Data from the United States National Violence Against Women Survey, which utilized a population-based sample, indicated that approximately 22\% of women and 7\% of men experienced incidents of physical assault by an intimate partner in their lifetime, and approximately 18\% of women and 3\% of men were sexually assaulted in their lifetime (Tjaden & Thoennes, 2000). Most documents of interpersonal violence, however, greatly underestimate the true extent of prevalence and incidence of violence due to nondisclosure of victimization and methodological limitations of assessment in research (e.g., Koss, 1993). For instance, in Canada, it is estimated that approximately one third of incidents of intimate partner violence and less than 10\% of sexual assaults are reported to authorities (Statistics Canada, 2006).

The World Health Organization (WHO, 1996) defines violence as:

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\(^1\)The WHO’s (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002) typology of violence differentiates interpersonal violence and collective violence on the basis of who perpetrated the violence. For the former categorization, violence is committed by another or small group of individuals, while violence that is inflicted by large groups comprises the latter categorization. However, the term *interpersonal violence*, as utilized throughout this text, includes experiences of collective violence.
The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation. (as cited in Krug et al., 2002, p. 5)

In their typology of violence, the WHO (2002) characterized interpersonal violence as consisting of two main types of violence, family and intimate partner violence (e.g., child abuse, intimate partner violence, and elder abuse) and community violence (e.g., youth violence, random acts of violence, rape or sexual assault by a stranger, and violence in institutional settings such as schools and workplaces). Collective violence includes social, political, and economic violence (e.g., hate crimes, terrorist acts, mob violence, and war violence). Violence is further described as involving physical, sexual, psychological, and deprivation or neglectful acts.

Individuals affected by violence often perceive and describe their experiences as highly traumatic. A traumatic event, as proposed by the Diagnostic and Statistical Manual of Mental Disorders, fourth edition-text revision (DSM-IV-TR; American Psychiatric Association [APA], 2000), is defined as an event that is witnessed or directly experienced that involves actual or threatened death or serious injury to one’s self or another. A traumatic event may also include the unexpected or violent death, serious harm, threat of death or injury experienced by a close other. Such events are responded to with fear, horror, or helplessness. Under this definition, incidents of interpersonal violence are regarded as traumatic events. Additional examples of experiences that are considered to be traumatic events include life-threatening illness, natural or manmade disasters, and severe automobile accidents.
Traumatic experience has considerable implications, including mental health consequences, and has been overwhelmingly linked to adverse psychological outcomes. Research on the psychological sequelae of traumatic events has predominantly focused on symptoms of psychopathology that typically result and recovery from these difficulties. Among the most common negative psychological consequences of trauma is posttraumatic stress disorder (PTSD; e.g., Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Norris, 1992).

According to the symptomatic criteria outlined by the *DSM-IV-TR* (APA, 2000), PTSD is characterized by a triad of symptom clusters resulting from exposure to a traumatic event. Symptom Cluster B (reexperiencing) includes persistent reexperiencing of the traumatic event through intrusive recollections, distressing dreams, flashbacks, and psychological and physiological reactivity to reminders of the trauma. Cluster C (avoidance and numbing) is comprised symptoms of persistent avoidance of stimuli associated with the traumatic event and a numbing of general responsiveness. These symptoms consist of avoiding thoughts, feelings, activities, people or places related to the trauma, inability to recall aspects of the event, diminished interest, sense of detachment from others, restricted range of affect, and a sense of a foreshortened future. Additional symptoms constitute Cluster D (hyperarousal), which includes persistent increased arousal, such as sleep difficulties, problems with concentration, hypervigilence, and exaggerated startle response.

Trauma research has reliably provided evidence that interpersonal violence can precipitate PTSD (e.g., Golding, 1999; Riggs, Rothbaum, & Foa, 1995). In Resnick et al.’s (1993) study, 68.9% of women surveyed reported a history of at least one type of traumatic experience, with 35.6% having experienced at least one of four types of interpersonal
violence. Rates of lifetime (25.8%) and current (9.7%) PTSD were higher among participants who experienced interpersonal violence than those whose traumatic experience did not include violence (9.4% and 3.4% respectively). Additionally, Rothbaum, Foa, Riggs, Murdock, and Walsh’s (1992) prospective study of psychopathology among sexually assaulted women revealed that the majority of survivors (94%) met symptomatic criteria for PTSD within a few days postassault. Approximately three months following their assault, nearly half of the sample (47%) demonstrated persistent symptoms of PTSD.

In addition to traumatic stress symptomatology, depression is a common psychological consequence of trauma (e.g., Gilboa-Schechtman & Foa, 2001; see Koss, Bailey, Yuan, Herrera, & Lichter, 2003 for a review; Mechanic, Weaver, & Resick, 2008). Nixon, Resick, and Nishith (2004) found that major depression was highly prevalent (54%) in a sample of women who suffered intimate partner violence. Other negative consequences of trauma identified in research include substance misuse, disordered eating, and suicidal ideation and behaviour (e.g., Dansky, Brewerton, Kilpatrick, & O’Neil, 1997; Kilpatrick, Acierno, Resnick, Saunders & Best, 1997; Ullman & Brecklin, 2002). Moreover, the comorbidity of psychopathology following trauma is also well-documented in literature (e.g., Breslau, Davis, Peterson, & Schultz, 2000; Hedtke, Ruggiero, Fitzgerald, Zinzow, Saunders, Resnick, et al., 2008; Kessler et al., 1995; Taft, Resick, Watkins, & Panuzio, 2009).

It is clear that traumatic experiences can have significant negative impacts on psychological functioning. However, a limitation of the almost exclusive focus research has placed on the study of psychopathology following trauma, is that it has resulted in a narrow understanding of psychological responses to trauma, and therefore may not capture the true complexity of human functioning in the aftermath of trauma (e.g., Joseph & Linley, 2008;
Linley & Joseph, 2004). In line with the philosophy of positive psychology, which accentuates human strengths and well-being (Seligman & Csikszentmihalyi, 2000), there has been a recent shift in focus in the trauma literature in how posttraumatic functioning is studied (Joseph & Linley, 2008). In recent years there is evidence accumulating which indicates that traumatic events can also lead to positive outcomes (for a review see Linley & Joseph, 2004; Tedeschi & Calhoun, 2004). The study of positive changes represents an important shift in research from an exclusive focus on the negative consequences of traumatic experiences toward a more comprehensive understanding of survivors’ psychological functioning posttrauma.

**Posttraumatic Growth**

In contrast to the overwhelming evidence of negative consequences of exposure to traumatic events, there is a growing body of literature documenting positive changes following trauma, commonly referred to as posttraumatic growth (Tedeschi & Calhoun, 1995). The terms used to describe the experience of posttraumatic growth have varied throughout the literature. In addition to *posttraumatic growth*, other terminology such as *finding benefits* (Affleck & Tennen, 1996), *stress-related growth* (Park, Cohen, & Murch, 1996), *thriving* (O’Leary & Ickovics, 1995), *positive psychological changes* (Yalom & Lieberman, 1991), and *adversarial growth* (Linley & Joseph, 2004) have been employed in research.

Despite the array of terms used, they each fundamentally describe the phenomenon that posttraumatic growth theorists Tedeschi and Calhoun (2004) explain as, “positive

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*For the purpose of this research, Tedeschi and Calhoun’s (1995, 2004) terminology and conceptualization of posttraumatic growth is employed. That is, the term *posttraumatic growth* is used to reflect perceived positive changes following traumatic experience.*
psychological change experienced as a result of the struggle with highly challenging life circumstances” (p. 1). Posttraumatic growth further reflects a heightened level of functioning beyond that which existed prior to encounter with trauma, and is described as:

A change in people that goes beyond the ability to resist and not be changed by highly stressful circumstances; it involves a movement beyond pretrauma levels of adaptation. . . . [Posttraumatic growth] has a quality of transformation, or a qualitative change in functioning. (Tedeschi & Calhoun, 2004, p. 4)

Reported experiences of posttraumatic growth that have emerged in the literature occur in three broad domains, which consist of positive changes in one’s perception of the self, in their relationships with others, and in their philosophy of life (Tedeschi & Calhoun, 1996). In the development of a reliable self-report measure of the extent to which individuals experience posttraumatic growth, Tedeschi and Calhoun (1996) identified five factors epitomizing the domains of positive change: Relating to Others, New Possibilities, Personal Strength, Spiritual Change, and Appreciation of Life.

As noted by Tedeschi and Calhoun (1996, 2004), examples of experiences of growth characterized by these factors may include perceptions of greater intimacy, closeness, and meaning in relationships, or increased compassion towards others who suffer adversity. Individuals may discover new possibilities in life, including embarking on a new life path, or they may develop a newfound sense of strength, competence, or confidence. Growth may also be experienced in spiritual or religious matters, or in the discovery of a greater sense of purpose and meaning in life. Furthermore, changes may occur in one’s philosophy of life, such as developing a greater appreciation for life and a shift in priorities.
In addition to the constructive concept of posttraumatic growth proposed by Tedeschi and Calhoun (1995, 2004), some authors argue for a two-component model of growth, suggesting that there may also be an illusory and self-deceptive side of posttraumatic growth, which may be associated with cognitive strategies such as denial, deliberate avoidance, and wishful thinking (Maercker & Zoellner, 2004).

Empirical reports of posttraumatic growth in the literature are numerous and have been documented following events of interpersonal violence, such as sexual assault (e.g., Frazier, Conlon, & Glaser, 2001), sexual abuse (e.g., Lev-Wiesel, Amir, & Besser, 2004; McMillen, Zuravin, & Rideout, 1995), intimate partner violence (e.g., Cobb, Tedeschi, Calhoun, & Cann, 2006), being held a prisoner of war (e.g., Erbes, Eberly, Dikel, Johnsen, Harris, & Engdahl, 2005), military combat (e.g., Fontana & Rosenheck, 1998), and terrorism (e.g., Butler et al., 2005); following illness, such as breast cancer (e.g., Cordova, Cunningham, Carlson, & Andrykowski, 2001), heart attack (e.g., Affleck, Tennen, Croog, & Levine, 1987), and HIV infection (e.g., Updegraff, Taylor, Kemeny, & Wyatt, 2002); as well as following the death of a loved one (e.g., Davis, Nolen-Hoeksema, & Larson, 1998).

**Theoretical Model of Posttraumatic Growth**

Reviews of theoretical perspectives of positive change following trauma (Joseph & Linley, 2006; O’Leary, Alday, & Ickovics, 1998; Zoellner & Maercker, 2006) describe several general models of change that may contribute the understanding of posttraumatic growth, including those by O’Leary & Ickovics (1995), Aldwin (1994), and Schafer and Moos (1992). However, there are few theoretical models that illustrate the process of growth following trauma. The most comprehensive model of posttraumatic growth to date is
proposed by Tedeschi and Calhoun (1995, 2004), who posit that posttraumatic growth arises through a cognitive process of coping with the traumatic event experienced.

Within this conceptual framework, a traumatic event is the catalyst for positive change. With this theory partly founded on the notion of rebuilding one’s assumptive world following trauma (Janoff-Bulman, 1992), the authors purport that a traumatic event must be severe enough to considerably challenge or invalidate one’s assumptive world, or their pretrauma schemas of the self and the world. This shattering of schemas is associated with significant psychological distress and activates cognitive processing, or ruminative thought, of trauma related issues which leads to growth. Therefore, cognitive processing is considered to be an essential component in producing posttraumatic growth.

Empirical evidence in support of this assertion has shown that severity of the traumatic event is positively related to growth. For instance, in a study of Australian students who experienced a traumatic event, those who rated their experience as severe or very severe reported greater levels of posttraumatic growth than those who made mild, moderate, and high severity ratings (Morris, Shakespeare-Finch, Rieck, Newbery, 2005). In a study by Solomon and Dekel (2007), greater levels of growth were seen among ex-prisoners of war than combat veterans who did not experience captivity. Furthermore, studies of breast cancer survivors revealed that women with more severe diagnoses or who viewed their experience with cancer as a traumatic stressor had greater perceptions of growth (Bellizzi & Blank, 2006; Cordova, Giese-Davis, Golant, Kronenwetter, Change, & Spiegel, 2007).

