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Bereavement, Post-traumatic Growth, and the Role of Cognitive Processes: Study of Bereaved Parents and Spouses in Baluchistan, Pakistan

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Present study investigated the relationship between bereavement and post-traumatic growth and mediating role of cognitive processes. Sample of 260 bereaved parents and spouses was drawn from the province of Baluchistan, Pakistan. Urdu versions of Core Bereavement Items scale (Burnett, Middleton, Raphael, & Martinek, 1997), Integration of Stressful Life Events Scale (Holland, Currier, Coleman, & Neimeyer, 2010), and Post-traumatic Growth Inventory-SF (Cann et al., 2010) were completed by the bereaved parents and spouses individually. Pearson correlation was checked for direction and strength of relationship between the study variables. Results indicated high alpha reliability and validity for the Urdu version scales. The findings showed an inverse relationship between bereavement and post-traumatic growth. Results also revealed that cognitive processes significantly mediate between bereavement and post-traumatic growth relationship. Results showed significant group differences in bereavement experience intensity and post-traumatic experience based on gender of the bereaved and the gender of the deceased. Limitations of the study and suggestions for future researches are also presented in the discussion.

Keywords: bereavement, cognitive processes, traumatic experience, post-traumatic growth, schemas

The death of a child or life partner leaves the bereaved parents and spouses in various levels of grief and distress. Chow (2010) in his study argued that for some individuals, death of a loved one implies loss of goals and future while Gerrish, Dyck, and Marsh (2009) reported that early response to death varies from person to person and these early responses may range from delightedness, satisfaction, and relief, to depression and traumatization. This variance in early response indicates

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that the following process of bereavement is likely to be equally different and the ultimate outcome of bereavement mostly depends upon what precedes it.

Traditionally bereavement outcomes are studied in pathological contexts. As noted by Brunoni, Nunes, Pinheiro, Lotufo, and Benseñor (2014), death of loved ones results in despair and feelings of loneliness. In reaction to grief, certain symptoms appear which are commonly associated with some mental disorder and therefore, it is debated whether such symptoms need to be treated when they appear to constitute a mental disorder. Sveen, Pohlkampl, Kreicbergs, Maarten and Eisma (2019) have reported that bereaved individuals may be more vulnerable to developing prolonged grief.

This debate has stayed for long in psychiatry and exclusion criteria of bereavement in the fifth edition of *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013) for diagnosis of major depressive disorder seems a reflection of that debate and controversy. According to Naef, Ward, Mahrer-Imhof, and Grande (2013) new knowledge about bereavement indicates that grief is an individualized, pervasive and a common experience that needs to be incorporated into the life perspectives and meanings.

In contrast to pathological outcomes, recently there has been a focus on possible positive and adaptive outcomes of traumatic and adversarial events including bereavement. Tedeschi and Calhoun (as cited in Joseph & Linley, 2007) reported that the notion of possible positive outcome as a result of adversarial events has been existent in literature for long. They further added that growth can occur as a result of various adversarial events. According to Kállay (2015):

> The potential to grow in the aftermath of crisis has been recorded for very long time and the chances that it could really happen exist. Nevertheless, it should not be taken at its face value, and more importantly, its possibility should not determine research to consider that every situation should determine growth in everybody (p. 8).

Tedeschi and Calhoun (as cited in Joseph, 2009) coined the term post-traumatic growth to refer to positive outcomes. Post-traumatic growth is the experience of adaptive change that happens as a result of coping with adverse life events (Tedeschi & Calhoun, 2004). Post-traumatic growth, according to its profounders, implies experiencing positive and adaptive changes after the death of a loved one in three broad areas that include relationship with others, views about one's self and others, and philosophy of life. These broad areas are further elaborated and operationalized in specific areas including personal

strength, changed sense about relationships with others, spirituality, and appreciation of life. Post-traumatic growth denotes positive psychological change after a traumatic experience that is an improvement over the state before the trauma (Khanna & Greyson, 2015).

Calhoun, Cann, Tedeschi, and McMillan (2000) described post-traumatic growth as an experience of important adaptive outcomes resulting from coping with adverse events in life. They argued that focus on systematic study of post-traumatic growth has appeared recently, however, it has been recognized long before. Taku et al. (2007) have mentioned that the possible occurrence of positive changes as a result of coping with adverse experiences has drawn attention since the 1990s. It is important to emphasize that bereavement experience does not inherently entail experience of post-traumatic growth rather occurrence of post-traumatic growth experience depends upon how the individual handles the bereavement experience. If the bereavement experience is positively reappraised, it leads to experience of positive changes labeled as post-traumatic growth. This clarifies an important effect of cognitive processing on the outcomes of bereavement experience.

