

## **Posttraumatic Growth and Perceived Social Support among Women Who Experienced Miscarriage**

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The present research aimed to explore the relationship between posttraumatic growth and perceived social support from different support sources of those women who experienced miscarriage as a trauma. A sample of 96 women (Age range: 17-49 years;  $M = 27.93$ ,  $SD = 5.4$ ) who experienced at least one miscarriage after their marriage or since last child was selected through mixed sampling technique (both Purposive sampling and Snow-ball sampling). A specially devised demographic sheet, short form of Post-Traumatic Growth Inventory (Calhoun et al., 2010) which was translated by Aziz (2012), Impact of Events Scale (Horowitz, Wilner & Alvarez, 1979) which was translated by Aslam (2007), and Perceived Social Support Scale developed by Rifai (as cited in Kousar, 2002) were used in the research. Results showed that perceived social support was a positive predictor of posttraumatic growth. Further analysis including Pearson Product Moment Correlation, ANOVA, Stepwise linear multiple regression were done to study the variables statistically in detail. Hierarchical multiple regression analysis was used to evaluate the role of time since last miscarriage, perceived social support and subjective distress of trauma in predicting PTG. Implications in the field of mental health of women, trauma counseling, trauma research, and positive psychology research have been discussed. The limitations of the study and suggestions for future researches have also been discussed.

**Keywords:** trauma, miscarriage, posttraumatic growth, perceived social support, miscarry women

Miscarriage is the most common complication of pregnancy. According to American College of Obstetricians and Gynecologists (ACOG, 2008), about 10 to 15% of pregnancies end into a miscarriage. Miscarriage refers to the loss which occurs until the 20th week of gestation in a developing pregnancy. In medical terms, miscarriage is labeled as a spontaneous abortion. According to World Health Organization (WHO; 2001), it is defined as a loss of a fetus which weighs less than 500 grams. The definition of a miscarriage is classified into 'early miscarriages' which are said to occur before 13 weeks or 'late miscarriages' which occur after 13 weeks and before 20 weeks. However, any of these definitions can be used to explain a woman's subjective experience of miscarriage.

A miscarriage, either occurring in first trimester or later in a pregnancy, is an emotionally distressing event. Most of the time, the cause of miscarriage is unknown. It has been estimated that most (75%) miscarriages occur during the first trimester (Church, 2004). Women who have undergone the loss of a developing fetus experience anguish, failure, and shock, making the loss both physical and emotional in nature (Zucker as cited in Schwerdtfeger & Shreffler, 2009). Research suggests that sorrow after miscarriage is similar to sorrow experienced after the death of a loved one (Adolfsson & Larsson, 2010). The need to mourn for women who miscarry often goes unacknowledged as their loss may be considered as a nonevent (Kavanagh, 2002; Rajan, 1994).

Lee and Slade (1996) deplored the research focus on grief and loss following miscarriage and recommended intervention derived from trauma research in order to facilitate post-miscarriage emotional

adjustment and prevent long-term negative responses. The connection between miscarriage and trauma has only recently been of interest with studies finding that early pregnancy loss could be classified as traumatic with long lasting effects and high levels of anxiety persisting in some cases (Walker & Davidson, 2001).

Considering the standard definition of a trauma as per DSM-IV-TR, an event can be traumatic when one experiences or witnesses the death, serious harm, or threat of physical injury to himself or another person, or learn that a loved one has gone through one of these experiences (APA, 2000). Bowles, along with his colleagues, explored the phenomena of miscarriage followed by PTSD/ASD and found that 28% of women fulfill the criterion of ASD soon after miscarriage, and 39% met PTSD criterion at 1 month. Moreover, women who were diagnosed as having ASD were considerably more prone to develop PTSD later (Bowles et al., 2006). Forray and colleagues found that in those pregnant women who had a prior pregnancy-related complication, the incidence of PTSD was considerable. Full PTSD was found to be present among 12.5% women with a previous pregnancy complication and partial PTSD was found in 28.6%. Thus, the experience of pregnancy complication as trauma, which then potentially leads to partial or full PTSD symptoms is evident (Forray, Mayes, Magriples, & Epperson, 2009).

The experience of miscarriage has far reaching implications. The occurrence of traumatic events not only leads to negative outcomes but could be associated with later positive effects. Positive outcomes following a traumatic experience are evident in a growing body of literature (Linley, 2003). Posttraumatic growth is a construct first proposed by Tedeschi and Calhoun (1996) in their development of an inventory to quantify the aspects of perceived growth after a traumatic event. PTG involves both the development of individuals beyond their previous level of adaptation, psychological functioning, or life awareness and encompasses a fundamental change in the individual as a whole (Calhoun & Tedeschi, 2006; Calhoun, Tedeschi, & Park, 1998). The presence of posttraumatic growth following a trauma does not appear to negate nor counteract its negative consequences. Rather, the emotional pain and distress associated with the traumatic event may coexist with the perceived growth attributed to the traumatic event (Calhoun & Tedeschi, 2006). PTG and posttraumatic stress can, therefore, be construed as two independent psychological states, rather than bipolar reactions to traumatic events (Linley & Joseph, 2004).