According to Tedeschi and Calhoun’s (1995, 2004) conceptualization of growth, it is through ruminative thought related to the traumatic event that new, more adaptive schemas are constructed leading to positive changes. Tedeschi and Calhoun (1995, 2004) assume that
the early process of ruminative thought is automatic and intrusive, and reflects one’s struggle with the incongruity between what they experienced in their encounter with trauma and their previously held schemas. Realizing that aspects of previously held beliefs are inconsistent with their circumstances posttrauma, survivors are able to detach from beliefs that are no longer tenable and recognize that it is possible to formulate new beliefs in the aftermath of trauma.

Through this cognitive process, psychological distress reduces and ruminative thought becomes more deliberate and effortful. Schemas are then rebuilt in a manner that acknowledges one’s experience of trauma and aftermath of the event, and therefore become more consistent with the posttrauma reality. This formation of new schemas leads to posttraumatic growth.

In support of this view, reports of ruminative thinking soon after various types of traumatic events have been shown to be positively associated with posttraumatic growth (Calhoun, Cann, Tedeschi, & McMillan, 2000; Kleim & Ehlers, 2009). Additionally, in a study of bereaved Japanese students, engaging in deliberate rumination soon after the loss of their loved one had a positive impact on perceived growth (Taku, Calhoun, Cann, & Tedeschi, 2008).

In addition to cognitive processing, Tedeschi and Calhoun’s (1995, 2004) model of posttraumatic growth highlights the importance of the individual’s personal characteristics and social context in the process of growth. A number of such potential correlates of posttraumatic growth have been explored in research, mostly yielding mixed results. For instance, coping styles have been investigated with some evidence that active or approach
coping styles and religious coping are associated with greater growth (e.g., Bellizzi & Blank, 2006; Frazier, Tashiro, Berman, Steger, & Long, 2004; Calhoun et al., 2000).

A recent meta-analysis documents several correlates of posttraumatic growth, including sociodemographic variables (Helgeson, Reynolds, & Tomich, 2006). For example, gender was found to differentially affect experience of posttraumatic growth, with women tending to report more growth than men. This is in line with earlier findings of gender differences in reports of growth (e.g., Butler et al., 2005; Tedeschi & Calhoun, 1996). People of younger age derived more growth than older individuals, which is consistent with other findings of a relationship between age and growth (e.g., Bellizzi & Blank, 2006; Cordova et al., 2007). Also growth was found to be related to less distress among samples consisting of greater proportions of minority participants. Similarly, in a study of assault survivors, individuals of non-Caucasian ethnicity reported more growth after their experience with trauma than Caucasian individuals (Kleim & Ehlers, 2009).

There is some evidence suggesting that social support may facilitate posttraumatic growth. Among sexual assault survivors, positive reactions to assault disclosure from informal and formal support providers were associated with greater growth (Borja, Callahan, & Long, 2006). This is consistent with a previous finding of a positive correlation between social support and positive changes following sexual assault (Frazier et al., 2004).

In contrast to Tedeschi and Calhoun’s (1995, 2004) assertion that growth is a process that occurs over time, Helgeson and her colleagues (2006) further reported that the time since the trauma occurred was unrelated to growth. Additionally, Frazier et al. (2001) found evidence of growth among survivors of sexual assault soon after the traumatic event. For a review of possible determinants of posttraumatic growth see Linley and Joseph (2004).
As noted earlier, investigations of posttraumatic growth correlates have typically yielded inconsistent results. Discrepant findings are particularly common in investigations of the relationship between growth and distress.

**Posttraumatic Growth and Psychological Distress**

Tedeschi and Calhoun (1995, 2004) assert that the experience of posttraumatic growth does not necessarily imply the absence of distress and suggest that growth and distress can coexist as distinct constructs. Although reports of positive and negative consequences of trauma are common, the nature of the relationship between these outcomes is not empirically clear, as a range of associations between posttraumatic growth and psychological distress have been identified in research.

Some studies have found an inverse association between measures of posttraumatic growth and distress, such that greater perceived growth is related to lower levels of distress (e.g., Carver & Antoni, 2004; Linley, Joseph, & Goodfellow, 2008; McMillen, Smith, & Fisher, 1997; Updegraff et al., 2002). In a study of bereaved individuals, Davis et al. (1998) found that posttraumatic growth was associated with lower distress both concurrently and prospectively. Specifically, at 6 months and 13 months postloss, individuals who reported more positive implications of their experience with the loss of a family member reported less distress. Furthermore, individuals who experienced more positive changes at 13 months postloss than at 6 months postloss reported a decrease in distress levels over time. Meanwhile, those who reported a decrease in positive changes over this time demonstrated heightened levels of distress.

Similar findings were documented by Frazier et al. (2001) in a study of female sexual assault survivors. Cross-sectional analyses revealed that posttraumatic growth assessed
2 weeks postassault was negatively related to the severity of PTSD and depressive symptoms. At 12 months postassault, only a negative relationship emerged between posttraumatic growth and depressive symptoms. The number of negative changes following the assault was positively correlated with distress at both times periods. In addition, women who reported more positive changes at one year postassault than soon after the assault were less distressed than those who did not experience positive changes at any time. Those who reported a decrease in positive changes over time became more distressed, reporting distress levels comparable to women who never reported positive change. Women who reported posttraumatic growth early and maintained these gains at one year postassault were the least distressed of all groups. Results of these investigations suggest that the experience of posttraumatic growth is an important predictor of psychological adjustment.

Other studies provide evidence for a positive relationship between posttraumatic growth and psychological distress. For example, data from a sample of Australian students who experienced various types of traumatic events, including loss of a loved one, motor vehicle accident, sexual abuse, and serious illness (Morris et al., 2005), as well as data from bereaved Japanese students (e.g., Taku et al., 2008) revealed that growth and PTSD symptom severity were positively correlated. Similarly, information obtained from individuals who survived the Holocaust as a child indicated that the severity of PTSD symptoms, particularly symptoms of arousal, predicted greater perceived growth (Lev-Wiesel & Amir, 2003). Lev-Wiesel et al. (2005) also found that PTSD symptoms predicted higher posttraumatic growth levels among survivors of childhood sexual abuse. These findings lend support to earlier results obtained from a sample of individuals admitted to hospital following an accident or assault (Snape, 1997).
Therefore, posttraumatic growth and distress may not be opposite ends of a single
dimension, rather they may be distinct outcomes of trauma which are independent of each
other. These results suggest that following traumatic experience individuals may report
positive changes yet still suffer negative consequences of trauma, thus demonstrating that
posttraumatic growth and psychological distress can coexist.

Moreover, researchers have also failed to find significant associations between
posttraumatic growth and psychological distress. Recently, Cobb et al. (2006) studied a
sample of survivors of intimate partner violence and found that posttraumatic growth and
depressive symptomatology were unrelated. Significant relationships did not emerge between
posttraumatic growth and pathological outcomes of PTSD and depressive symptom severity
among a sample of treatment-seeking physical and sexual assault survivors (Grubaugh &
Resick, 2007), nor with PTSD or general symptomatology in another sample of sexual
assault survivors (Borja et al., 2006). Similar results were obtained in studies of illness, such
as breast cancer (e.g., Cordova et al., 2001; Cordova et al., 2007), colorectal cancer
(Salsman, Segerstrom, Brechting, Carlson, & Andrykowski, 2009), and bone marrow
transplantation (Fromm, Andrykowski, & Hunt, 1996), as well as shipwreck accident
(Joseph, Williams, & Yule, 1993).

The majority of studies of positive and negative changes following trauma have tested
for linear relationships between these outcomes. A possible reason for the inconsistency in
findings is that the nature of the relationship between posttraumatic growth and
psychological distress may not be linear. Recent results provide evidence suggesting that
growth and distress may be associated in a curvilinear way.
Kleim and Ehlers (2009) recently studied the relationship between posttraumatic growth and psychopathology among two samples who primarily suffered physical assault. Survivors in the first sample were assessed 6 months following their assault. Correlational analyses showed that higher posttraumatic growth levels were related to greater severity of PTSD and depressive symptoms. However, a quadratic relationship emerged as a better predictor of growth in regression analyses. This curvilinear relationship took the form of an inverted U, revealing that assault survivors who reported low or high posttraumatic growth scores had lower severity of symptoms, while those with moderate levels of growth had high symptom severity.

The second sample of assault survivors were assessed an average of 39 months postassault. Only posttraumatic growth and PTSD symptom severity were positively correlated among this group, and a similar curvilinear relationship emerged between these variables in regression analyses.

The results of this study are in accord with previous findings of a curvilinear relationship (Butler et al., 2005; Lechner, Carver, Antoni, Weaver, & Phillips, 2006). The authors concluded that individuals with low growth and symptom scores may not perceive their assault experience as traumatic, such that it does not challenge their assumptive world. Whereas, those survivors whose previously held beliefs are affected by the event and who struggle to make sense of their experience may experience both growth and distress. Furthermore, that some survivors demonstrate high growth and low distress levels may be indicative of the ameliorating effect of growth on distress (Kleim & Ehlers, 2009).

Given these disparate results, the precise nature of the relationship between posttraumatic growth and psychological distress is unclear. It is evident that this association
is complex and further study is necessary to elucidate the true relationship between these posttrauma reactions.

**Hope Theory**

Although several predictors of posttraumatic growth have been empirically explored, there are other potentially important factors that may influence the positive sequelae of trauma that are underexplored or have yet to be examined. Among these is the concept of hope, which to date, has received minimal attention with respect to its relationship with posttraumatic growth.

Hope theory, proposed by Snyder et al. (1991), is a conceptualization of hope as a goal-directed cognitive process. Hope is regarded as a dispositional cognitive set comprised of three interrelated components: goals, pathways, and agency (Snyder, 2000; Snyder, Feldman, Taylor, Schroeder, & Adams, 2000).

Within Snyder and colleagues’ (Snyder, 2000; Synder et al., 2000; Synder et al., 1991) hope theory framework, hope is founded on goals, where goals are defined as projected end-points that a person desires to reach. Essential for hope construction is an individual’s perceived ability to conceptualize specific goals, which are the object of mental action sequences and guide purposive behaviour. Goals must be of enough importance to the individual that they occupy one’s conscious thought and must have some level of uncertainty with respect to attainment in order to necessitate hope.

In the pursuit of goals, one must first envision specific routes, or pathways, to their goals. The process of pathways thinking reflects thoughts of one’s perceived ability to produce plausible cognitive routes to goals. Furthermore, one must possess the motivation, or
agency, to use these conjured pathways to achieve their goals. Agentic thinking reflects thoughts of one’s perceived ability to initiate and maintain efforts to utilize the pathways generated to reach desired goals. Thus, hopeful thinking consists of both cognitions of capability to produce workable routes and ability to begin and sustain goal-directed behaviour.

The hope theory model posits that individuals with high hope demonstrate heightened levels of pathways and agentic thoughts in their pursuit of goals, such that they perceive that they are able to think of and utilize multiple routes. Therefore, when their primary route to goals is blocked, more hopeful individuals can rely on alternative pathways to overcome barriers and can apply motivation to new pathways (Snyder, 2000; Snyder et al., 2000). This theoretical framework further suggests that successful attainment of goals results in positive emotion, while perceived impediments to attaining goals yield negative emotion. Due to their ability to engage in greater pathways and agentic thinking, it is believed that individuals with higher hope have a more adaptive emotional response to barriers to goals (Snyder, 2000; Snyder et al., 2000).

Though hope may be related to better psychological adjustment, little is known about how hope is related to posttraumatic growth as there are very few studies exploring the association. Of the existing data, hope was not found to be related to perceived growth in a study of breast cancer survivors (Bellizzi & Blank, 2006). However, an investigation of interpersonal violence provides evidence for a positive relationship between these variables. In Ai, Tice, Whitsett, Ishisaka, and Chim’s (2007) prospective study of Kosovar war refugees, hopefulness assessed during resettlement positively predicted posttraumatic growth
over a 10 month follow-up period. This finding suggests that those refugees who were more hopeful experienced more positive changes over time.

