

Positive and Negative aftermath of the Trauma: An overview of the relationship

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The present study examined the relationship between posttraumatic stress disorder (PTSD) and post traumatic growth (PTG) among women who were internally displaced from their native areas, because of terrorist activities. The sample consisted of 130 women living in IDPs camps located in Khyber Pakhtunkhwa province of Pakistan. It was hypothesized that there would be a positive relationship between posttraumatic stress disorder and post traumatic growth; and that PTSD would be a significant predictor of PTG among women who lost their near family member/s in terrorist activities. A checklist was prepared by the researcher based on DSM-IV-TR and SCID (Structural Clinical Interview for Diagnosis) for the assessment of PTSD, thereafter called PTSD scale. This newly developed PTSD scale and the Urdu version of Post Traumatic Growth Inventory (Kausar & Saghir, 2010) were administered on all women comprising our sample. The results revealed a curvilinear relationship between PTSD and PTG. Moreover PTSD significantly predicted PTG not only among those who had lost near family member/s during terrorist activities but also among those who did not suffer such loss, though the effect was seen among the later group only when the PTSD variable was squared.

Key words: Terrorism, Internal Displacement, Post traumatic stress disorder, Post traumatic growth.

Traumatic experiences often lead to psychiatric conditions, mostly in the form of Post Traumatic stress disorder (Vloet, Simons, Vloet, Sander, Herpertz- Dahlmann & Konrad, 2014). Rates for PTSD are also higher for the people who experience threatful situations like military combats. Moreover, several researches have reported the after effects of traumatic events are worse in the low income countries (Dejong, Komproe, Ommeren et al., 2001). In the present global scenario, terrorism seems to be one of the major traumatic experiences, which has displaced millions of people (Karunakara, Neuner, Schauer et al., 2004) and is particularly associated with high levels of PTSD among the affectees (DiGrande, Perrin, Thorpe, Thalji, Murphy, Wu, Farfel & Brackbill, 2008).

It has been reported that women not only constitute the most disadvantaged group among those who experience displacement, they are more vulnerable for developing post traumatic stress disorder. Kemirere (2007) reported that women and children comprise 80 per cent of the internally displaced population. A meta analysis (Brewin, Andrews & Valentine, 2000) revealed that being a woman is one of the factors of vulnerability for PTSD, besides being socially and intellectually disadvantaged.

Though negative aftermath of the trauma is inevitable, yet, Linley and Joseph (2004) asserted that focusing only on negative aftermath of the trauma can lead to biased understanding of post trauma reactions. In order to comprehend reactions of trauma holistically, we must take into account both the negative as well as the positive reactions of the sufferers. Consequently, many researches during past few years have undertaken to investigate the positive effects of the trauma. The main focus of these studies has been to probe a relatively new phenomenon, coined by Calhoun and Tedeschi (1999) as Post Traumatic Growth (PTG).

Calhoun and Tedeschi (1999) argued that the positivity resulting in the aftermath of trauma has been reported in the early literature of Greeks, Christians and Buddhism. These researches believed that sufferings do sometimes end with positive consequences. So the phenomenon is not new and at the same time it is not uncommon. If not all individuals, at least some of them do report Posttraumatic growth after passing through a catastrophic, tragic and stressful incident. PTG as reported by individuals includes perceived changes in self concept, improved relationships with other people, much enhanced philosophy of life, spiritual wellbeing and new possibilities. Post traumatic growth has been investigated among variety of trauma survivors, including cancer patients (Yi & Kim, 2014), spinal cord injury patients (Mc Millan & Cook, 2003), and sexual assault survivors (Frazier, Conlon, Glaser, 2001). However, there are only few studies that have investigated PTG among the internally displaced population (Berger & Weiss, 2006).

The proponents of Post traumatic growth (Calhoun & Tedeschi, 1999) asserted that it is not necessary that all people who experience the same tragedy would report posttraumatic growth. They reported that the percentage of people who experience at least some positive changes varies between 30% to 90%. These findings suggest that PTG is indeed common but cannot be regarded as a universal phenomenon. Kleim and Ehlers (2009) emphasized the need to investigate how different levels of posttraumatic growth can be predicted. Besides, it is interesting to know that growth is developed only in those who experience a tragic incident. Furthermore, a review previous literature reveals that trauma has all the potentialities to develop PTSD at large. So there is a strong possibility that adversity and growth goes side by side, following a trauma (Linley, Joseph, Cooper, Harris & Meyer, 2003). During the course of literature review, it was hard to find out studies where growth was developed in the absence of adversity. Calhoun and Tedeschi (2006) argued that growth development depends on how much an individual work through a tragic event. Moreover, an important factor regarding the development of PTG is subjective severity of the trauma, such as experiencing death or injury of a loved one (Frazier, Conlon & Glaser, 2001). Individuals who have witnessed the same tragic incident may differ in developing the resultant psychological reactions in terms of either growth or distress, according to the unique subjective experiences and the resultant cognitive interpretation of the severity of the trauma.

