Effects of Trauma Intensity on Posttraumatic Growth:
Depression, Social Support, Coping, and Gender

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Abstract:
Research within trauma literature discussing the consequences following a traumatic experience has indicated that there is the capacity for both positive and negative consequences. Though there is more literature on the negative effects, there is growing interest in the positive realm. One more specific area of these positive results from trauma is posttraumatic growth (PTG), which can be described as the victim’s ability to thrive and increase life resources (emotional, cognitive, psychological). Research in this area has been inconsistent and some results were unclear. The aim of this study was to assess the associations among posttraumatic growth, depression, social support, coping, and gender. This study also examines the effect trauma intensity has on the relationship between PTG and those variables. Correlations were completed for PTG with depression, coping, social support, and gender, with trauma severity used as a moderator. A median split was completed for PCL scores (trauma severity) and comprised two separate trauma groups (low/high). Correlations were completed between PTG and the outcome variables for each trauma group. For the median split, the statistically significant relationships in the high trauma group were stronger than those with the low trauma group, with increased negative correlations with depression \( r = -.16 \), and increased positive relationships with emotion-focused coping \( r = .27 \), problem-focused coping \( r = .38 \), and social support \( r = .22 \). A second split of PCL scores (trauma severity) was completed for a clinical level of PTSD symptoms (score of 44). Results showed that for the high trauma clinical group, the strength of the statistically significant correlations were further increased for depression \( r = -.32 \), emotion-focused coping \( r = .39 \), problem-focused coping \( r = .62 \), and social support \( r = .46 \). These results support this study’s hypothesis that trauma severity is important in analyzing how PTG relationships work.
Introduction

One major area of psychology analyzes how life events affect people and what outcomes emerge following these life events. One more specific field focuses on the effects of traumatic experiences. Following a trauma, there are many negative consequences that may occur (distress, depression, etc.) and can even result in Posttraumatic Stress Disorder (PTSD). However, current research has shown that some positive consequences may also result and may occur at the same time as negative effects. One such positive effect is posttraumatic growth (PTG). Research on PTG has shown unclear relationships with variables such as depression, social support, coping and gender, and a better understanding of how these relate is needed to better understand PTG. The purpose of this study is to see if the level of severity for the trauma experienced impacted the relationships for PTG with depression, coping, social support, and gender. By using trauma severity as a moderator, this study clarifies PTG relationships and contributes to a better understanding of how growth is achieved.

Literature Review

In a National Comorbidity Study, data showed that approximately 60% of men and 51% of women are exposed to one or more traumatic events during their lifetime (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Traumatic events can vary in severity and by type of stressor and can include natural disaster, combat, sexual abuse, physical abuse, rape, violent crimes, and situations where the individual feels his or her life has been threatened (Andrykowski, Cordova, Studts, & Miller, 1998). Following a trauma, people can suffer from a multitude of symptoms such as increased levels of distress and anxiety, which can escalate into more severe symptoms associated with posttraumatic stress disorder (PTSD).

In order for a diagnosis of PTSD to occur, specific symptoms must be present including:
the act of re-experiencing the event, avoidance of things associated with the event, and physiological arousal (American Psychiatric Association, 2000). The prevalence of PTSD is high among trauma victims with an overall lifetime rate of 7.8% for all victims, and with rates for females (10.4%) being double that for males (5.0%) (Kessler et al., 1995). A PTSD diagnosis can have symptoms persisting for many years after the event. However, it is interesting to consider that PTSD symptoms do not always emerge following a traumatic event, and that individuals experiencing similar life traumas can have different reactions to the trauma and experience different feelings of severity. The range of symptoms following a negative event can vary considerably based on the individual’s experience, resulting in negative consequences of trauma ranging from low severity (short-term increased distress and anxiety) to high severity (long-term PTSD symptoms).

PTG and Positive Consequences of Trauma

Though the literature on the negative consequences resulting from trauma is vast, recent literature argues that positive consequences can result as well (Linley & Joseph, 2004). These positive consequences can include any number of positive life changes as a result of negative life events and can be referred to as “posttraumatic growth,” “stress-related growth,” or “benefit finding” (Helgeson, Reynolds, & Tomich, 2006). Though it has been found that there are positive by-products following stress, this does not mean that the positive sequelae occur in the absence of the negative. On the contrary, it has been shown that the two concepts are not opposite ends of the same spectrum but that they are “independent constructs that are not mutually exclusive” (Borja, Callahan, & Long, 2006, p. 911).