Given the paucity of research regarding the association between posttraumatic growth and hope, the present study sought to fill this significant gap in literature by exploring this underinvestigated relationship.

**Purpose of Present Study**

Though empirical investigation of posttraumatic growth is flourishing, much still remains unknown about this psychological phenomenon. In response to various gaps in the existent literature, the purpose of the present study is threefold. First, this study intended to describe reports of posttraumatic growth among a sample of interpersonal violence survivors. Research indicates that the experience of positive changes following trauma is common and has been reported among individuals who have endured various types of adversity. However, a review of the literature reveals an underinvestigation of interpersonal violence survivors. Given the high prevalence rates of violence, further study of this population is necessary.

The second objective of this study was to further evaluate whether posttraumatic growth and psychological distress coexist as distinct outcomes of trauma, and examine the precise nature of the relationship between growth and the severity of distress symptoms. Posttraumatic growth theorists, Tedeschi and Calhoun (1995, 2004) assert that the experience of positive changes following trauma does not imply the absence of distress. In fact, they suggest that these outcomes may coexist and that distress may be necessary in the development of growth. The association between growth and distress is unclear in the trauma literature, with previous investigations yielding mixed results. As aforementioned, a number of studies have shown an inverse relationship between these outcomes, such that greater
perceived posttraumatic growth is related to less distress (e.g., Frazier et al., 2001). There is also evidence for a positive relationship, in which greater growth is related to more distress (e.g., Morris et al., 2005). Meanwhile, some researchers have failed to find significant relationships between posttraumatic growth and psychological distress (e.g., Grubaugh & Resick, 2007). A possible explanation for the inconsistency in results is the recent finding of a curvilinear relationship between outcomes, in which reports of low and high levels of posttraumatic growth are related to less distress than moderate growth levels (e.g., Kleim & Ehlers, 2009). Given the inconclusive findings to date, the present study sought to clarify the relationship between posttraumatic growth and psychological distress.

The third goal of this study was to explore the relationship between posttraumatic growth and hope. There has been little systematic examination of the association between these variables. One study found that hope was a significant predictor of more positive change after fleeing conditions of war (Ai et al., 2007). Thus, the present study endeavoured to contribute to this small body of research.

Overall, the present study aimed to address the following three principal questions:

1. Is there evidence of posttraumatic growth among survivors of interpersonal violence?

2. Do posttraumatic growth and psychological distress coexist and how are they related?

3. Are posttraumatic growth and hope related?

The following was predicted:
**Hypothesis 1**

Consistent with theory and prior research, it was hypothesized that experience of posttraumatic growth would be reported among the current sample of interpersonal violence survivors.

**Hypothesis 2**

In addition to growth, it was further expected that survivors would demonstrate symptoms of psychological distress following their experience of interpersonal violence, particularly through endorsement of symptoms of PTSD, depression, anxiety, and stress. As a result, the presence of both growth and distress among the current sample would suggest they can coexist.

In light of the inconsistent findings of a linear relationship between posttraumatic growth and psychological distress, the recent emergence of a curvilinear relationship between these outcomes is believed to more accurately capture the association between growth and distress. Therefore, it was predicted that a curvilinear relationship would be evident between posttraumatic growth and psychological distress variables.

Specifically, it was anticipated that the nature of this relationship would follow that demonstrated in Kleim and Ehlers (2009) study of assault survivors, in which low and high levels of growth would be associated with low levels of PTSD and depressive symptom severity, while moderate levels of growth would be associated with high levels of PTSD and depressive symptom severity. Symptoms of general anxiety and stress have not received as much empirical attention in studies of posttraumatic growth, especially in terms of a
nonlinear relationship with growth. Thus, no hypotheses are made for the relationships between posttraumatic growth and the severity of anxiety and stress symptoms.

**Hypothesis 3**

In accord with results obtained by Ai et al. (2007), posttraumatic growth and hope were hypothesized to be positively related.
Chapter Two: Methodology

Participants

Inclusion criteria for the present study required participants to be aged 18 years and older and have experienced a traumatic event in the context of interpersonal violence within the preceding 2 years of participation in this study. The process of posttraumatic growth development is unclear in the literature. Tedeschi and Calhoun (1995, 2004) suggest that posttraumatic growth develops over time; though, there is some empirical evidence that survivors can experience positive change soon after a traumatic event, including in as little as 2 weeks posttrauma (Frazier et al., 2001). Therefore, a 2 year timeframe in which participants experienced interpersonal violence was chosen for this study to ensure that the traumatic event was relatively recent and potentially still impacting participants, but of long enough duration that experience of growth may have occurred.

A convenience sample of 176 adult individuals was recruited for this online questionnaire study. Of this initial sample, data from 33 individuals were excluded from analysis as 31 had a substantial amount of missing responses and 2 described minor stressors that did not meet the inclusion criterion of an experience of interpersonal violence. Consequently, the final sample consisted of 143 participants with reliable data for analysis. The sample was predominantly female (80.7%, n = 113) and the majority of participants reported their race or ethnicity as Caucasian (73.5%, n = 100). The mean age of participants was 29.88 years (SD = 10.6), with a range of 18 to 65 years.

Participants reported the following information regarding their relationship status. Nearly half of participants (51.4%, n = 73) indicated that they were single, followed by
43.0% ($n = 61$) who were involved in a romantic relationship (i.e., in a committed relationship, common-law, or married). Some information for the main demographic variables of this study are unknown as responses were not provided by 3 participants for gender, 6 participants did not report their race or ethnicity, and one did not identify their race or ethnicity and current relationship status. There were no significant differences in demographic variables between participants whose data was retained in this study and those who were excluded. Table 1 reflects the main demographic characteristics of the study sample.
Table 1

Frequencies of Main Demographic and Interpersonal Violence Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
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<tr>
<td><strong>Gender</strong></td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>113</td>
<td>80.7</td>
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<tr>
<td>Male</td>
<td>25</td>
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<td>Other</td>
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<td>1.4</td>
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<td><strong>Race/Ethnicity</strong></td>
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<td></td>
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<tr>
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</tr>
<tr>
<td>Mixed race</td>
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<td>6.6</td>
</tr>
<tr>
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<tr>
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<tr>
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<td>1</td>
<td>0.7</td>
</tr>
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<td><strong>Relationship Status</strong></td>
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</tr>
<tr>
<td>Single</td>
<td>73</td>
<td>51.4</td>
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<tr>
<td>In a committed relationship</td>
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<td>25.4</td>
</tr>
<tr>
<td>Married/Common-law</td>
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<td>17.6</td>
</tr>
<tr>
<td>Separated/Divorced</td>
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<td>5.6</td>
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<tr>
<td><strong>Type of Violence</strong></td>
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<td></td>
</tr>
<tr>
<td>Intimate partner violence</td>
<td>70</td>
<td>49.0</td>
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<tr>
<td>Sexual assault (not by partner)</td>
<td>32</td>
<td>22.4</td>
</tr>
<tr>
<td>Child abuse</td>
<td>26</td>
<td>18.2</td>
</tr>
<tr>
<td>Sexual assault (by a partner)</td>
<td>25</td>
<td>17.5</td>
</tr>
<tr>
<td>Workplace violence</td>
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<td>12.6</td>
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<tr>
<td>Hate crimes</td>
<td>16</td>
<td>11.2</td>
</tr>
<tr>
<td>Other</td>
<td>16</td>
<td>11.2</td>
</tr>
<tr>
<td>Collective violence</td>
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<td></td>
</tr>
<tr>
<td>(gang violence, terrorism, and war)</td>
<td>15</td>
<td>10.5</td>
</tr>
<tr>
<td>School violence</td>
<td>15</td>
<td>10.5</td>
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<tr>
<td>Elder abuse</td>
<td>6</td>
<td>4.2</td>
</tr>
</tbody>
</table>
**Measures**

**Demographic and Background Information**

A composite questionnaire was created, using closed and open-ended questions, to collect demographic data and history of interpersonal violence. Specifically, participants were asked questions regarding their age, gender, country of birth, country of residence, ethnocultural background, sexual orientation, relationship status, type(s) of interpersonal violence experienced in the past 2 years, length of time since the traumatic event(s) occurred, perceived severity of their traumatic experience(s), single versus multiple experiences of interpersonal violence, and whether they sought psychological treatment for difficulties resulting from their experience of interpersonal violence. To ensure participants’ privacy, identifying information, such as name and contact information, was not collected in this study. The demographics and background questions used in the present study are presented in Appendix A.

**Posttraumatic Growth**

*Posttraumatic Growth Inventory (PTGI).*

The PTGI (Tedeschi & Calhoun, 1996) is a 21-item self-report measure that assesses perceived positive changes following experience of a traumatic event. Respondents use a 6-point Likert scale to indicate the extent to which they experienced each listed change item as a result of their traumatic experience. These item ratings range from 0 (“I did not experience this change as a result of my crisis”) to 5 (“I experienced this change to a very great degree as a result of my crisis”). The PTGI yields a total score (21 items) and five subscale scores: Relating to Others (seven items); New Possibilities (five items); Personal Strength (four items); Spiritual Change (two items); and Appreciation of Life (three items).
Responses to all measure items are summed to produce a total score ranging from 0 to 105, with higher scores indicating greater levels of growth. Each subscale score is similarly obtained by summing specified items. The PTGI is commonly used in investigations of posttraumatic growth.

Tedeschi and Calhoun (1996) found that the PTGI demonstrated good internal consistency with a Cronbach’s alpha reliability coefficient of .90, and a test-retest correlation coefficient of .71 over 2 months. The internal consistencies of the subscales ranged from .67 to .85, and test-retest reliabilities over 2 months ranged from .37 to .74. In the present study, Cronbach’s alpha for the total scale was .94 and .87 for Relating to Others, .86 for New Possibilities, .83 for Personal Strength, .79 for Spiritual Change, and .79 for Appreciation of Life. See Appendix B for the PTGI used in this study.

**Posttraumatic Stress Disorder**

*Posttraumatic Stress Disorder Checklist-Specific Version (PCL-S).*

The PCL-S (Weathers, Litz, Huska, & Keane, 1993) is a 17-item self-report measure that assesses current PTSD symptomatology. The PCL-S is one of three versions of the PCL, each pertaining to different types of traumatic experiences and with slight differences in item phrasing. The PCL-S can be referenced to a specific traumatic event as needed and items refer to “the stressful experience.” For the purposes of the present study, respondents were instructed to consider the PTSD symptom indicated in each item of the measure as it pertained to their experience of interpersonal violence. Using a 5-point Likert scale from 1 (“not at all”) to 5 (“extremely”), respondents rate the degree to which they were bothered by the symptom indicated in each item over the previous month.
Two scoring procedures can be used with the PCL yielding either a continuous measure of PTSD symptom severity or a dichotomous indicator of diagnostic status (F. W. Weathers, personal communication, January 19, 2009; Weathers et al., 1993). An overall severity score is determined by summing all measure items, resulting in a total score range from 17 to 85, with higher scores reflecting greater severity of PTSD symptoms. Severity scores for each *DSM-IV* PTSD symptom cluster can also be calculated. For reexperiencing (Cluster B), avoidance and numbing (Cluster C), and hyperarousal (Cluster D) symptoms, items 1 to 5, 6 to 12, and 13 to 17 are summed respectively.

The dichotomous scoring method includes an overall cut-off score or a symptom cluster approach. Total PCL scores equal to or greater than 50 suggest the presence of a potential diagnosis of PTSD. Other researchers have found that among predominantly female and relatively traumatized populations a cut-off score of 44 may have better efficiency (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). In terms of the symptom cluster approach, item ratings of 3 (“moderately”) or greater represents endorsement of that symptom and a PTSD diagnosis is assigned when one or more reexperiencing items, three or more avoidance and numbing items, and two or more arousal items are endorsed. In the present study, PTSD symptom severity was assessed continuously.