Another common issue that has been under investigation during the past few years is whether the positive and negative aftermath of the trauma can coexist in one individual. Literature suggests that trauma is a double edge sword. On one hand it leads to negative consequences, on the other hand it may lead to positive outcomes for the same individual. However, studies till date reveal inconsistent findings regarding the connection between growth and distress following a trauma (Hall & Hobfoll, 2006). These researches argue that with the global rise of terrorism, the need for understanding the multiple facets of trauma have increased manifolds. Their findings revealed that growth was positively related to Post Traumatic Stress Disorder, despite the fact that they controlled all the relevant demographic variables among the sample. This study demonstrated that the more growth the sample experienced, the greater were the chances of having posttraumatic stress disorder symptoms in the sample. However, other studies have linked greater distress to lower levels of growth (Yi & Kim, 2014). There are numerous studies which failed to establish significant association between the two variables (Kiran, Rana & Azhar, 2010). However, recent trends during the course of inquiry in a meta-analysis revealed that the relationship between growth and distress is not that simple (Helgeson, Reynolds & Tomich, 2006). The findings can vary within the groups. One sample could include many groups who perceive the same trauma differently (e.g., within the sample one group may fail to perceive the traumatic event as crisis and hence do not develop any growth and distress, whereas the other group may experience more distress and less growth and the third group of the same sample may experience more benefit to the self in terms of growth and minimum distress). Combining the findings of all groups in a single sample would turn the relationship between growth and distress, to be curvilinear instead of a linear relationship (Kliem & Ehlers, 2009). Helgeson, Reynolds and Tomich (2006) pointed out that a clear understanding of such relationship requires to be investigated beyond the traumatic events of life threatening illnesses.

Numerous studies demonstrate that several factors like degree of openness to religious change (Calhoun, Cann, Tedeschi & McMillan, 2005), informal positive social support (Borja, Callahan & Long, 2006) and gender, problem- focused coping as well as positive reinterpretation (Linley & Joseph, 2004) are positively related to growth.

Despite the research evidence suggesting that post traumatic stress disorder and posttraumatic growth are the inevitable consequences of the trauma, it seems imperative to understand that why victims of the same incident experience different levels of post traumatic stress disorder and post traumatic growth. To uncover the unique PTSD-PTG relationship for better understanding of the phenomenon, the present study was designed to understand the relationship of PTSD and PTG among female victims of terrorism (e.g., women who were internally displaced because of terrorism from their native areas). Moreover, majority of the studies have examined linear relationships between these two factors, though there is evidence of curvilinear relationship between the two constructs (Kleim & Ehlers, 2009). Therefore, the present study was designed to examine the true nature of relationship between posttraumatic stress disorder symptoms and the development of post traumatic growth among the sample of internally displaced women population.

Hypotheses

Keeping in view the previous literature, following hypotheses were formulated

1. A positive relationship exists between PTSD and PTG among the women IDPs.
2. Post Traumatic Stress Disorder is a significant predictor of Post Traumatic Growth among the female IDPs who lost their near family member/s.

Method

Sample

The sample included 130 women IDPs from Khyber, Mohmand and Bajaur Agencies of Federally Administered Tribal Areas (FATA) of Pakistan selected by purposive sampling technique. All of them were the victims of terrorism. The age range of respondents varied from 16 to 60 years (Mean= 39.94, SD=13.95). Majority of our respondents were married (71%). At the time of data collection there was still war going on between terrorists and security forces of Pakistan. They left

their native areas in order to save their lives. It is pertinent to mention here that our sample included only those women IDPs who were the victims of terrorism. Every respondent had experienced threatful and traumatic incidents of terrorism which is criteria A1 of Post traumatic stress disorder in Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, APA, 2002). During the course of terrorist activities, one third of the respondents ($n=45$) lost their near family member/s. Sample on the whole was uneducated and were from poor socioeconomic status. They had no place to go; neither were they having sufficient money to support themselves. Therefore, they were residing in Jalozai camps located in Khyber Pakhtunkhwa province, which is under the authority of PDMA (Provincial Disaster Management Authority). Necessary permissions were sought from the authorities of PDMA after explaining them the purpose of the study.