One of the most common terms in reference to growth following trauma is posttraumatic growth (PTG), which can be described as the ability to thrive after experiencing a traumatic
event, with individuals showing an increase in emotional, cognitive, and/or psychological resources (Wild & Paivio, 2003). PTG can measure several different aspects and areas of positive life changes including greater sense of personal strength, deepening of relationships with others, greater appreciation for life, increase in spirituality, and/or greater acknowledgement of new possibilities due to the trauma (Tedeschi & Calhoun, 1996).

Though the amount of literature on the positive sequelae of trauma has grown in the past few years, much more detail and clarification is needed to fully understand the relationships between PTG and other variables. PTG has been shown to be related to a number of variables including social support, depression, and both problem-focused and emotion-focused coping methods. Social support has been shown to have a positive correlation with PTG, with stronger correlations with social support satisfaction (Park, Cohen, & Murch, 1996; Linley & Joseph, 2004). There is also negative correlation between depression and PTG, but the studies have shown that this relationship generally strengthens with time, with the strongest relationship two or more years after the event (Helgeson et al., 2006). When evaluating the relationship between coping methods and PTG, the literature has shown that active coping methods tend to show positive relationships with PTG while avoidant coping methods tend to show negative relationships (Wild & Paivio, 2003). The field of PTG is relatively new and not much has been published in the areas of evaluating what does and does not foster PTG. The relationships that have been found are often unclear, and there is speculation about confounding variables.

Some of the problems with the study of PTG could be due to the differences in the types of life events that can be evaluated as traumatic. The variability of events that can be classified as traumatic can be seen through a commonly used inventory, the Traumatic Event Questionnaire (TEQ) (Vrana & Lauterbach, 1994). The TEQ contains nine different categories of traumatic
events, ranging from “natural disasters” to being a “victim of physical or sexual abuse.”

Considering that the types of events are very different in their source and the extent to which it is traumatic to the individual, it can be seen that unclear relationships could emerge from individuals that have experienced differing levels of trauma. There has not been much research in the area of analyzing the differences in the relationship to PTG for the various types of trauma.

Another common means of determining if an event is traumatic has been to use the A1 criterion from the DSM IV, which asks if the event was life-threatening (American Psychiatric Association, 2000). However, Boals and Schuettler (2008) found that it is the A2 criterion, which measures the response of intense fear, helplessness, or horror that better predicts PTSD symptoms. Therefore, using the A1 criteria for predicting PTSD symptoms in trauma research is a less effective way of determining how traumatic an event is. Similarly, within PTG studies, researchers that used the DSM IV A1 criteria alone were not necessarily targeting events that were perceived as traumatic to the individual, which could explain some of the unclear results throughout the literature.

**Gender Differences**

Since both positive and negative consequences can follow trauma and can share common variables, PTSD literature may be a good place to look for new PTG correlates. One common finding in PTG research that is congruent with PTSD literature is that women are more likely than men to achieve growth and PTG (Linley & Joseph, 2004; Helgeson, et al, 2006).

**Depression**

One variable that consistently shows strong relationships with negative trauma symptoms is depression. Depression can be diagnosed by assessing several different symptoms which are broken down into domains: sad mood, lack of concentration, self-criticism, suicidal ideations,
lack of interest in things that used to seem interesting, lack of energy or feeling fatigued, sleep
disturbances, decrease or increase in appetite and/or weight, and psychomotor agitation
(American Psychiatric Association, 2000; Rush et al., 2003). One example of this relationship
can be seen in the study by Briere and Elliott (2000), in which depression symptoms and PTSD
symptoms were shown to be related to traumatic events, more specifically natural disasters.
Other studies have supported these findings by showing that depression is a common correlate
with PTSD symptoms (Sareen et al., 2007).

PTG has also been shown to negatively correlate with depression; however, this
relationship becomes stronger for events that occurred two or more years prior to the study
(Helgeson et al., 2006). The relationship between PTG and depression is not as clear as the one
between PTSD and depression. Certain studies, such as the review by Linley and Joseph (2004),
demonstrated that PTG was not related to depression. These inconsistent findings make it
necessary for more research to aid in the understanding of growth.