The PCL has demonstrated excellent psychometric properties. Weathers et al. (1993) reported internal consistency for the total scale as Cronbach’s alpha of .97. Internal consistency was .93 for reexperiencing items, .92 for avoidance and numbing items, and .92 for hyperarousal items. Test-retest reliability over 2 to 3 days was reported as .96. The alpha coefficient was .94 for the total PCL-S scale in the present study, .90, .88, and .86 for
the three symptom scales respectively. The PCL-S used in this study is provided in Appendix C.

**Depression, Anxiety, and Stress**

**Depression Anxiety Stress Scales-21 (DASS-21).**

The DASS-21 (Lovibond & Lovibond, 1995) is a 21-item self-report instrument measuring “features of depression, hyperarousal, and tension in clinical and non-clinical groups” (Antony, Bieling, Cox, Enns, & Swinson, 1998, p. 181). It is a shortened version of the original 42-item DASS. The scale has been shown to be a highly discriminant measure of anxiety and depression (e.g., Antony et al., 1998; Clara, Cox, & Enns, 2001; Henry & Crawford, 2005), and yields three subscale scores: Depression; Anxiety; and Stress. The Depression scale includes items that assess dysphoric mood, low self-esteem, and anhedonia. The Anxiety scale is composed of items that measure physiological arousal and fear. Finally, the Stress scale consists of items relating to a tendency to overreact to stressful events, tension, and irritability (Antony et al., 1998).

Using the DASS-21, each scale of the measure consists of seven items. Respondents rate the severity and frequency of each symptom described in measure items over the previous week using a 4-point Likert scale from 0 (“did not apply to me at all”) to 3 (“applied to me very much, or most of the time”). To maintain functional consistency throughout the questionnaires of the present study, a duration of one month was used over the typical one week period indicated in the measure.

Scale scores are computed by summing the individual item scores for each scale and multiplying by 2, as doubling the DASS-21 scores provides scores equivalent to those
obtained in the DASS-42. Therefore, resulting scale scores range from 0 to 42, with higher scores reflecting greater symptom severity. The three DASS scores can also be summed to produce a global measure of negative emotional symptoms. The resulting total score ranges from 0 to 126, with higher scores indicating greater psychological distress.

The DASS-21 has demonstrated excellent psychometric properties. Antony et al. (1998) found Cronbach’s alphas of .94 for the Depression scale, .87 for the Anxiety scale, and .91 for the Stress scale. Additionally, Henry and Crawford (2005) reported Cronbach’s alpha reliabilities of .88 for the Depression scale, .82 for the Anxiety scale, .90 for the Stress scale, and .93 for the total scale. Reliabilities for the DASS-21 in the current sample were Cronbach’s alpha of .92 for the Depression scale, .84 for the Anxiety scale, .87 for the Stress scale, and .94 for the total scale. See Appendix D for the DASS-21.

**Hope**

**Hope Scale.**

The Hope Scale (Snyder et al., 1991) is a 12-item self-report measure designed to assess hope as a dispositional cognitive set. Consistent with the hope theory proposed by Snyder and his colleagues (1991), the Hope Scale assesses the two dimensions of hope, producing an Agency scale score and a Pathways scale score. The instrument contains a total of eight hope items; specifically, four items that measure agency and four items that measure pathways. The agency items assess one’s determination to meet their goals, while pathways items relate to beliefs of one’s ability to generate means of attaining goals. The four remaining items are fillers that are not included in the assessment of hope, rather serve the purpose of making the scale content less obvious.
Respondents rate the extent to which each item describes themselves using a 4-point Likert scale from 1 (“definitely false”) to 4 (“definitely true”). A total hope score is derived by summing the scores of the eight hope items. Possible scores range from 8 to 32 for the total scale, with higher scores indicating a greater amount of hope, and 4 to 16 for each subscale.

The Hope Scale has demonstrated sound internal reliability. For the total scale, Snyder et al. (1991) reported that Cronbach’s alphas ranged from .74 to .84. For the Agency scale, alpha coefficients ranged from .71 to .77, and for the Pathways scale, alpha coefficients ranged from .63 to .80. In addition, the Hope Scale has been shown to be temporally stable. The test-retest reliability was .85 over a 3 week period, .73 over an 8 week period, and .76 and .82 over a 10 week period in two samples. The Cronbach’s alphas for the current sample were .91 for the total hope scale, .86 for the Agency scale, and .84 for the Pathways scale. See Appendix E for this measure.

**Procedure**

The present study used a cross-sectional design in which volunteer participants completed an online survey. The survey, comprised of a battery of self-report measures, was created using Survey Wizard 2, which is a web application for producing and managing Internet surveys. This web application is formatted such that study data are secure and encrypted, centrally stored, and easily exported to statistical software for analysis. A link to the survey was posted on a webpage produced for the study, which was held on a secure University of Toronto server. A web-based design was employed for the present study because the Internet provided a unique opportunity to reach a large number of participants across a vast geographical distance through widespread advertisement. Furthermore, this
format allowed participants to retain anonymity in responding to the sensitive questions presented in this study.

Participants were invited to partake in the study through a variety of sources. Advertisements for the study containing the Uniform Resource Locator (URL) for the webpage were posted on websites specializing in the advertisement of research opportunities (e.g., www.socialpsychology.org, www.irbapproved.blogspot.com, www.onlinepsychresearch.co.uk, www.psych.hanover.edu, www.about.com). Advertisements were also placed on social networking sites (e.g., Facebook, Twitter, Craigslist, Kijiji), a University of Toronto news and events posting website (www.my.utoronto.ca), and advertisements were forwarded to subscribers of an Ontario Institute for Studies in Education of the University of Toronto graduate studies electronic mailing list. In addition, posters were distributed to various Greater Toronto Area community centres and agencies, and posted on public bulletin boards in libraries, grocery stores, and throughout the University of Toronto campuses.

The advertisements (for an example see Appendix F) and posters (see Appendix G) described the study as an examination of psychological responses to traumatic events of interpersonal violence and provided all relevant information for participation, such as inclusion criteria, the URL for the study webpage, and contact information for the principal investigator. This information was also noted on the study webpage (see Appendix H). From the study webpage persons interested in learning more about the study and/or who wished to participate in the study were encouraged to click on a specified link to be directed to the survey.
When potential participants connected to the survey, the initial page consisted of information necessary for informed consent (see Appendix I). By clicking “please continue” at the bottom of this page, participants acknowledged that the study was thoroughly described and they provided informed consent to partake in the current study.

In the event that any participant became distressed as a result of their involvement in this study, a list of local, national, and international support resources were provided on the following page of the survey (see Appendix J), and participants were encouraged to refer to these resources if needed. Over the subsequent pages, participants completed the aforementioned self-report measures of the study. All study advertisements, information, and questionnaires were presented in English.

Ethical review and approval for this study was obtained from the University of Toronto Office of Research Ethics.

**Data Analysis**

Analyses for the present study were conducted using the Statistical Package for the Social Sciences (SPSS version 17.0; SPSS, Inc.). Univariate descriptive statistics were performed to describe each variable of interest, including determining the presence or absence of posttraumatic growth and psychological distress symptoms among the current sample. Bivariate analyses among continuous variables were then conducted to explore potential correlates of growth. The influence of categorical demographic and interpersonal violence variables on total growth scores were tested with one-way analysis of variance (one-way ANOVAs). Finally, a simultaneous multiple regression analysis was conducted to assess potential multivariate predictors of posttraumatic growth.
Chapter Three: Results

Characteristics of Interpersonal Violence Experienced

The majority of the sample (81.8%, \( n = 117 \)) reported that they had experienced more than one occurrence of interpersonal violence during their lifetime, and more than half (53.1%, \( n = 76 \)) indicated that they had experienced more than one incident in the past 2 years. Participants were asked to specify the type(s) of interpersonal violence they had experienced in the 2 years preceding their participation in this study. Together with demographic characteristics, the frequencies for the various types of interpersonal violence experienced by the current sample are displayed in Table 1 presented earlier. Intimate partner violence (excluding sexual assault) was the most frequently occurring form of interpersonal violence experienced, with 49.0% \( (n = 70) \) of participants reporting such incidence. This was followed by 22.4% \( (n = 32) \) of participants reporting sexual assault (not by a partner), 18.2% \( (n = 26) \) experienced child abuse, and 17.5% \( (n = 25) \) were sexually assaulted by a romantic partner. A substantial proportion of the sample (38.5%, \( n = 55 \)) reported that they had experienced more than one type of interpersonal violence in the 2 year period.

On average, participants identified the severity of their traumatic experience in the moderate range \( (M = 3.24, SD = .97) \), with ratings ranging from minimal (1) to catastrophic (5) severity. Of the sample, 52.4% \( (n = 75) \) reported that they had received or were currently receiving counselling or psychological treatment as a result of difficulties related to their experience of interpersonal violence.
Descriptive Statistics and Preliminary Analyses

Prior to evaluating study hypotheses, an initial exploration of the data was conducted screening the primary study variables for normality. Specifically, univariate analyses were performed to examine the distribution properties of the scores obtained among the current sample on the PTGI, PCL-S, DASS-21, and Hope Scale measures. First, upon visual examination of histograms, it appeared that some of the variables slightly deviated from normal. Skewness and kurtosis values for each variable were then evaluated and the z-scores for these indices were calculated with values within the absolute 2 range accepted as near enough normally distributed. Results further suggested that most variables were approximately nonnormally distributed. Finally, the Kolmogorov-Smirnov index, a more objective test of normality, was referred to and indicated that the majority of variables had distributions that deviated from normal, except the PCL-S reexperiencing and DASS-21 total scores. Table 2 denotes the values of skewness, kurtosis, and Kolmogorov-Smirnov indices for the primary study variables. The choice of subsequent statistical procedures reflects the findings of these diagnostic tests of normality.
Table 2

*Skewness, Kurtosis, and Kolmogorov-Smirnov Indices of Primary Study Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Skewness</th>
<th>Std. Error</th>
<th>Kurtosis</th>
<th>Std. Error</th>
<th>Kolmogorov-Smirnov</th>
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</thead>
<tbody>
<tr>
<td>PTGI</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Relating to Others</td>
<td>.52</td>
<td>.20</td>
<td>-.59</td>
<td>.40</td>
<td>.11*</td>
</tr>
<tr>
<td>New Possibilities</td>
<td>.23</td>
<td>.20</td>
<td>-1.09</td>
<td>.40</td>
<td>.10*</td>
</tr>
<tr>
<td>Personal Strength</td>
<td>-.02</td>
<td>.20</td>
<td>-1.17</td>
<td>.40</td>
<td>.11*</td>
</tr>
<tr>
<td>Spiritual Change</td>
<td>.78</td>
<td>.20</td>
<td>-.62</td>
<td>.40</td>
<td>.23*</td>
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<tr>
<td>Appreciation of Life</td>
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<td>.20</td>
<td>-1.17</td>
<td>.40</td>
<td>.11*</td>
</tr>
<tr>
<td>PTGI-Total</td>
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<td>-.85</td>
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<td>.08*</td>
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<tr>
<td>PCL-S</td>
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<td>Reexperiencing</td>
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<td>.07</td>
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<td>.40</td>
<td>.09*</td>
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<tr>
<td>Hyperarousal</td>
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<td>.20</td>
<td>-1.23</td>
<td>.40</td>
<td>.11*</td>
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<tr>
<td>PCL-S-Total</td>
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<td>DASS-21</td>
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<tr>
<td>Depression</td>
<td>.08</td>
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<td>-1.29</td>
<td>.40</td>
<td>.11*</td>
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<td>Anxiety</td>
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<td>.20</td>
<td>-.80</td>
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<tr>
<td>Stress</td>
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<td>DASS-21-Total</td>
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<td>Hope Scale</td>
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<td>Agency</td>
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<td>-.78</td>
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<td>Pathways</td>
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<td>-.36</td>
<td>.20</td>
<td>-.57</td>
<td>.40</td>
<td>.10*</td>
</tr>
</tbody>
</table>

*Note.* PTGI = Posttraumatic Growth Inventory; PCL-S = Posttraumatic Stress Disorder Checklist-Specific Version; DASS-21 = Depression Anxiety Stress Scales-21. *p < .05.
Research Question 1: 
Is There Evidence of Posttraumatic Growth Among Survivors of Interpersonal Violence?