According to Tedeschi and Calhoun (2004), important cognitive processing (e.g., when schemas are endangered or shattered) influences the process of post-traumatic growth significantly. Janoff and Bulman (as cited in Bosson, Kelley, & Jones, 2012) reported that traumatic event shatters our assumptions and beliefs about the self, the surroundings and the world in general. When these existing assumptions are challenged by the experience of traumatic event, the bereaved individual involves in making sense out of this traumatic experience. Hence, they believe that some sort of cognitive processing is integral to the development of post-traumatic growth after traumatic experience including bereavement.

Joseph and Linely (2005) mentioned that since traumatic experiences are inconsistent with the existing schemas of the individual, this inconsistency results in psychological unrest that in turn leads to alteration of pre-trauma schemas. They further stated that accommodation (attitude change) takes place when existing schemas are altered in light of trauma related information. On the other hand, if trauma related information is modified to integrate it into existing schemas, it is referred to as assimilation (no attitude change). In other words, developing new schemas and replacing the pre-trauma schemas as a result of the traumatic experience is accommodation whereas, restoring the pre-trauma schemas is assimilation. As stated by Wulandari, Poerwandari, and Basri (2019) “emergence of a new schema

as a result of cognitive struggling is the essence of posttraumatic growth" (p.446).

Rationale of the Study

There is mixed evidence about the outcomes of bereavement experience. Literature supports both pathological and adaptive outcomes of bereavement. Cadell, Rehgehr, and Hemsworth (2003) have mentioned that trauma is seen in the context of negative outcomes. They argued that even a seriously adverse experience may lead to positive outcome. They have stated that facilitation of post-traumatic growth is crucial to all helping professions. They suggest further empirical investigation into post-traumatic phenomenon that would help mental health professionals in focusing positive outcomes in suffered individuals.

This study explores post-traumatic growth as outcome of bereavement experience. Frazier, Conlon, and Glaser (2001, as cited in Payne, Joseph, & Tudaway, 2007) stated that positive outcome following traumatic events has become the focus of research and clinical practice. Post-traumatic growth as a concept has emerged relatively recently, however, the belief that severe stressful experiences can lead to greater adaptive outcomes has been existent since long before (Tedeschi & Calhoun, 2004). Empirical researches have studied the association between cognitive processes and post-traumatic growth. Lindstrom, Cann, Calhoun, and Tedeschi (as cited in Zhang, Xu, Yuan, & An, 2018), for example, reported that challenge to core beliefs was the main predictor of post-traumatic growth. Findings by both qualitative and quantitative studies suggest that bereaved individuals report positive self-transformation regarding their self-concept as part of their struggle to cope with the loss (Michael & Cooper, 2013). The present study focuses at empirically examining as how the cognitive processes explain relationship between bereavement and post-traumatic growth.

Mathews and Marwit (2004) have reported that many bereavement studies have focused spousal bereavement as compared to parental bereavement. They have presented reasons for this relatively low attention to parental bereavement which include (a) death of child being considered as unusual and unexpected, (b) difficulty in empirically examining parental bereavement due to variations in children age at the time of death and due to circumstantial factors and (c) reluctance of bereaved parents to take part in such studies because of certain emotional reasons.

Based on previous literature, this study aimed 1) to identify the relationship between bereavement and post-traumatic growth; and 2) to investigate mediating role of cognitive processes in relationship between bereavement and post-traumatic growth.

Following hypotheses were formulated:

1. Bereavement is negatively correlated with post-traumatic growth.
2. Bereavement is positively correlated with cognitive processes.
3. Cognitive processes are positively correlated with post-traumatic growth.
4. Cognitive processes mediate relationship between bereavement and post-traumatic growth.

Method

Sample

This study employed a sample of 260 bereaved parents (n = 135) and spouses (n = 125) through a mixed method of convenience and snowball sampling technique. Mean age of the participants was 45.20 years and standard deviation was 14.57. The data were collected from Quetta city and districts of Mastung, Noshki, Pishin, Chaman, and Loralai in Baluchistan, Pakistan. Only parents whose son/daughter had died of any sudden/violent cause or illness (expected death) and not more than 24 months had passed since the death happened were included in the sample. Bereaved parents were included only if both the parents were alive. Bereaved spouses were included whose partners had died of sudden/violent cause or illness and not more than 24 months had passed since the death happened.