Social Support

Another variable is the relationship between PTG and social support. In the literature,
social support can be categorized as either formal or informal. Formal providers can include
professionals such as police officers or emergency workers, whose impact on the victim may be
limited because they do not know the victim well. Informal providers include family, friends,
and romantic partners or significant others to the victim (Borja et al., 2006). In the PTSD
literature it has been shown that a lack of social support can lead to greater reported levels of
PTSD (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2008). Post-trauma
social support has also been shown to have a positive relationship with PTG and positive
outcomes from trauma (Weiss, 2002). Satisfaction with social support avenues has also been
shown to be a positive correlate of PTG (Linley & Joseph, 2004). However, these findings are not consistent throughout literature, with some studies reporting social support to be a predictor of growth (Weiss, 2002), and others, such as the meta-analysis from Linley and Joseph that report significant relationships between satisfaction with social support, but not social support itself, which shows a greater need for more research in this area.

*Coping Strategies*

Coping methods comprise the various ways that people deal with stressful events (Futa, Nash, Hansen, & Garbin, 2003). It can be more thoroughly defined as the executing of a response to one’s appraisal of the threat of a stressor/trauma and can be broken down into various types of coping mechanisms: problem-focused, emotion-focused, and avoidance coping (Carver, Scheier, & Weintraub, 1989). The first type of coping, problem-focused coping, involves active problem solving to reduce or alter the source of the stressor. Emotion-focused coping involves reducing the emotional distress that is cued by the stressor or reminders of the stressor. Avoidance coping is seen as the least effective form of coping and involves venting and disengagement (Carver et al., 1989).

PTSD studies have shown that coping responses following a trauma can act as a risk factor for PTSD symptoms and diagnosis (Brewin, Andrews, & Valentine, 2000) and that effective coping strategies can lead to less severe negative symptoms following trauma (Salo, Punamaki, & Qouta, 2004). In the PTG literature, there have been positive relationships shown between problem-focused and emotion-focused coping strategies (Helgeson et al., 2006; Linley & Joseph, 2004). There are also many unclear relationships in PTG literature regarding coping mechanisms (Wild & Paivio, 2003).
Effects of Trauma Severity

Similar to the range of types of events that can be traumatic, the extent of the impact of the trauma to the victim can also vary. Individual differences in the appraisal and response to the trauma can impact how it affects a person in the long term and the symptoms that emerge. In their article on survivors of abuse, Futa et al. (2003) state: “There is no single profile of an abused child, as the extent and the nature of the impact varies from person to person” (Futa et al., 2003, p. 227). This explanation of how abuse affects an individual can most likely be applied to other forms of trauma in the same way. With this in mind, it can be implied that no two traumatic experiences are the same, and that the subjective experience of the trauma can make a difference in how it affects the victim.

As discussed in Briere & Elliott (2000), it is often the experience of the trauma that has the long-term effects, rather than the type of event itself. Literature has shown that perceptions of the stronger severity for a trauma are related to more benefit-finding (Helgeson et al., 2006). However, in studies looking at growth and benefit-finding, there are no means of differentiating participants’ experiences of a trauma. Participants are categorized simply based on having been through a trauma. This could explain many of the ambiguous results in current literature.

Trauma severity has not been analyzed in much detail within PTG research. In their study on the nature of PTG, Morris, Shakespeare-Finch, Rieck, & Newberry (2005) found that the participants that rated their trauma as more severe (severe, very severe) exhibited higher scores on the Posttraumatic Growth Inventory (PTGI) than those that self-reported lower trauma severity (mild, moderate, high). Though this relationship has been observed, little has been done in the area of comparing differing levels of severity and traumatic events, nor has there been any research to observe the relationship with PTG correlates by comparing varying levels of trauma.
Purpose of Study

As this paper has addressed, there are many incongruencies in the findings in the PTG literature. The goal of this study is to help clarify many of the relationships with positive growth by analyzing the effects of differing levels of trauma severity on depression, social support, and coping mechanisms. Elucidating these variables will allow both researchers and practitioners to gain a better understanding of PTG and how to facilitate it. Overall, we expect that the increased level of trauma severity will be positively related to the amount of growth that the participants experience. Thus, we predict that the amount of growth that can be achieved is dependent on the depth of the trauma. The premise behind this study can be more eloquently summed up by a quote from author/poet Khalil Gibran (1923), “The deeper that sorrow carves into your being, the more joy you can contain.”

Methods

Participants

Five hundred and ninety-eight students (age M = 20.7; 388 female, 210 male) from the University of North Texas completed an online mass testing survey. Participants were recruited from the UNT Psychology Participant Pool and given partial course credit for participation.