The first hypothesis of the present study predicted that posttraumatic growth would be evident among the current sample of interpersonal violence survivors. In partial support of this hypothesis, analysis of descriptive statistics indicated that a small degree of posttraumatic growth was experienced. Participants reported relatively low levels of growth overall, with the median PTGI total score of 43.00 ($IQR = 44.00$). Similarly low scores were found among trauma survivors in studies of violent crime (Peltzer, 2000), Holocaust (Lev-Wiesel & Amir, 2003), and motor vehicle accidents (Zoellner, Rabe, Karl, & Maercker, 2008).

Moreover, the current sample appeared to suffer considerable psychological distress, reporting moderate to severe levels of PTSD, depression, anxiety, and stress symptoms following their experience of interpersonal violence. The median total score of the PCL-S was 54.00 ($IQR = 30.00$), which is greater than Weathers et al.’s (1993) cut-off score of 50 suggestive of a significant level of PTSD symptomatology. Using this cut-off score, 82 (57%) participants would qualify for a potential diagnosis of PTSD. However, for the purpose of the present study diagnosis was not considered in analyses, rather severity of symptoms was of interest. The median score for the DASS-21 depression subscale was 22.00 ($IQR = 24.00$) and 18.00 ($IQR = 16.00$) for the anxiety subscale, which are in the severe range, and the median score was 24.00 ($IQR = 18.00$) for the stress subscale, which is of moderate severity. Descriptive statistics for the PTGI, PCL-S, DASS-21, and Hope Scale measures are listed in Table 3.
Table 3

Medians, Interquartile Ranges, and Possible Scale Ranges for Primary Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Median</th>
<th>IQR</th>
<th>Possible scale range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTGI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relating to Others</td>
<td>12.00</td>
<td>14.00</td>
<td>0-35</td>
</tr>
<tr>
<td>New Possibilities</td>
<td>10.00</td>
<td>13.00</td>
<td>0-25</td>
</tr>
<tr>
<td>Personal Strength</td>
<td>9.00</td>
<td>11.00</td>
<td>0-20</td>
</tr>
<tr>
<td>Spiritual Change</td>
<td>2.00</td>
<td>5.00</td>
<td>0-10</td>
</tr>
<tr>
<td>Appreciation of Life</td>
<td>7.00</td>
<td>8.00</td>
<td>0-15</td>
</tr>
<tr>
<td>PTGI-Total</td>
<td>43.00</td>
<td>44.00</td>
<td>0-105</td>
</tr>
<tr>
<td>PCL-S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reexperiencing</td>
<td>15.00</td>
<td>10.00</td>
<td>5-25</td>
</tr>
<tr>
<td>Avoidance/Numbing</td>
<td>22.00</td>
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<tr>
<td>Hyperarousal</td>
<td>17.00</td>
<td>11.00</td>
<td>5-25</td>
</tr>
<tr>
<td>PCL-S-Total</td>
<td>54.00</td>
<td>30.00</td>
<td>17-85</td>
</tr>
<tr>
<td>DASS-21</td>
<td></td>
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<tr>
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<tr>
<td>Anxiety</td>
<td>18.00</td>
<td>16.00</td>
<td>0-42</td>
</tr>
<tr>
<td>Stress</td>
<td>24.00</td>
<td>18.00</td>
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<td>DASS-21-Total</td>
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<tr>
<td>Hope Scale</td>
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<td>Pathways</td>
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</tr>
<tr>
<td>Hope Scale-Total</td>
<td>22.00</td>
<td>9.00</td>
<td>8-32</td>
</tr>
</tbody>
</table>

*Note. PTGI = Posttraumatic Growth Inventory; PCL-S = Posttraumatic Stress Disorder Checklist-Specific Version; DASS-21 = Depression Anxiety Stress Scales-21.*
Research Question 2: Do Posttraumatic Growth and Psychological Distress Coexist and How Are They Related?

Hypothesis two of the present study proposed that posttraumatic growth and psychological distress would coexist as independent constructs. Overall, the current sample reported experiencing low levels of growth and high levels of distress. Inspection of the data and of bivariate scatterplots between pairs of growth outcomes and distress scales revealed that some participants with high posttraumatic growth scores also reported high distress scores, while others reported low distress scores. Similar patterns were found for participants reporting low levels of growth. Thus, there was no reliable pattern between posttraumatic growth and psychological distress scores. Consequently, it appears that posttraumatic growth and distress can coexist as separate constructs, as some survivors reported significant levels of both growth and distress. However, given the lack of a consistent pattern between reported growth and distress scores, it cannot be determined from the current study whether posttraumatic growth and psychological distress are true independent constructs.

It was also hypothesized that posttraumatic growth and psychological distress would be associated in a curvilinear relationship. Such a relationship was not apparent in scatterplots between pairs of growth outcomes and distress scales. Bivariate correlational analyses were then conducted among the primary study variables to determine potential correlates of posttraumatic growth. Due to deviations from normal distribution of most variables of interest, a nonparametric measure of correlation was employed. Specifically, Spearman’s rank correlation coefficient was used to determine intercorrelations between scale scores of the PTGI, PCL-S, DASS-21, and Hope Scale. Alpha for these analyses was set to \( p < .05 \). Intercorrelations between variables are presented in Table 4.
Correlational analyses revealed that the five subscale scores of the PTGI were highly related to the total PTGI scores. Therefore, only the total PTGI scores were considered in subsequent analyses. Of the DASS-21 measure, only the depression subscale was found to have a significant negative relationship with posttraumatic growth ($r_s = -.21, p < .05$). The PCL-S total and symptom cluster scores were unrelated to overall growth. Moreover, PCL-S symptom cluster scores were highly related to total PCL-S scores, as such, only the total PCL-S scores were used in further analyses.

Given the monotonic quality of the Spearman correlation coefficient, the nature of these associations cannot be determined. To establish if the emerging relationships were linear or curvilinear, Pearson product moment correlation coefficients were also calculated and compared to the Spearman’s rank correlation coefficients obtained. The Pearson correlation coefficients were of similar value to the Spearman correlation coefficients, therefore a linear relationship among associated variables was confidently assumed.

The correlation results provide partial support of hypothesis two. Posttraumatic growth and the severity of depressive symptoms were significantly related. Though contrary to the curvilinear relationship that was expected, these variables were found to have a small negative correlation, and were related in a linear way. This result indicates that participants who reported greater severity of depressive symptoms tended to report lower levels of posttraumatic growth in the aftermath of their experience of interpersonal violence. Significant relationships between posttraumatic growth and other distress symptomatology were not evident in bivariate analyses.
### Table 4

**Summary of Intercorrelations Between Primary Study Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
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<tbody>
<tr>
<td>1. PTGI-RO</td>
<td>.73**</td>
<td>.67**</td>
<td>.46**</td>
<td>.60**</td>
<td>.87**</td>
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<td>.12</td>
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<td>.01</td>
<td>-.11</td>
<td>.19*</td>
<td>.16</td>
<td>.07</td>
<td>.28**</td>
<td>.19**</td>
<td>.24**</td>
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<td>2. PTGI-NP</td>
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<td>.48**</td>
<td>.77**</td>
<td>.92**</td>
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<td>.10</td>
<td>-.05</td>
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<td>.42**</td>
<td>.39**</td>
<td>.42**</td>
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<td>3. PTGI-PS</td>
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<td>.66**</td>
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<td>-.08</td>
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<td>7. PCL-S-Total</td>
<td>.86**</td>
<td>.91**</td>
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<td>.74**</td>
<td>.72**</td>
<td>.69**</td>
<td>.81**</td>
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<td>8. PCL-S-R</td>
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<td>9. PCL-S-A/N</td>
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<td>.76**</td>
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<td>.61**</td>
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<td>.72**</td>
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<td>11. DASS-21-D</td>
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<td>.89**</td>
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<td>.48**</td>
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<td>12. DASS-21-A</td>
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<td>-.16</td>
<td>-.23**</td>
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<td>13. DASS-21-S</td>
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<td>14. DASS-21-Total</td>
<td>-.41**</td>
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<td>-.40**</td>
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<td>15. Hope Scale-Ag</td>
<td>.74**</td>
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<td>16. Hope Scale-Pa</td>
<td>.92**</td>
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<td>17. Hope Scale-Total</td>
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</tbody>
</table>

*Note. PTGI = Posttraumatic Growth Inventory; PTGI-RO = Relating to Others; PTGI-NP = New Possibilities; PTGI-PS = Personal Strength; PTGI-SC = Spiritual Change; PTGI-AL = Appreciation of Life; PCL-S = Posttraumatic Stress Disorder Checklist-Specific Version; PCL-S-R = Reexperiencing; PCL-S-A/N = Avoidance and Numbing; PCL-S-H = Hyperarousal; DASS-21 = Depression Anxiety Stress Scales-21; DASS-21-D = Depression; DASS-21-A = Anxiety; DASS-21-S = Stress; Hope Scale-Ag = Agency; Hope Scale-Pa = Pathways.*

*p < .05. **p < .01.
**Research Question 3:**

Are Posttraumatic Growth and Hope Related?

In hypothesis three, it was predicted that posttraumatic growth and hope would be positively associated. As predicted, bivariate correlational analyses indicated that the agency ($r_s = .42, p < .01$), pathways ($r_s = .35, p < .01$), and total Hope Scale ($r_s = .41, p < .01$) scores were positively associated with the total PTGI scores to a moderate degree. Thus, participants who were more hopeful also perceived greater positive change posttrauma. Correlations indicated that the agency and pathways subscale scores of the Hope Scale were highly related to the total scores. Consequently, only the total Hope Scale scores were considered in further analyses.

The relationship between hope and the severity of psychological distress symptoms was also examined. In addition to being associated with posttraumatic growth, the total Hope Scale scores were negatively correlated with total the PCL-S scores ($r_s = -.31, p < .01$), as well as the DASS-21 depression ($r_s = -.56, p < .01$), anxiety ($r_s = -.23, p < .01$), stress ($r_s = -.23, p < .01$), and total DASS-21 ($r_s = -.40, p < .01$) scores, suggesting that those who demonstrated greater hope also reported less severe PTSD, depressive, anxious, and stress symptoms.

With respect to distress symptoms, a positive correlation was found between the PCL-S total and DASS-21 depression ($r_s = .74, p < .01$) scores. Due to the high correlation between the DASS-21 scale scores and the significant relationships between the DASS-21 depression scores and the other variables of interest, only the depression variable was considered in later analyses. As aforementioned, comparison of Spearman and Pearson
correlation coefficients revealed linear relationships between significantly correlated variables.

Bivariate correlational analyses of other study variables did not reveal demographic correlates of the posttraumatic growth. One-way ANOVAs were performed comparing mean PTGI total scores across categorical variables of demographic and interpersonal violence characteristics. Although tests of normality revealed a nonnormal distribution of the PTGI total scores, this variable had a small negative kurtosis, indicating only a slight deviation from normal. In view of the relatively large sample size of this study and that ANOVA is robust to moderate violations of the assumption of normality (Tabachnick & Fidell, 2001), it was considered acceptable to proceed with these analyses.