Instruments

Core Bereavement Items scale (Burnett, Middleton, Raphael, & Martinek, 1997), Integration of Stressful Life Events Scale (Holland, Currier, Coleman, & Neimeyer, 2010) and Post-traumatic Growth Inventory-SF (Cann et al., 2010), translated by Aziz (2012) were used.

Following is a detail of the instruments:

Core Bereavement Items Scale (CBI). Bereavement experience was measured through Core Bereavement Items Scale. This scale is

developed by Burnett et al. (1997) which has 17 items and three subscales. Authors of this study translated this scale in Urdu language by using forward and backward translation method. Total score of this scale is used in the current study. The scale has no reverse item. It has five-point Likert response options ranging from 0 (*never*) to 3 (*continuously*). Score range is 0-51. Alpha for the original version was α = .91 and α = .93 for the Urdu version. Higher score on CBI indicates greater intensity of bereavement experience. Confirmatory factor analysis results show good fit of the model along with important indices in acceptable range (GFI = .95, IFI = .95, CFI = .95, SRMR = 0.04, RMSEA = 0.06).

Integration of Stressful Life Experiences Scale (ISLES). The total score of this scale was used for assessing cognitive processes in the current study. It is a 16-items scale developed by Holland et al. (2010) with item no. 2 as reverse item. Authors of present study translated this measure in Urdu language by using forward backward translation method. Item no. 2 was excluded from the scale for the current study after it was shown in item-total correlation and confirmatory analysis that this item was not a functional item, so 15-items scale was used. It has five point response options which are 1 (*strongly agree*) to 5 (*strongly disagree*), with potential minimum score of 15 and maximum score of 75 for the overall items. It has two subscales which are Footing in the World (accommodation of the stressful experience) and Comprehensibility (assimilation of stressful experience). Alpha reliability for the original version of total 16 item scale of was α = .92 - .94. Alpha for the Urdu version 15 items is α = .90. Confirmatory factor analysis results showed good fit of the model and important indices were in the acceptable range (GFI = .93, IFI = .92, CFI = .92, SRMR = 0.04, RMSEA = 0.06).

Post-traumatic Growth Inventory-SF (PTGI-SF). It is developed by Cann et al. (2010) and translated by Aziz (2012). It has 10 items and has no reverse item. It has six point response options which are (0) *I did not experience this change as a result of my crisis* to (5) *I did experience this change to a very great degree*, with range of 0-50 and alpha for the original version of PTGI-SF was α = .86 - .89, and for the Urdu version is α = .78. High score on PTGI-SF indicates greater level of post-traumatic growth experienced and low score indicates lesser level of post-traumatic growth experienced. Confirmatory factor analysis results showed good fit of the model and important indices were in the acceptable range (GFI = .95, IFI = .93, CFI = .92, SRMR = 0.05, RMSEA = 0.06).

Procedure

Participants were approached for data collection at their home or work place. Participants were first asked about their consent and then questionnaires were given to them to complete. They were also told that they could refuse to fill the questionnaires if they felt so at any stage of responding to statement of the questionnaires. The questionnaires were collected back from the parents and spouses after they were completed. The data were collected from each parent and spouse of the sample individually (not in group) in Quetta city and other districts of Baluchistan.

Results

In order to assess the relationship among staudy variables, Pearson Product Moment Correlation was used. Mediation analaysis was done through Process Macro in SPSS 23. Group differences were explored using *t*-test.

Table 1

Descriptive Statistics, Alpha Reliability, and Correlations Among Study Variables (N = 260)

Variables	*Range*	*M*	*α*	*SD*	Skew	1	2	3
CBI	1-51	33.63	.93	11.02	-.58	-	-.44**	-.24**
ISLES	15-74	42.39	.90	12.72	.20		-	.43**
PTGI-SF	1-49	27.47	.78	9.15	.005			-

Note. Skew = skewness; CBI = Core Bereavement Item Scale; ISLES = Integration of Stressful Life Experiences Scale; PTGI-SF = Post-traumatic Growth Inventory-SF.

** $p < .01$.

Results in Table 1 show that all measure have satisfactory internal consistency. Results show that relationship between bereavement and post-traumatic growth is in the hypothesized direction ($r = -.24^{**}$). The relationship between cognitive processes and post-traumatic growth is also in the expected direction ($r = .43^{**}$) as hypothesized in the study while the relationship between bereavement and cognitive processes is in contradiction with the study hypothesis ($r = -.44^{**}$).