Materials

Traumatic Events Questionnaire (TEQ). The TEQ (Vrana & Lauterbach, 1994) is used to identify individuals who have been through some type of traumatic event. The scale is broken down into nine different kinds of traumas including: (1) serious accident, fire, or explosion; (2) natural disaster; (3) victim of a violent crime; (4) victim of physical or sexual abuse as a child; (5) unwanted sexual experiences; (6) victim of physical or sexual abuse as an adult; (7) witnessing someone that was mutilated, seriously injured or violently killed; (8) being seriously
injured or been in danger of losing your life; and (9) hearing of someone close to you that was mutilated, seriously injured, violently killed, or unexpectedly died.

*PTSD checklist (PCL-S).* The PTSD Checklist (PCL) (Weathers, Litz, Herman, Huska, & Keane, 1993) is used to measure PTSD symptoms experienced within the last month following a traumatic event. Participants rate the amount of intensity for each of the 17 items on a 5-point scale of 1 (not at all) to 5 (extremely). Participants scoring 44 or higher indicate probable PTSD conditions.

*Posttraumatic Growth Inventory (PTGI).* The PTGI (Tedeschi & Calhoun, 1996) is a questionnaire used to measure growth following a traumatic event. The measure contains five different areas of benefit finding/growth: perceived changes in self, relationships with others, philosophy of life, spirituality, and new possibilities.

*Brief Cope.* The Brief Cope (Carver, 1997) measures different coping behaviors by asking the participant to rate to what extent that behavior occurred following a trauma. The measure has three sub-scales of coping behaviors including problem-focused, emotion-focused, and avoidant coping behaviors.

*Multidimensional Scale of Perceived Social Support (MSPSS).* The MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988) is a measure of the amount of social support an individual feels from outside resources including friends, family members, and significant others.

*Quick Inventory of Depressive Symptomatology - Self Report (QIDS-SR).* The QIDS (Rush et al., 2003) is used to determine depression symptoms experienced. The questionnaire asks the participant to rate how much each symptom has been applicable in the last 7 days.
**Procedure**

Participants completed an online mass testing survey including consent form, 22 self-report measures, and debriefing form. All participants were asked to nominate “the most traumatic event in your life” with the use of the Traumatic Event Questionnaire (TEQ). Participants then completed the Brief Cope, MSPSS, and QIDS questionnaires, as well as the PCL and PTGI in reference to the specified negative event they indicated in the TEQ.

**Results**

The first step we took in analyzing the data was to examine if there were any interactions between PTG and trauma severity for depression, social support, and coping (problem-focused, emotion-focused, and avoidance coping). An interaction was observed for trauma severity and PTG for social support, $F(1, 528) = 6.85, p < .01$, and depression, $F(1, 530) = 9.07, p < .005$. For coping, there was no interaction between emotion-focused and avoidance coping. However, for problem-focused coping, we did observe a significant interaction, $F(1, 528) = 10.79, p < .005$.

After examining the data, we found that there were significant interactions between PTG and social support, coping, and depression. Further analysis was needed to determine the relationships based on different levels of trauma. In order to conduct this analysis, a median split was performed on PCL scores to create trauma severity categories. The split was made at the median PCL score of 25.

For social support, low severity events showed a significant positive relationship with PTG, as can be seen in Table 1. In addition, the high severity events also showed a significant positive relationship with PTG, with amplification of effects seen as the severity of the event increased. Therefore, regarding social support, as observed in our analysis, the higher the level of experienced trauma, the more growth the individual can achieve. In the analysis of problem-
focused coping, there was a significant positive relationship observed for the low severity category, as well as for the high trauma group. There is an observed strengthening in the relationship between PTG and problem-focused coping. For the levels of depression, with the low severity traumas there was no relationship. However, for the higher severity trauma, there was a significant negative relationship observed. As demonstrated here, there was an increase in the impact that trauma severity had on the relationship between PTG and depression.

In the use of the PCL, a score of 44 on the inventory is typically used as a cutoff point for a PTSD diagnosis (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Since this number was larger than the split used in the first groups, a second analysis was completed in order to get a better representation of the differences between high and low severity of trauma. This analysis was done with a split made at 44, rather than the previous 25. With this new analysis (Low = 465, High = 78), the low trauma group showed no relationship between PTG and depression or avoidance coping. For the high group for these variables, there was also no relationship with avoidance coping; however, a negative relationship was found with depression. For emotion-focused and problem-focused coping and social support, the new low group showed significant positive relationships with PTG. These areas showed a greater amplification in their relationship for the high trauma group, which can be seen in Table 1.