For the series of one-way ANOVAs for demographic characteristics (i.e., gender, race/ethnicity, relationship status, and sexual orientation), a Bonferroni adjustment was made to offset the chances of a Type I error which resulted in a \( p \)-value of .01 (.05/4). Results demonstrated no significant differences in growth scores across demographic characteristics. Furthermore, one-way ANOVA procedures investigating mean differences across the types of interpersonal violence experienced also involved multiple comparisons. Using a Bonferroni approach, in which the \( p \)-value was set at .004 (.05/13), differences on mean PTGI total scores did not emerge. Lastly, differences on mean PTGI total scores were examined for additional variables related to the traumatic events experienced (i.e., single and multiple incidents of interpersonal violence over one’s lifetime, single and multiple incidents in the past 2 years, perceived severity of the traumatic event, and treatment seeking). Alpha was set at \( p < .01 \) (.05/4) for these analyses following Bonferroni adjustment. Significant differences were not found among these variables.
Regression Analysis

To obtain a greater understanding of the relationships found between posttraumatic growth, psychological distress, and hope, a simultaneous multiple regression was performed to determine potential multivariate predictors of growth. Although earlier tests of normality suggested that most of the primary study variables deviated from normal, this test was carried out since regression analyses are robust against moderate deviations from normality (Tabachnick & Fidell, 2001). Diagnostic tests further revealed that the distributions of these variables did not deviate from normal so significantly as to violate regression assumptions, and indicated that all other assumptions were satisfied. Therefore, regression results could be interpreted with confidence. Additionally, an examination of the tolerance and variance inflation factor values for the predictor variables indicated that multicollinearity was not a concern.

For this analysis, alpha was set to $p < .05$. Total PTGI scores were entered as the criterion for the regression analysis and a set of predictor variables was employed. The linear combination of the total PCL-S, DASS-21 depression, and total Hope Scale scores was found to be significantly related to the PTGI total scores, $F(3, 139) = 16.07, p < .001$. The adjusted $R^2$ value of .24 indicates that 24% of the variance of the total PTGI scores was explained by the model. Of the predictor variables, only the PCL-S and Hope Scale total scores made a significant contribution, with greater severity of PTSD symptoms and hope relating to more posttraumatic growth. Severity of depressive symptoms did not contribute significantly to the explained variance in reported posttraumatic growth; however, there was a trend towards a negative predictive relationship. A summary of regression results is presented in Table 5.
These findings lend further support to hypothesis two of this study. Although a curvilinear relationship did not emerge, in the multivariate context of the regression model, posttraumatic growth and psychological distress were found to have direct linear association, such that PTSD symptom severity positively predicted posttraumatic growth. Hypothesis three of the present study was supported, in that hope positively predicted growth in a linear association.

Table 5

*Simultaneous Multiple Regression Analysis Predicting Total PTGI Scores*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-13.38</td>
<td>11.33</td>
<td></td>
</tr>
<tr>
<td>PCL-S Total</td>
<td>.51</td>
<td>.16</td>
<td>.35*</td>
</tr>
<tr>
<td>DASS-21 Depression</td>
<td>-.47</td>
<td>.25</td>
<td>-.24</td>
</tr>
<tr>
<td>Hope Scale Total</td>
<td>1.85</td>
<td>.39</td>
<td>.43*</td>
</tr>
</tbody>
</table>

*Note.* PTGI = Posttraumatic Growth Inventory; PCL-S = Posttraumatic Stress Disorder Checklist-Specific Version; DASS-21 = Depression Anxiety Stress Scales-21.

Adjusted $R^2 = .24, p < .001.$

*p = .001.*
Chapter Four: Discussion

The present study was conducted with the ultimate aim of investigating positive change following experience of interpersonal violence. Foremost, the present study sought to determine whether survivors of interpersonal violence can experience posttraumatic growth as a result of their traumatic experience. Another focus of this study concerned the examination of the nature of the relationship between posttraumatic growth and psychological distress. Lastly, this study endeavoured to expand prior research by evaluating the relationship posttraumatic growth and hope.

Perceived Posttraumatic Growth Following Interpersonal Violence

The relationship between traumatic experience and negative psychological outcomes is well supported in the empirical literature, and the vast majority of trauma research emphasizes the psychological symptoms that often result from traumatic experience. Until recently, less attention has been directed to the study of potential positive outcomes of trauma. There is a growing body of research providing evidence for the presence of posttraumatic growth among survivors of various types of adverse experiences. Consistent with previous studies in this vein of research, results of the present study indicate that positive changes can be derived from traumatic experiences. Although the current sample of interpersonal violence survivors reported a small degree of posttraumatic growth, there were some participants in the sample who reported moderate and high levels of posttraumatic growth, suggesting that growth is possible in the aftermath of interpersonal violence. Overall, the present sample appeared to be a group of survivors reporting enduring distress, as participants endorsed significant severity of PTSD, depression, anxiety, and stress symptoms.
Relationship Between Posttraumatic Growth and Psychological Distress

Research suggests that posttraumatic growth and psychological distress can co-occur as distinct constructs rather than opposite ends of a spectrum (e.g., Grubaugh & Resick, 2007; Lev-Wiesel et al., 2005). Some participants in the current study reported high levels of growth as well as high levels of distress symptoms, which appears to confirm previous research suggesting that growth and distress may be independent outcomes of trauma. However, the overall high level of distress symptomatology and low level of perceived growth reported by the current sample does not provide sufficient evidence for the coexistence of growth and distress. Therefore, determination of whether these are indeed separate constructs cannot be reliability determined from this study. The findings of this study consequently cannot offer further evidence for the coexistence of positive and negative outcomes following trauma.

A possible explanation for the finding of high distress and low growth may be that the severity of distress reported by this sample precludes growth. Furthermore, there is some indication in the literature that greater length of time since the trauma results in growth (e.g., Helgeson et al., 2006). It is possible that the occurrence of interpersonal violence was relatively recent for this group of participants and the low perceived growth identified by this sample reflects the early stages of the posttraumatic growth process.

Previous investigations exploring the relationship between posttraumatic growth and psychological distress have demonstrated inconsistent results. Research has identified negative relationships (e.g., Carver & Antoni, 2004; Davis et al., 1998; Frazier et al., 2001), positive relationships (e.g., Lev-Wiesel & Amir, 2003; Lev-Wiesel et al., 2005; Morris et al., 2005; Taku et al., 2008), no relationships (e.g., Cobb et al., 2006; Cordova et al., 2007;
Grubaugh & Resick, 2007), and curvilinear relationships (e.g., Butler et al., 2005; Kleim & Ehlers, 2009; Lechner et al., 2006) between these variables. This study endeavoured to determine the relationship between posttraumatic growth and psychological distress. Bivariate correlational results revealed that only the severity of depressive symptoms was correlated with growth in a weak, negative relation. Since the majority of participants reported high levels of symptomatology, a lack of variability in growth and distress scores may have attenuated relationships between posttraumatic growth and distress.

Based on recent study findings suggesting that the relationship between growth and distress is curvilinear (e.g., Butler et al., 2005; Kleim & Ehlers, 2009; Lechner et al., 2006), it was expected that such a relationship would be evident in the current sample. Particularly, it was hypothesized that the shape of an inverted U would describe this relationship, with moderate levels of growth associated with more distress than low and high levels of growth. Correlational analyses indicated that the relationships evident in the present study were linear, thus failing to support this predication. It may be due to the restricted range of scores obtained in this study that a curvilinear relationship did not emerge.

In the multivariate context, a nonsignificant relationship was found between posttraumatic growth and the severity of depressive symptoms, though these variables were related in bivariate correlational analyses. In speculating the reasoning for this finding, it may be that depression is not directly related to growth, but rather has an indirect relationship mediated by another factor which was not examined in this study. PSTD symptom severity was shown to be a significant positive predictor of growth in the regression analysis. That is, with increased severity of PTSD symptoms participants tended to report greater positive change subsequent of their interpersonal violence experience. One explanation for this
relationship supports of Tedeschi and Calhoun’s (1995, 2004) conceptual view of growth, in that this relationship may reflect incipient growth. In line with the author’s model of the posttraumatic growth process, distress may be necessary for the development of growth and the symptoms of PTSD evident in the current sample may be a sign of survivors’ engagement in the cognitive processing necessary to initiate growth.

**Relationship Between Posttraumatic Growth and Hope**

A number of correlates of posttraumatic growth have been identified in previous studies. However, the study of posttraumatic growth has only minimally investigated the relationship between posttraumatic growth and hopeful thinking. It was hypothesized that reports of growth following interpersonal violence would be positively related to hope. This hypothesis was supported as scores on measures of growth and hope were positively correlated. In the regression model, hope emerged the strongest predictor of posttraumatic growth, demonstrating a direct positive relationship. Confirming the findings of Ai et al. (2007), participants in the present study who were more hopeful also perceived greater growth. A speculative reason for this finding may be that individuals who are better able to engage in pathways and agentic thinking by generating goals, producing means to achieving these goals, and who are more motivated to utilize the conjured routes to their goals, are also better able to engage in cognitive processing, such as deliberate ruminative thought, shown to be involved in posttraumatic growth (Taku et al., 2008).

Moreover, PTSD symptom severity and hope, two negatively related predictors, made independent contributions to posttraumatic growth which suggests that multiple pathways to posttraumatic growth probably exist.
Further analyses were performed to examine demographic and interpersonal violence characteristics as potential correlates of posttraumatic growth. In the present study, there was a lack of significant relationships between posttraumatic growth and demographic and interpersonal violence characteristics. This is contrary to previous findings suggesting that variables such as younger age, female gender, non-White ethnicity, and severity of traumatic experiences are associated with greater perceived growth (e.g., Helgeson et al., 2006). The lack of diversity in age, gender, and race or ethnicity in this sample may have affected the nonsignificant results obtained in this study; though it is unclear as to why severity of interpersonal violence did not emerge as significantly related to posttraumatic growth in this study.

Concluding Remarks

Strengths

The present study possesses a number of strengths and the obtained findings may make contributions to the trauma literature. For instance, the focus of this investigation was on the potential for positive outcomes of interpersonal violence, and therefore involved the study of a greater breath of posttraumatic responses than is traditionally explored in trauma research. Examining positive posttraumatic adjustment provides a greater understanding of the effects of trauma on survivors’ functioning, beyond that of pathological outcomes typically emphasized in research.

Another strength of this study is that it extends upon past research by examining the underexplored relationship between posttraumatic growth and hope. The findings of this study provide preliminary information for future studies of posttraumatic mental health
outcomes following interpersonal violence, particularly in the study of the influence of hope on posttraumatic growth.

Methodological strengths of this study include the use of widely-employed and well-validated measures, which improves upon limitations of previous investigations. The online design of the current study increased ease of accessibility to the study, as the questionnaire survey could be completed anywhere and at participants’ leisure. Utilizing the Internet also facilitated widespread recruitment of participants.

**Limitations**

Although the present study has several strengths, there are limitations that should be acknowledged and considered in interpreting the results. In terms of sampling design, the findings of this study are based on a self-selected sample as the nature of web-based data collection does not allow for random sampling. The use of a convenience sample has inherent limitations with respect to the generalizability of the study findings. Further limiting generalizability is that the study sample is not representative of the larger population. The sample differs from most community populations as participants were predominantly female, Caucasian, and young in age.

The web-based design of the present study also presents potential limitations. Kraut, Olson, Banaji, Bruckman, Cohen, and Couper (2003) identified a number of potential limitations of online research that may apply to the present study. For example, participants of the present study were individuals who had Internet access. There may be demographic differences between individuals who use the Internet and those who do not that could have influenced the results of this study. Also, it may be that distressed individuals are more likely
to partake in online research and have less motivation to participate in in-person research, which could have contributed to the severity of symptoms reported in this study.

The veracity of participants’ responses, particularly to demographic questions, cannot be assessed with an online survey, which poses a further limitation. Additionally, this study was designed to preserve participants’ anonymity. Potential disadvantages of anonymity are that some individuals may carelessly or maliciously partake or make multiple survey submissions.

Similar to most studies of posttraumatic growth, the present research employed a cross-sectional and correlational design. This design precludes the ability to draw conclusions about the course of posttraumatic growth or of causal and temporal relationships with symptoms of psychological distress and hope. Therefore, whether posttraumatic growth, distress, and hope have causal relationships or simply co-occur cannot be established nor can direction of effect be determined.

The present study may also be limited by potential recall biases given the cross-sectional design and measures utilized. For example, the PTGI required participants to retrospectively recall the positive sequelae of their experience of interpersonal violence such that participants were instructed to rate the degree to which they perceived positive changes as a result of the traumatic event experienced. Further the PCL-S and DASS-21 required participants to recall the severity of distress symptoms they experienced over the past month. As a result, these measures may be susceptible to recall bias.