Table 2

Differences Between Men and Women on Study Variables (N = 260)

	Women (*n* = 145)		Men (*n* = 115)			95% CI		
Variables	*M*	*SD*	*M*	*SD*	*t*	*LL*	*UL*	*Cohen`s d*
Bereavement	35.67	10.46	31.06	11.22	3.42**	1.95	6.27	.42
Cog Proc.	39.21	11.74	46.42	12.79	-4.72**	-10.21	-.20	-.58
PTG	25.30	9.02	30.20	8.59	-4.44**	-7.07	-.73	-.55

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit; Cog Proc. = cognitive processes; PTG = post-traumatic growth.

$p < .01$.

Table 2 shows group differences based on gender of bereaved parents and spouses. The results show that women (bereaved mothers/wives) report more intense bereavement experience whereas men (bereaved fathers/husbands) report significantly more use of cognitive processes and greater experience of post-traumatic growth.

Table 3

Difference on Study Variables Along Gender of the Deceased (N = 260)

	Deceased Women (*n* = 89)		Deceased Men (*n* = 171)			95% CI		
Variables	*M*	*SD*	*M*	*SD*	*t*	*LL*	*UL*	*Cohen`s d*
Bereavement	31.82	11.71	34.57	10.56	-1.92	-5.58	.065	-.24
Cog proc.	45.28	12.63	40.90	12.52	2.66**	1.14	7.60	.34
PTG	29.66	8.58	26.33	9.25	2.82**	1.005	5.65	.37

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit; Cog Proc. = cognitive processes; PTG = post-traumatic growth.

$p < .01$.

In Table 3 results of group differences based on gender of deceased child and spouse show that death of male (death of son/husband) is associated with more intense bereavement experience (marginally nonsignificant, $p = .05$). Death of female (death of daughter/wife) is significantly associated with more use of cognitive processes and greater experience of post-traumatic growth.

Table 4

Mediatiing Role of Cognitive Processes Between Bereavement and Post-traumatic Growth (N = 260)

		M(Cog Proc.)				*Y*(PTG)		
Predictor		*β*	*SE*	*p*		*β*	*SE*	*p*
X(Brvmnt)	*a*	-.52	.06	.000	*C`*	-.05	.05	.329
					ab	-.15	.03	000
M(Cog.Proc.)		-	-	-	*b*	.30	.05	.000
Constant	*iM*	59.57	2.27	000	*iY*	16.83	3.15	000
		R^2 = .19 *F*(1,258) = 63.02, *p* = . 000				R^2 = .19 *F*(2,257) = 30.03, *p* = .000		

Note. Brvment = Bereavement (Predictor); Cog. Proc. = Cognitive Processes (Mediator), PTG = Post-traumatic Growth (Outcome); c` = Direct Effect; iM = Regression Constant of M, iY = Regression Constant of Y; Ab = Indirect Effect.

Mediation analysis was carried out by using the method of ordinary least squares (model 4 in Hayes models). Results in Table 4 show that bereavement significantly negatively predicts cognitive processes and nonsignificantly negatively predicts PTG in bereaved parents and spouses. It also reveals that cognitive processes significantly positively predicts PTG. Results support the hypothesis of the study that cognitive processes is a significant mediator in relationship between bereavement and post-traumatic growth as the value of direct effect is lesser than the indirect effect.

Discussion

Fundamental focus of the current paper was to examine the relationship between bereavement experience intensity and experience of post-traumatic growth and to examine role of cognitive processes as mediator. Existing literature, in general and specifically with reference to Pakistani population, reveal few evidences of bereavement experience studied as a predictor to post-traumatic growth. It is so, perhaps, because investigating positive outcomes of bereavement and other adversarial events have not been the focus of interest. This area has come under the limelight of researches with emergence of positive psychology. In the light of the existing literature it was hypothesized in the present study that bereavement is inversely correlated with post-traumatic growth. The present study yielded findings in line with the previous literature and supported the hypothesis of inverse relationship.

Engelkemeyers and Marwit (2008) reported in results of their study that grief intensity was inversely correlated with growth scores.