The analysis of gender differences produced very interesting findings. When the PCL scores were split at the clinical value of 44, there was a difference between genders for different levels of trauma severity. For lower intensity events, women scored higher amounts of growth than men on average (females, $M = 38.1$; males, $M = 29.34$). However, for the higher traumatic severity category, the results were reversed where men reported higher amounts of PTG, as seen
in Figure 1. When gender differences were analyzed with the trauma categories created from the median split, no gender differences were observed.

**Discussion**

The current results indicate that the subjective experience of trauma intensity impacts the amount of growth that can be attained in an individual, in support of current findings in the field. The results also showed that when participants are separated into different categories based on their experiences of the trauma, an increase in the amount of growth obtained can be seen for many of the variables. This study showed increases in the relationships between PTG with social support, depression, problem-focused and emotion-focused coping with posttraumatic growth.

The analyses supported the study’s hypotheses and clarified some of the unclear results that have emerged from PTG studies. In this study, we have suggested that trauma intensity has a significant impact on the relationship between depression, social support, and problem-focused and emotion-focused coping with PTG. The subjective experience of the severity of the trauma shows an amplification of the relationships. Since these variables have been shown in previous studies to be correlates of PTG, although somewhat in an unclear manner (Helgeson et al., 2006; Weiss, 2002; Linley & Joseph, 2004; Wild & Paivio, 2003) the results of this study could be one way of showing why these results have been ambiguous.

This study also looked at gender differences between the different types of trauma severity groups. Not much has been done in the area of analyzing gender differences and the amount of growth, but what has been done shows that women are more likely to obtain more growth than men (Helgeson et al., 2006). In this study, the results found were out of the ordinary. For the higher trauma, the men had more PTG, whereas the women had more PTG for lower rated traumas. This could support current findings if participants were not differentiated between
their experiences of trauma. The effects of the higher trauma group would most likely be
counteracted by the lower traumatic events, and therefore their effects not seen in the results.

Overall, this study has many new implications for the field of PTG. Since there have been
many differing results within the PTG literature, the effect that the subjective experience of
trauma could have produced amplification of relationships with other variables. These findings
also support those in Boals and Schuettler (2008) in that it is the perception of the individual and
their response that is important in determining the consequences that follow, rather than it being
life-threatening. Thus, it would be beneficial if researchers could take into account subjective
severity of the traumas and how victims perceive the event.

Directions for future research can include looking at the relationship between PTG and
other variables that have been analyzed in PTG research based on this method of separating
participants by trauma severity. Also, it may be beneficial to create categories broken down by
each specific type of traumatic event as well as based on trauma intensity to see what sort of
relationships occur.

In conclusion, the results of this study showed that the participants’ individual perception
and subjective experience of a traumatic event play an important role in how they can grow from
that incident. Though relationships have been found in the PTG literature between depression,
social support, and problem-focused and emotion-focused coping, participants that had higher
ratings of severity and more PTSD symptoms were able to experience more PTG, and there was
an amplification in the relationship with the above variables. This implies that some of the
previous studies with PTG that showed unclear relationships could actually have had significant
or stronger relationships that could have been masked due to not differentiating between
different levels of trauma within the study.
References


Table 1. Correlations of Outcome Variables and PTG by Trauma Severity for Median and Clinical Splits

<table>
<thead>
<tr>
<th></th>
<th>QIDS</th>
<th>Brief COPE</th>
<th>MSPSS</th>
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<tbody>
<tr>
<td></td>
<td>PCL&lt;25</td>
<td>PCL&gt;25</td>
<td>PCL&lt;44</td>
</tr>
<tr>
<td>QIDS</td>
<td>0.01</td>
<td>-0.16**</td>
<td>0.01</td>
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<td>Brief COPE</td>
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<tr>
<td>Emotion</td>
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<td>0.27****</td>
<td>0.18***</td>
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<td>0.38****</td>
<td>0.22****</td>
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<td>0.06</td>
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<tr>
<td>MSPSS</td>
<td>0.12*</td>
<td>0.22***</td>
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PTGI = Posttraumatic Growth Inventory, PCL = PTSD Check List, QIDS = Quick Inventory of Depressive Symptomatology- Self Report, MSPSS = Multidimensional Scale of Perceived Social Support.
* p < .05. ** p < .01. *** p < .001. **** p < .0001.
Figure 1. Gender Differences for PTG within Trauma Groups at Clinical Level

![Gender Differences for PTG within Trauma Groups at Clinical Level](image)