Posttraumatic growth scores were generally low in the present study. A more even distribution of scores, including greater levels of growth, would be preferable to evaluate the relationship between growth and distress. Noteworthy is that the majority of the study sample
reported experiencing intimate partner violence, sexual assault by a partner, child abuse, and sexual assault not by partner, which are commonly recurring forms of violence (e.g., Soins & Langer, 2008). It is possible the recurring nature of trauma experienced, and that many participants may have had current and ongoing violence exposure at the time of participation, could have affected the development of growth and accounted for the low levels of growth and high distress reported in this study.

An additional limitation is the way in which participants were asked about the duration of time since their experience of interpersonal violence occurred. There is some evidence that the length of time since the traumatic event influences posttraumatic growth, with longer duration associated with more growth (e.g., Helgeson et al., 2006). This variable was asked as an open-ended question in the present study and the majority of elicited responses could not be suitably coded for analysis. Therefore, the effect of length of time since the incident of interpersonal violence on perceived growth and distress could not be assessed.

**Directions for Future Research**

There is more to learn about posttraumatic growth subsequent to experience of interpersonal violence. Future research should address the aforementioned limitations of the current study. The current sample of interpersonal violence survivors was not representative of the general population. In order to generalize results, future research should endeavour to obtain a more representative sample and replication of the present study in other samples of interpersonal violence survivors is necessary.
Though the empirical literature on this construct is burgeoning, much of the existing research is methodologically limited. The present study employed a cross-sectional design; although such research is an important first step, only longitudinal research would accommodate the study of the course and temporal process of posttraumatic growth. The process of growth cannot be truly understood without assessing change over time.

Furthermore, previous studies have found that growth is predictive of lower levels of distress (e.g., Davis et al., 1998; Frazier et al., 2001). Thus, studies employing this design would identify whether posttraumatic growth is associated with recovery from negative psychological consequences of trauma over time. The present study provides some evidence for a relationship between growth and psychological distress. However, due to the low posttraumatic growth, high distress, and restricted range of scores obtained in the present study, further exploration is required to accurately determine the precise nature of this relationship and a prospective design would allow for a better understanding this association.

Research has relied on cross-sectional design, retrospective, and self-report methodologies. Future research could improve upon these limitations by utilizing a prospective study design which would be less vulnerable to recall biases. A longitudinal study would further assist in clarifying the effects of length of time since the occurrence of interpersonal violence on posttraumatic growth. Further, it would be interesting to compare the effects of discrete versus ongoing types of interpersonal violence experienced on posttraumatic psychological outcomes.

This study also adds to a small body of research suggesting that hope is positively related to posttraumatic growth. However, the dearth of study on growth and hope calls for further research to gain a better understanding of the role of hope in promoting positive
adaptation following traumatic experience. Also, posttraumatic growth research could be enhanced by investigating the influence of trauma characteristics, including the type of the traumatic experience, the length of time since the traumatic occurrence on positive change, and single versus multiple incidents on the perception of posttraumatic growth.

Other relevant factors not captured in this study may have influenced the results of the present study. Therefore, future studies should include other potential variables contributing to posttraumatic growth, as well as mediating factors, such as rumination, on the relationships between posttraumatic growth, psychological distress, and hope.

**Implications**

The results of the current study may make contributions to theory. In light of the limitations of this study, implications should be considered with caution. Consistent with previous posttraumatic growth research, this study highlighted that while significant psychological distress symptoms may be present following a traumatic experience, positive changes can also occur. Correlational analyses showed that the severity of depressive symptoms had a small, inverse relationship with posttraumatic growth, and multivariate analysis results indicated that greater severity of PTSD symptoms is predictive of posttraumatic growth. Therefore, distress may indeed be necessary in the development of positive change following experience of traumatic events. Furthermore, to date there has been little investigation of the role of hope on positive changes posttrauma. Adding to the trauma literature, the present findings suggest that those who have a hopeful cognitive orientation perceive more posttraumatic growth following interpersonal violence.
In addition, these findings may have important clinical implications for the assessment and treatment of those affected by trauma. Given the finding that posttraumatic growth and psychological distress are common and potentially unique experiences following trauma, focus exclusively on symptoms of distress in assessment and treatment may yield an incomplete understanding of survivors’ functioning (e.g., Joseph & Linley, 2008; Linley & Joseph, 2004). The association between growth and symptomatology suggests that psychological assessment of survivors should consider the possibility of growth and whether initial reports of distress are indicative of cognitive processing of the traumatic event, representing adaptive functioning (e.g., Butler et al., 2005).

The findings of the current study contribute to a body of research that may provide a basis of knowledge to employ appropriate psychotherapeutic interventions for the facilitation of growth among those coping with trauma (e.g., Tedeschi & Calhoun, 2006). Establishing the determinants of posttraumatic growth through future study could also inform the development of treatment that utilizes these factors to promote positive adjustment. Based on the results of this study and on previous findings, treatment focused on enhancing hope in survivors may contribute to growth. Furthermore, determining a reliable relationship between posttraumatic growth and distress may inform treatment, such that treatment which incorporates growth demonstrated by clients could have long-term impacts on decreasing symptoms of psychopathology. Helping facilitate growth in treatment may also be of importance as there is evidence suggesting that growth may assist in coping with subsequent stressors (Park, Mills-Baxter, & Fenster, 2005). Furthermore, considering both positive and negative outcomes of trauma represents a more comprehensive approach to treatment and recognizes a more accurate view of complex trauma responses.
In conclusion, the present study adds to the current trauma literature by demonstrating that some posttraumatic growth can be experienced by survivors of interpersonal violence. Although this study cannot offer reliable support, there is some indication that posttraumatic growth and psychological distress are independent constructs that may coexist among interpersonal violence survivors. The severity of depressive symptoms was negatively correlated with posttraumatic growth, while PTSD symptom severity positively predicted growth. Of great interest, is the finding that hopeful thinking influences positive posttraumatic adjustment. There is a paucity of research focused on the role of hope in the experience of growth; therefore, this result offers an important contribution to the study of traumatic responses. Additional research is needed to know more about these relationships, particularly determining precisely how distress and hope facilitate positive change.

Despite the necessary study that remains, the growing body of knowledge pertaining to potential positive changes following trauma represents an important shift in research from an exclusive focus on the negative consequences of trauma to the recognition that survivors of trauma can triumph through adversity.
References


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Appendix A
Demographics Questionnaire

Please indicate your gender:
☐ Male
☐ Female
☐ Other

Please indicate your age (in years): _________

Please indicate your country of birth: ________________

Please indicate the country in which you currently reside: ________________

Please indicate your ethnocultural background (e.g., Western European, Southeast Asian, etc.): ________________

Please indicate your sexual orientation: ________________

Please indicate your current relationship status:
☐ Single
☐ In a committed relationship
☐ Common-law
☐ Married
☐ Separated
☐ Divorced
☐ Widowed

The following are brief examples of various types of interpersonal violence:

Child Abuse: harm to a child (e.g., physical, psychological, or sexual abuse, exploitation, neglect)

Elder Abuse: harm to an older adult

Intimate Partner Violence: harm by a partner (e.g., physical abuse, psychological abuse, forced intercourse or other sexual coercion, controlling behaviours including isolation from others and restricted access to information and resources)

Sexual Assault: any unwanted sexual contact by someone known to the survivor (e.g., partner, date) or by a stranger

School Violence: violent or criminal acts taking place within educational institutions (e.g., bullying, physical assault, robbery, homicide, suicide)
Workplace Violence: any act of intimidation, threat, or assault in one’s workplace (e.g., verbal, physical, or sexual assault, harassment, sabotage, robbery, vandalism, homicide, suicide)

Gang Violence: violent or criminal acts by a group (e.g., physical assault, robbery, homicide)

Hate Crimes: violent and criminal acts motivated by hatred of others based on their membership in a particular group, such as race, ethnicity, religion, sexual orientation, and disability (e.g., verbal abuse or insults, physical assault, harassment, property damage, offensive graffiti)

Terrorism: any act, or threat, of violence with the intent to incite fear and/or coerce a government or civilian population

Genocide: violent acts of destruction of group based on race, ethnicity, nationality, or religion

War: conditions of armed conflict

Please indicate the type(s) of interpersonal violence you feel are most related to your own experience of interpersonal violence within the past 2 years:

- Child Abuse
- Elder Abuse
- Intimate Partner Violence
- Intimate Partner Violence: Sexual Assault by Partner
- Sexual Assault (excludes assault by partner)
- School Violence
- Workplace Violence
- Gang Violence
- Hate Crimes
- Terrorism
- Genocide
- War
- Other

If ‘Other’ please specify: ______________________

Please indicate when (in months) the incident(s) of interpersonal violence occurred:

_________________________________________

Have you experienced more than one incident of interpersonal violence in your lifetime?

- Yes
- No
If ‘yes,’ have you experienced more than one incident of interpersonal violence in the past 2 years?

☐ Yes
☐ No

Please indicate the severity of your experience(s) of interpersonal violence:

☐ Minimal severity
☐ Mild severity
☐ Moderate severity
☐ Extreme severity
☐ Catastrophic severity

Have you received or are you currently partaking in counselling or psychotherapy as a result your experience with interpersonal violence:

☐ Yes
☐ No
Appendix B  
Posttraumatic Growth Inventory

**Directions:** Using the scale below, please indicate the degree to which the change reflected in each of the following statements is true in your life as a result of your crisis.

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>Statement</th>
<th>0</th>
<th>1</th>
<th>2</th>
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<th>5</th>
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<tbody>
<tr>
<td>I changed my priorities about what is important in life.</td>
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<td>I have a greater appreciation for the value of my own life.</td>
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<td>I developed new interests.</td>
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<td>I have a greater feeling of self-reliance.</td>
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<td>I have a better understanding of spiritual matters.</td>
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<td>I more clearly see that I can count on people in times of trouble.</td>
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<td>I established a new path for my life.</td>
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<td>I have a greater sense of closeness with others.</td>
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<td>I am more willing to express my emotions.</td>
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<td>I know better that I can handle difficulties.</td>
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<td>I am able to do better things with my life.</td>
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<td>I am better able to accept the way things work out.</td>
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<td>I can better appreciate each day.</td>
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<td>New opportunities are available which wouldn’t have been otherwise.</td>
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<td>I have more compassion for others.</td>
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<tr>
<td>I put more effort into my relationships.</td>
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<td>I am more likely to try to change things which need changing.</td>
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<td>I have a stronger religious faith.</td>
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<td>I discovered that I’m stronger than I thought I was.</td>
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<tr>
<td>I learned a great deal about how wonderful people are.</td>
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<td>I better accept needing others.</td>
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Appendix C
Posttraumatic Stress Disorder Checklist-Specific Version

**Directions:** Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. With respect to your own experience of interpersonal violence, please use the scale below to indicate how much you have been bothered by that problem in the past month.

1 = Not at all
2 = A little bit
3 = Moderately
4 = Quite a bit
5 = Extremely

<table>
<thead>
<tr>
<th>Problem</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeated, disturbing memories, thoughts, or images of the stressful experience.</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Repeated, disturbing dreams of the stressful experience.</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Suddenly acting or feeling as if the stressful experience were happening again (as if I were reliving it).</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Feeling very upset when something reminded me of the stressful experience.</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Having physical reactions (e.g., heart pounding, trouble breathing, sweating) when something reminded me of the stressful experience.</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Avoiding thinking about or talking about the stressful experience or avoiding having feelings related to it.</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Avoiding activities or situations because they reminded me of the stressful experience.</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>Trouble remembering important parts of the stressful experience.</td>
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<tr>
<td>Loss of interest in activities that I used to enjoy.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Feeling distant or cut off from other people.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Feeling emotionally numb or being unable to have loving feelings for those close to me.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Feeling as if my future somehow will be cut short.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Trouble falling or staying asleep.</td>
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<tr>
<td>Feeling irritable or having angry outbursts.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Having difficulty concentrating.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Being “super alert” or watchful or on guard.</td>
<td>0 0 0 0 0</td>
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<tr>
<td>Feeling jumpy or easily startled.</td>
<td>0 0 0 0 0</td>
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Appendix D
Depression Anxiety Stress Scales-21

Directions: Using the scale below, please indicate how much each of the following statements applied to you over the past month.