The process by which PTG develops and the factors influencing PTG, differ variedly, yet certain assumptions can be made regarding the perception of growth post-trauma (Maercker & Herrle, 2003). Within the framework of PTG, the emphasis is on cognitive adaptation and the cognitive processes necessary for rebuilding of the assumptive world (Affleck & Tennen, 1996).

PTG takes time to develop (Tedeschi & Calhoun, 1995) and is a process that consists of several developmental. The vast majority of studies measured PTG over a period of twelve months or less. The largest time span was reported in a study by Helgeson, Reynolds, and Tomich (2006) which reassessed participants after five years and the shortest longitudinal investigation occurred in studies by Dolbier, Smith Jaggars, and Steinhardt (2010) in which participants were followed-up after approximately five weeks. As far as the relationship between severity of the trauma and PTG is concerned, mixed associations have been found between them. Theoretically, the relationship between PTSD and growth may take four forms which can be negative (Johnson et al., 2007); positive (Tedeschi & Calhoun, 1996, 2004a); no relation as they may coexist independently (Linley & Joseph, 2004); or the relationship may follow an inverted-U shaped distribution. Low and high PTSD levels are associated with lower levels of post-traumatic growth than moderate levels of PTSD, which correspond to the greatest growth (Solomon & Dekel, 2007). Collectively, competing theoretical explanations and mixed findings characterize the relationship between PTSD and PTG. Therefore, one of the aims of the current study is to examine the relationship between PTSD and PTG.

Social support has been identified as one of the major factors which influence the process of PTG, Steward (2009) found that significant interactions were present between PTG and social support along with coping and depression. Increased relationships between PTG with social support, depression, problem-focused and emotion-focused coping were the major findings of this research. Another study (Graff-Reed, 2004) conducted on PTG following divorce examined the mediating role of social support to post-divorce adjustment and growth and concluded that the availability of social support is an essential component because it provides a mechanism through which the individual can experience adjustment and psychological growth. With the help of

social resources, individuals muster effective coping strategies and redefine the incident in a more optimistic light.

Many empirical studies are present in the literature which emphasize the role of perceived social support after a variety of stressful events and traumas which are both chronic and acute. The traumatized individual obtains social support from his social network which, then provides care and nurturance as she struggles with the traumatic.

Poor social support is reported to be significantly associated with higher levels of psychiatric symptoms following miscarriage as research has suggested that social support may be important in the emotional adaptation to miscarriage (Garel et al., 1992). Research has shown that social support may act as a positive causative factor of PTG and helps individuals to cope up with the adverse effects of a trauma (e.g., Moos & Schaefer, 1992; Tedeschi & Calhoun, 2004a).

Theoretically, the *stress and coping perspective* of social support states that social support is mostly beneficial during stressful times such as traumas and adversities. Social support protects (or buffers) people from the bad effects of stressful life events (e.g., death of a spouse, job loss) and it is important for people coping with trauma such that more supportive social interactions are associated with fewer PTSD symptoms (Dirkzwager, Bramsen, & Ploeg, 2003).

In a patriarchal society like Pakistan, although women are engaged in professional careers the society still believes that the first priority of any woman is bearing and nurturing of her children. Women not only face gender discrimination as being responsible for reproduction but they may also face violence and conflict at domestic level because of low social status which has led to increases in the rate of maternal morbidity and high rates of abortion and miscarriages (Saeed, Hilda, Khan, & Khan, 2009). In such unfortunate cases where women experience miscarriage, they have to face psychological distress, lack of social support, marital insecurity, and blame from their families..

Considering miscarriage as a trauma and studying factors which highlight the positive or negative consequences of the trauma has been overlooked by the researchers in Pakistan. PTG which occurs in the aftermath of a traumatic event has been explored in varying populations in the context of Pakistan such as survivors of the suicide bombing attack occurred at Pakistan Ordnance Factory in August 2008 (Kiran, Rana, & Azhar, 2010); patients and spouses after breast cancer (Kausar & Saghir, 2010); and survivors of floods in Pakistan that occurred in 2010 (Aslam & Kamal, 2012).