Current study findings also show inverse relationship between bereavement and cognitive processes, providing no support to the second hypothesis of this study in which it was assumed that bereavement is positively related with cognitive processes. This finding contradicts the notion of Janoff and Bulman (as cited in Bosson et al., 2012) which says that a traumatic event shatters our assumptions and beliefs about the self, the surroundings and the world in general. When these assumptions are challenged, the bereaved individual involves in cognitive processing of the bereavement experience in order to make sense out of it.

This inconsistency between the literature and current study findings may be due to the fact that in times of severe stress such as bereavement, individuals are so much burdened cognitively and emotionally that they avoid painful indulging in effortful thinking about the experience. Thinking about traumatic experience triggers painful emotions. Avoidance of thinking about such experience is natural, but it can keep the individual stuck. Blotting the traumatic experience out of mind can prevent coming to terms with the trauma. To cope with trauma and to get past it, it needs to be cognitively processed consciously. It is to be noted that bereavement by default does not lead to post-traumatic growth, rather post-traumatic growth occurs as a result of cognitively accommodating the bereavement experience. Studies also show positive link between cognitive processes and post-traumatic growth. For example, Mazor, Gelkopf, Mueser, and Roe (2016) reported higher post-traumatic growth association with higher meaning making.

As a major goal of this study, cognitive processing was hypothesized as mediator between bereavement and post-traumatic growth. Organismic valuing theory of Joseph and Linely (2005) assumes that some sort of cognitive processing is integral to making sense of bereavement experience and positive accommodation of traumatic experience results in occurrence of post-traumatic. Results of the current study support the hypothesis and show cognitive processes act as a significant mediator between bereavement and post-traumatic. Results of the current study show that only process of positive accommodation is also a significant mediator which endorses the proposition of organismic valuing theory.

There are variations in bereavement experience intensity on gender basis as the current study findings indicate that women experience more intense bereavement when they lose a child or spouse. Polatinsky and

Esprey (2000) found poor evidence of gender differences in bereavement experience. Whereas, a study by Wago, Byrkjedal, Sinnes, Hystad, and Dyregrov (2017) has reported that women experience greater level of bereavement intensity and prolonged grief symptoms when they lose a child. In their study on Japanese population of parentally bereaved adolescents, Hirooka, Fukahori, Akita, and Ozawa (2018) found no gender differences in level of post-traumatic growth. Tandon and Mehrotra (2016) found no gender differences on post-traumatic growth and no association between age and post-traumatic growth among cancer patients in India. In a meta-analysis study of 70 researches on post-traumatic growth, Vishnevsky, Cann, Calhoun, Tedeschi, and Demakis (2010) have reported female gender experiencing more post-traumatic growth as compared to male gender and they have also reported that age of women is positively associated with post-traumatic growth. Study by Aslam and Kamal (2019) with Pakistani population affected by earthquake has also reported that female experience greater post-traumatic growth. The present study's findings indicate that men report more post-traumatic growth. Study on war trauma experiences with students in GAZA has also found male reporting significantly more post-traumatic growth than female students (Thabet, Elhelou, & Vostanis, 2015).

The present study used cross sectional survey design. However, longitudinal design would offer insight into the changes that occur in the psychological outcomes of bereavement with respect to the passage of time. During the process of data collection through self-reported questionnaires, it was observed that it would also be of great intrest if bereavement and post-traumatic growth are studied through qualitative approach (such as in-depth interview with bereaved parents and spouses), it would help in understanding this phenomenon in the indigenous context.

This study is the only one of its type on phenomena of bereavement and post-traumatic growth (as it includes both sudden/violent and expected deaths as cause of the bereavement) carried out on a sample that is taken from Baluchistan province. It will contribute theoretically to the relevant knowledge base and practically to the facilitation of life for people who happen to experience stressful events such as death of a loved one. It will create motivation for further researches on the domain of bereavement and post-traumatic growth in Pakistan.

It will also contribute in clinical context. Hardly, there are any proper mental health services for bereaved individuals in Baluchistan. They are tackled with traditional psychiatric approach without considering psychosocial dimensions for therapeutic purpose such as

focusing on cognitively coping with the trauma. Findings of this study would encourage mental health professionals to change their way of looking at bereavement or any other trauma only in pathological terms. Rather explore ways to help clients in translating their traumas into their strengths such as post-traumatic growth through means of cognitive coping style of positive accommodation.

Conclusion

The present study has confirmed that bereavement is by default negatively related to post-traumatic. However, bereavement experience can result in post-traumatic growth if it is positively appraised by the individual. The study concludes that women reports more intense bereavement while men report higher post-traumatic growth.

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