0 = Did not apply to me at all
1 = Applied to me to some degree, or some of the time
2 = Applied to me to a considerable degree, or a good part of time
3 = Applied to me very much, or most of the time

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<tr>
<th>Statement</th>
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<th>2</th>
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<tbody>
<tr>
<td>I found it hard to wind down.</td>
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<td>I was aware of dryness of my mouth.</td>
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<tr>
<td>I couldn’t seem to experience any positive feelings at all.</td>
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<td>I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).</td>
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<tr>
<td>I found it difficult to work up the initiative to do things.</td>
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<td>I tended to over-react to situations.</td>
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<td>I experienced trembling (e.g., in the hands).</td>
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<td>I felt that I was using a lot of nervous energy.</td>
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<td>I was worried about situations in which I might panic and make a fool of myself.</td>
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<td>I felt that I had nothing to look forward to.</td>
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<tr>
<td>I found myself getting agitated.</td>
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<tr>
<td>I found it difficult to relax.</td>
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<tr>
<td>I felt down-hearted and blue.</td>
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<tr>
<td>I was intolerant of anything that kept me from getting on with what I was doing.</td>
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<td>I felt I was close to panic.</td>
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<td>I was unable to become enthusiastic about anything.</td>
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<td>I felt I wasn’t worth much as a person.</td>
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<td>I felt that I was rather touchy.</td>
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<td>I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).</td>
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<td>I felt scared without any good reason.</td>
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<tr>
<td>I felt that life was meaningless.</td>
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### Appendix E

**Hope Scale**

**Directions:** For each of the following items, please select the response that best describes you using the scale below.

1 = Definitely False  
2 = Mostly False  
3 = Mostly True  
4 = Definitely True

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>I can think of many ways to get out of a jam.</td>
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<tr>
<td>I energetically pursue my goals.</td>
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<tr>
<td>I feel tired most of the time.</td>
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<tr>
<td>There are lots of ways around any problem.</td>
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<tr>
<td>I am easily downed in an argument.</td>
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<tr>
<td>I can think of many ways to get the things in life that are</td>
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<tr>
<td>most important to me.</td>
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<tr>
<td>I worry about my health.</td>
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<tr>
<td>Even when others get discouraged, I know I can find a way to solve</td>
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<tr>
<td>the problem.</td>
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<tr>
<td>My past experiences have prepared me well for my future.</td>
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<tr>
<td>I’ve been pretty successful in life.</td>
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<tr>
<td>I usually find myself worrying about something.</td>
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<tr>
<td>I meet the goals that I set for myself.</td>
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</tbody>
</table>
Hello:

My name is Christine Cabral and I am a Master of Arts candidate in the Counselling Psychology Program at the Ontario Institute for Studies in Education (OISE) of the University of Toronto. I am currently conducting an online study investigating psychological responses to traumatic experiences of interpersonal violence.

Participation is needed from individuals who are:
  a) 18 years or older, and
  b) have experienced interpersonal violence within the past 2 years.

This brief survey contains questions concerning your experiences, thoughts, feelings, and outlook on the future, and takes approximately 15-20 minutes to complete.

The study is completed through a secure and encrypted server at http://aecp.oise.utoronto.ca/cp/psychstudy.html. Participation is completely anonymous and responses will be kept confidential.

Please see the above website for further study information.

Thank you for your interest in this important study. Your time is greatly appreciated.

Sincerely,

Christine Cabral, Hon. B.Sc.
Master of Arts Candidate
Counselling Psychology Program, OISE
Appendix G
Poster Advertisement

Are you a survivor of interpersonal violence?

Researchers at the Ontario Institute for Studies in Education (OISE) of the University of Toronto are conducting a research study examining psychological responses to traumatic experiences in the context of interpersonal violence.

If you are **18 years old or older**, and have experienced interpersonal violence within the past **2 years** your participation would be appreciated!

The study is completed online through a protected website:

http://aecp.oise.utoronto.ca/cp/psychstudy.html

All responses will be kept anonymous and confidential

**This study has been approved by the University of Toronto Office of Research Ethics**

For more information please refer to http://aecp.oise.utoronto.ca/cp/psychstudy.html or call (416) 978-0686
Appendix H

Information on Study Webpage

Thank you for your interest in this study!

You are asked to participate in an online study examining psychological responses to interpersonal violence. Needed for participation are individuals aged **18 years and older** who have experienced a traumatic event in the context of interpersonal violence (e.g., family or intimate partner violence, such as child, elder, and spousal abuse; sexual assault; community and school violence, such as robbery, assault, workplace aggression, gang violence, youth violence, and hate crimes; and collective violence, such as terrorism, genocide, and war) **within the past 2 years**.

This study will ask you questions concerning your experience(s) of interpersonal violence, thoughts, feelings, and future outlook, and takes approximately **15-20 minutes** to complete. The study is completed through a secure and encrypted website. Participation is anonymous and responses will be kept confidential.

To obtain further information about the study and to complete the brief survey, please click **HERE**.

Thank you kindly for your time and participation.

If you have any questions or concerns, please feel free to reach the principal investigator, Christine Cabral, or the faculty supervisor of this study, Dr. Lana Stermac, at (416) 978-0686 or at psychstudy@oise.utoronto.ca.
Appendix I
Informed Consent

Welcome!

My name is Christine Cabral, I am a Master of Arts candidate in the Counselling Psychology Program at the Ontario Institute for Studies in Education (OISE) of the University of Toronto, and I am extending an invitation for participation in a research study.

**Purpose of Study**
The purpose of the research study is to explore psychological responses to traumatic events of interpersonal violence, and the effect of hope on these responses.

**Criteria for Participation**
Needed for participation are individuals 18-years and older who have experienced interpersonal violence (e.g., child abuse, elder abuse, intimate partner violence, sexual assault, school violence, workplace violence, gang violence, hate crimes, terrorism, genocide, war) within the **past 2 years**.

**Your Role in the Study**
If you chose to participate in this study, you will complete a short survey in which you will be asked the following: (1) demographic and background information (e.g., age, gender, education, types interpersonal violence experienced, etc.); and (2) questions about your experiences, feelings, thoughts, and future outlook. This survey will take approximately **15-20 minutes** to complete.

**Participation and Withdrawal**
This study is entirely voluntary, and you may choose to respond to only those questions you feel comfortable answering. You may also end your participation at any time without consequence by either rerouting your web browser or closing your web browser. Should you decide to withdraw, any responses you have provided up to that point will be retained. Please note, if you would like to take a break from the survey or accidently close the survey browser, you will not be able to return to your responses. In this case, you would have to start the survey anew if you wished to continue at a later time.

**Potential Risk**
There are few anticipated risks to completing the survey; however, given that the study relates to your experience of interpersonal violence, there is potential that you may experience some feelings of discomfort. A list of community, national, and international resources is available to you on the following page if you are or become distressed and wish to seek support. Please print the list of resources for your reference.
Potential Benefits to You and Society
In order to protect your anonymity, no identifying information will be collected; therefore, compensation cannot be offered. Although there is no direct benefit to you for your participation, some people find benefit in knowing they are making a meaningful contribution to research. You and society as a whole may be enriched by gaining an understanding of the psychological responses to the experience of trauma.

If you are interested in learning about the results of the study please refer back to http://aecp.oise.utoronto.ca/cp/psychstudy.html, as findings will be posted on this site as they become available.

CONFIDENTIALITY
The study is completely anonymous and confidential. Any publications of the study results, including scholarly publications or presentations, will not include information that will make it possible to identify research participants. Your responses to survey questions are collected and stored through a secure and encrypted website. Only researchers associated with this study will have access to collected data. Information collected from the study will be kept for 5 years.

YOUR RIGHTS
If you have any questions or concerns about the study please contact me, Christine Cabral, or the faculty supervisor of this study, Dr. Lana Stermac, at (416) 978-0686 or psychstudy@oise.utoronto.ca. If you have any questions about your rights as a research participant you may contact the University of Toronto Office of Research Ethics at (416) 946-3273 or ethics.review@utoronto.ca.

It is crucial to the validity of the study that you only complete this survey once. Thank you for your interest in this important study.

Clicking the link below signifies that the study has been thoroughly described and you agree to participate.

Please continue
Appendix J
Support Resources

Crisis Intervention and/or Suicide Prevention

Distress Centres of Toronto (Toronto, ON Canada)
www.torontodistresscentre.com
Crisis Line: (416) 408-HELP (4357)

Gerstein Centre (Toronto, ON Canada)
www.gersteincentre.org
Tel: (416) 929-0149
Crisis Line: (416) 929-5200

Domestic, Sexual, Physical, and/or Emotional Violence

Assaulted Women’s Helpline
www.awhl.org
Crisis Line: (416) 863-0511 or 1-866-863-0511 (toll free)

Barbara Schlifer Commemorative Clinic (Toronto, ON Canada)
www.schliferclinic.com
Tel: (416) 323-9149

Canadian Association of Sexual Assault Centres (Canada)
www.casac.ca
Tel: (604) 876-2622 (Vancouver)

Family Service Toronto (Toronto, ON Canada)
www.familyservicetoronto.org/programs/serviceaccess.html
Tel: (416) 595-9618

Ontario Network of Sexual Assault/Domestic Violence Treatment Centres (Canada)
www.satcontiario.com

Rape, Abuse, & Incest National Network (RAINN) (United States)
www.rainn.org
Crisis Line: 1-800-656-HOPE (4673) (International)

Sexual Assault & Domestic Violence Care Centre – Women’s College Hospital (Toronto, ON Canada)
www.womenscollegehospital.ca/programs/program116.html
Tel: (416) 323-6043
Sexual Assault Care Centre – Scarborough Hospital (Toronto, ON Canada)  
www.sacc.to  
Tel: (416) 495-2555

Toronto Rape Crisis Centre: Multicultural Women Against Rape (Toronto, ON Canada)  
Crisis Line: (416) 597-8808

Trauma Therapy Program – Women’s College Hospital (Toronto, ON Canada)  
www.womenscollegehospital.ca/programs/program125.html  
Tel: (416) 323-6400 ext. 4230

Women’s Mental Health Clinic – Toronto General Hospital (Toronto, ON Canada)  
Tel: (416) 340-3048

YWCA of Greater Toronto, Breakthrough (Toronto, ON Canada)  
www.ywcatoronto.org  
Tel: (416) 487-7151

Community, School, and/or Collective Violence

Canadian Centre for Victims of Torture (Toronto, ON Canada)  
www.ccvt.org  
Tel: (416) 363-1066 (Toronto); (416) 750-3045 (Scarborough)

Canadian Resource Centre for Victims of Crime (Canada)  
www.crcvc.ca/en/services.php  
Tel: (613) 233-7614 (Ottawa); 1-877-232-2610 (International)

Hatecrimes.ca (International)  
www.hatecrimes.ca/resources.asp

International Rehabilitation Council for Torture Victims (International)  
www.irct.org  
Tel: +45 33 76 06 00

Victim Support Line (Canada)  
Tel: (416) 314-2447 (Toronto area) or 1-888-579-2888 (toll free)
Varied Services

Centre for Addiction and Mental Health (CAMH) (Toronto, ON Canada)
www.camh.net

Canadian Mental Health Association (CMHA) (Canada)
www.cmha.ca

Family Service Toronto (Toronto, ON Canada)
www.familyservicetoronto.org/programs/serviceaccess.html
Tel: (416) 595-9618

Gerstein Centre (Toronto, ON Canada)
www.gersteincentre.org
Tel: (416) 929-0149
Crisis Line: (416) 929-5200

Mental Health America (United States)
www.nmha.org

Women’s Health in Women’s Hands (Toronto, ON Canada)
www.whiwh.com
Tel: (416) 593-7655 ext. 226
Clinic: (416) 593-1815