Instruments

Demographic Information Sheet. A demographic Information Sheet was prepared by the researcher to record their age, marital status, education, socioeconomic status and number of family member/s loss (if any) during the course of terrorist activities.

Post Traumatic Stress Disorder Scale. In view of the educational background, a PTSD scale was developed with the help of DSM-IV- TR and SCID (Structural clinical interview for Diagnosis). The scale was developed in Urdu language to be understood by the sample. A total of 22 dichotomous items based on the symptoms mentioned in DSM-IV-TR and SCID were carefully developed using exact DSM-IV-TR wordings. The response options were “Yes” or “No”. A “Yes” item was scored as 1 and “No” as 0. The maximum possible score on this scale is 22 and minimum is 0. The reliability and validity of the newly developed PTSD scale was computed before using it for IDPs sample. For this purpose, the scale was first administered on post graduate students ($N= 63$) of Shaheed Benazir Bhutto Women University Peshawar. The initial psychometric analysis revealed high reliability of PTSD scale ($\alpha= .80$).

Post Traumatic Growth Inventory. Post Traumatic Growth Inventory was developed by Calhoun and Tedeschi (1996). It consists of 21 items. It is used to assess positive changes in oneself after passing through a tragic and stressful life incident. This Inventory provides six response options varying from “never” to “always”. The maximum possible score on PTGI is 105 and minimum is 0. The PTGI consist of five sub scales measuring positive changes in *Personal Strengths, Relating to others, New Possibilities, Spiritual Change and Greater Appreciation of Life*. In view of the educational background of the sample, an Urdu version of the scale prepared by Kausar and Saghir (2010) was used. The alpha reliability of the scale as reported by the author is .71, whereas, the scale revealed a good index of reliability ($\alpha = .92$) for the present sample.

Procedure

The research was conducted after taking necessary permission from the relevant authorities. Keeping in view their cultural background (they are not comfortable with strangers) the researcher had to establish rapport with the respondents by arranging some informal sittings with them. When rapport was developed, they were then briefed about the purpose of the study. The researcher in an informal interview recorded their demographics. The researcher personally asked each and every item of both the scales by narrating them the question and all the respondents were assessed on PTSD scale and PTGI one by one. As mentioned earlier our sample included only those women IDPs who were uprooted from their native areas because of terrorism, so everybody in our sample had witnessed activities that involved serious threat of death or serious injury. Internal consistency of the PTSD scale and PTGI for the sample was very good, that is, for PTSD, $\alpha = .91$ and for PTGI, $\alpha = .92$).

Results

Data was analyzed using Statistical Package for Social Sciences (SPSS version 21). Mean scores of participants were relatively high on Posttraumatic stress disorder scale. Preliminary analysis including Mean and Standard Deviations and the correlation between post traumatic stress disorder and post traumatic growth are presented in Table1.

Table1
Descriptive statistics and correlation between PTSD and PTG

| scales | Mean | SD | <i>r</i> | <i>p</i> |
|--------|-------|------|----------|----------|
| PTSD | 11.14 | 5.3 | | |
| PTG | 2.38 | 1.07 | -0.14 | .12 |

Preliminary analysis revealed a non significant negative relationship ($r = -.14$) between scores on PTSD scale and PTGI. As the literature points out the possible existence of a curvilinear relationship between PTSD and PTG, it was decided to test a quadratic relation between Posttraumatic stress disorder and Post traumatic growth.

Table 2
Regression Analysis to Predict PTG by PTSD

| Predictor | b | SE | 95% CI | | F | R ² |
|-------------|---------|-------|--------|--------|------|----------------|
| | | | LL | UL | | |
| Constant | 2.64 | | | | | |
| PTSD CEN | -0.049* | 0.019 | -0.087 | -0.011 | 4.7* | 0.07 |
| PTSD CEN SQ | -0.01* | 0.004 | -17 | -0.002 | | |

*Dependant Variable, PTG, *p<.05*

Results presented in table 2 indicate a significant quadratic effect between the two variables, suggesting that post traumatic stress disorder scores significantly predict post traumatic growth for the sample (Linear effect, $b = -.049$, $SE = .019$, $t = -2.58$, $p < .05$). Similarly, the quadratic effect is also significant ($b = -.01$, $SE = .004$, $t = -2.62$, $p = .01$). The negative b values show that intermediate levels of Post traumatic stress disorder symptoms are associated with higher growth symptoms. Moreover 7% of the variance in post traumatic growth was explained by post traumatic stress disorder ($F(2, 127) = 4.76$, $p = .01$).

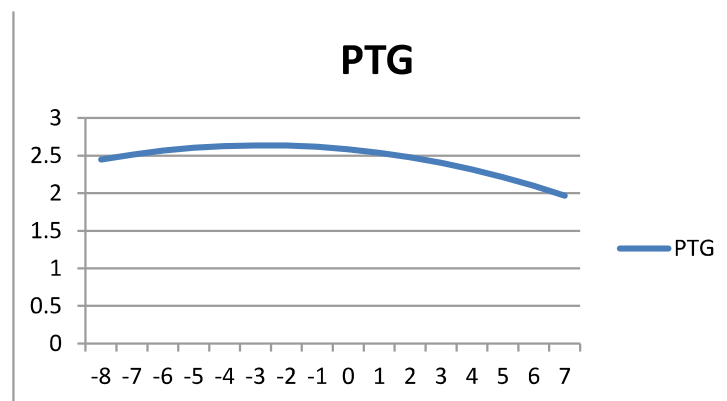


Figure 1. Graphical representation of the relationship between PTSD and PTG

Figure 1 presents findings graphically in the form of a gentle curved line or an inverted U shape which reveals curvilinear relationship between post traumatic stress disorder and post traumatic growth.

Table 3
Regression Analysis showing Differential Role of PTSD in Predicting PTG

| Groups | | B | 95% CI | | F | R ² |
|--------|---------|--------|--------|--------|-------|----------------|
| | | | LL | UL | | |
| NFL | Cons | 54.16 | | | | |
| | PTSD | -0.84 | -1.8 | 0.15 | 2.37 | 0.05 |
| | PTSD Sq | -0.18* | -0.37 | -0.002 | | |
| FL | Cons | 58.54 | | | | |
| | PTSD | -1.6* | -2.9 | -0.31 | 3.43* | .14 |
| | PTSD sq | -0.18 | -0.48 | 0.1 | | |

*NFL=No loss of family member, FL= Loss of family member, Dependant Variable, PTG, *p<.05*

Results presented in Table 3 supported our hypothesis showing that Posttraumatic stress disorder significantly predict Post traumatic growth in the group who lost family member/s ($b = -.16$, $p < .05$) and explains 14% variance in PTG among the respondents. Furthermore, it explains only 5% variance in PTG in the group who did not suffer such loss, and the effect is significant only when PTSD is used as predictor in its squared form.

Discussion

It is a well known fact that most of our experiences have both positive as well as negative effects. In the present study trauma was assumed to act as a double edge sword which has been proven by earlier studies also. On one hand it has deleterious effects whereas on the other side it may bring a positive change in the individual (Calhoun & Tedeschi, 1999). The present study found that along with negative repercussions of the trauma in the form of post traumatic stress disorder, the positive symptoms were also developed in form of post traumatic growth among the women IDPs. The present study aimed to examine if a positive relationship exists between growth and distress among victims of the trauma. The findings revealed that the sample did not respond similarly to the trauma in terms of the relationship between PTSD and PTG. Our findings indicated a curvilinear relationship between growth and distress, which is in line with the previous studies (Kleim and Ehlers, 2007; Butler, Blasey, Garlen et al., 2005). Kleim and Ehlers (2009) pointed out that, it is possible that psychopathology and growth influence each other, though we cannot rule out the fact that at times, it may evolve independently at different rates. They stressed that the relationship between post traumatic stress disorder and post traumatic growth is not always linear. They urged that such type of relationship between distress and growth should be investigated among a wide range of trauma survivors, in order to understand the complex nature of the relationship.

The gentle curve in Figure 1 showing the relationship of the two variables suggests that intermediate levels of post trauma stress symptoms were associated with high growth levels in our sample. The results also revealed that within the sample, women who were having low PTSD symptoms were showing minimal growth levels, whereas in the same sample, post traumatic growth dropped down in women who reported high levels of PTSD symptoms. Fontana and Rosenheck (1998) argued that facilitation of growth minimizes PTSD, so, we can assume that there is also a strong possibility that the process acts vice-versa (i.e., the severity of post traumatic stress disorder inhibit growth levels). Jin, Xiu and Liu (2014) yield support to the findings of the present study which indicated that high growth levels were associated with intermediate level of post trauma symptoms.

The current study revealed that both positive and negative aftermath of the trauma were present in every respondent, though in varying degrees. It is probably safe to assume here that the rate of growth or distress in a particular sample depends on subjective interpretation of the crisis event. Boals and Schuettler (2010) tested event's centrality for the development of growth and distress in an individual and found that if a potentially threatening experience is taken by the individual as central to one's own identity, it can indeed become a double edge sword. Similarly, Lechner et al. (2006) pointed out subjective interpretation of the severity of trauma in explaining the nature of relationship between PTSD and PTG. It depends on whether and how much distress or growth has been developed in any sample. It is possible that one sample may comprise different groups who experienced the traumatic incident differently. According to Tedeschi and Calhoun (1996) post traumatic growth is a common factor developed in the majority of trauma survivors, but it is not universal.

Although, the study revealed that both growth and distress were present in the respondents, but we were also interested to investigate that whether loss of family member/s contribute to any change in their responses. Moreover, we also explored whether PTSD will predict PTG among the women who were, although the victims of terrorism and were internally displaced but did not lose any near family member during war. The findings revealed that post traumatic growth was significantly predicted by post traumatic stress disorder in the group who lost their near family member/s. However, the results revealed that PTSD predicts PTG in the group who was victim of terrorism without any loss of family member, though the effect was significant when PTSD was taken as squared variable, thus accounted a non significant variance in PTG. The reason for such findings might be accounted for the fact that actual loss of family member is immediately traumatic and it does have an ironic effect of freeing oneself from losing further. Moreover as they had already suffered a lot in terms of losing an important person, they became resistant to stress and in the present case, possibly developed more growth as compared to the other group having no loss of family member. Research evidence suggests that among individuals who suffer loss of lives of their loved ones, only those who successfully find meaning to the loss, develop growth (Davis, Nolen-Hoeksema, Larson, 1998). However, failure in making meaning to the traumatic incident lead people more towards grief reactions, even when they are the sufferer of the same trauma. Janoff- Bulman (1992) theorized that sudden and violent deaths of loved ones can make the world appear as unpredictable, dangerous and unfair for the sufferers. He further stressed that individuals who are directly affected may interpret the trauma differently than those who are not affected directly and thus develop growth or distress accordingly (Micheal & Cooper, 2013). Moreover, Pulcino, Glea, Ahern et al. (2003) observed that personal losses along with financial losses may increase probable risk of developing PTSD and subsequently decrease one's ability to cope with the trauma. Park and Folkman (1997) reported that social support after

the trauma is associated with benefit finding. However, unfortunately our sample did not receive such social support which might have possibly served as one of the resources in developing PTG. They were residing in the IDP camps where living conditions were unsatisfactory. At the same time their low socioeconomic status made them more vulnerable toward developing more distress and less growth.

Taken as a whole, the present study contributes to the existing literature by suggesting that various factors might be contributing toward varying reactions of people affected by the same trauma. This fact may be regarded as a possible explanation of the inconsistent findings in the literature regarding the nature of PTSD-PTG relationship. Moreover

Conclusion

The present study examined the positive and negative reactions of an individual and its relationship with each other, after traumatic experiences. The literature available reveal inconsistent trend over the direction of relationship, between PTSD and PTG. The present study focused on PTSD-PTG relationship among internally displaced women. Our findings revealed that this relationship does not necessarily follow a single direction. The results suggested that there were differences within the sample, in terms of variation in experienced terrorist activities, loss of family member/s and the resultant displacement. Hence, it was concluded that the direction of relationship may depend on the subjective interpretation of the traumatic event and that it is not necessary that victims of the same trauma react in a similar way.

Limitations and Suggestions

The present study focused at investigating the relationship of posttraumatic stress disorder and post traumatic growth among women IDPs. Results revealed that direction of the relationship between PTSD and PTG varies within the sample. We saw multiple trends in the direction of relationship. Therefore, it is suggested that in future the relationship between positive and negative aftermath of the trauma may be assessed while using different scales that could also assess the respondent's subjective interpretation of the severity of trauma. This effort will be helpful in understanding the complex nature of PTSD-PTG relationship more clearly. In addition to this, another limitation of the study is that the sample had extremely strict cultural traditions and they were not ready to interact with strangers. Therefore the researcher could only manage to assess 130 women IDPs. It is suggested for future investigations that the relationship of positive and negative aftermath of the trauma may be assessed in a comparatively larger sample.

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