The purpose of the present research is to highlight the role of perceived social support in PTG in women who experience miscarriage. In such circumstances, the role of perceived social support is of prime importance that can enable her to cope with the loss. Such adjustment then leads to PTG which is signified as a process of finding meaning out of adversity. Thus, if appropriate social support and care is extended by others is perceived by such women then growth and recovery after the trauma can be higher which leads to a better emotional and psychological adjustment. Therefore, it is assumed that perceived social support is the positive predictor of PTG. It is also assumed that subjective distress of trauma is negatively related to perceived social support. Also, it is anticipated that the moderate level of subjective distress of miscarriage have more PTG as compared to mild and severe levels.

## Method

### Sample

The sampling technique used for collecting data was a mixed sampling technique (both purposive sampling and snow-ball sampling). A sample of 96 women (age range: 17-49 years;  $M = 27.93$ ,  $SD = 5.4$ ) was selected for this study. The sample was comprised of women who experienced at least one miscarriage after their marriage or since the birth of the last child. It did not include women who were infertile. Women working outside the home as well as housewives were included in this research. The sample was taken from Gynea Out Patient Departments (OPDs) in hospitals or private clinics of Rawalpindi/Islamabad. For frequency and percentages along demographic variables, see Table 1.

**Table 1***Frequency and Percentages along Demographic Variable (N = 96)*

Demographics	f	%	Demographics	f	%
Age			Education in degrees		
17-27	49	51	Up to primary	14	14.6
28-37	44	45.8	Middle	19	19.8
38-49	3	3.1	Matriculation	25	26
			Intermediate	10	10.4
			Graduation	22	22.9
			Masters	6	6.3
SES (As reported by participant)			Family system		
Lower (Rs. 2000-15000)	26	27.1	Joint	48	50
Middle (Rs. 16000-40,000)	21	21.9	Nuclear	48	50
Upper (Rs. 45,000-12,50000)	22	22.9			
Missing	27	28.1	Children		
Occupation of participant			Yes	62	64.6
Working	16	16.7	No	34	35.4
Non-working	77	80.2			
Student	3	3.1	Residential area		
Severity of trauma experienced			Urban	65	67.7
Mild	25	26	Rural	31	32.3
Moderate	31	32.3			
Severe	40	41.7	Number of miscarriages		
Number of miscarriages			after last child		
1	52	54.2	None (having no children)	34	35.4
2	25	26.0	1	52	54.2
More than 2	19	19.8	2	10	10.4
Time period since last miscarriage			Number of traumas		
Upto 6 months	54	56.3	1 (Miscarriage)	16	16.7
More than 6 months	42	43.8	More than 1 (Multiple traumas along with Miscarriage)	80	83.3

**Instruments**

**Demographic Sheet:** For the present study, a detailed demographic sheet was devised to obtain information about demographic variables and other information related to miscarriage e.g., age, education, religion, occupation, family structure, socio-economic status, duration of marriage, age at the time of marriage, duration of marriage, number of children, total number of miscarriages, duration since last miscarriage, any other complication related to health, mental health after miscarriage, access to medical facilities, intensity of desire to conceive again, worry related to future pregnancy, and expectation of the woman or her family regarding the gender of next child after a miscarriage.

**Impact of Events Scale (IES):** The IES scale was used to evaluate self-reported subjective distress for any specific life event in order to assess whether it is perceived as traumatic or not. To assess whether respondents had experienced the reported event as traumatic, the IES (Horowitz, Wilner & Alvarez, 1979) was used. The translated version of this scale was used in this study (Aslam, 2007). It consisted of 15 items, 7 of which measure Intrusive symptoms (involuntary thoughts and images of the event, intrusive feelings, and imagery), while 8 items tap Avoidance symptoms (numbing of responsiveness, avoidance of feelings, situations, and ideas), and all items combined provide a total subjective stress score. All items of the IES are related to a specific stressor. Each item was scored 0 (*Not at all*), 1 (*Rarely*), 3 (*Sometimes*), or 5 (*Often*), with the higher scores reflecting more stressful impact. The scores for the Intrusive subscale ranged from 0-35, and was the sum of the scores from

items 1, 4, 5, 6, 10, 11, and 14. The scores for the Avoidance subscale ranged from 0-40 and was the sum of score for items 2, 3, 7, 8, 9, 12, 13 and 15. The sum of the two subscales gave the total stress score. The possible total scores ranged from 0 to 75 where the score above 35 showed that the event was perceived as traumatic. Such results were used for comparative analysis among highly traumatic and low traumatic group. The coefficient of reliability ranged from .79 to .92, with an average of .86 for the Intrusive subscale and .90 for the Avoidant subscale (Horowitz, Wilner & Alvarez, 1979). The coefficient of alpha reliability for Urdu translated version of IES was .80 (Aslam, 2007) and for current sample it was .83 (Iqbal, 2013).

**Post-Traumatic Growth Inventory-Short Form (PTGI):** The PTGI was developed by Calhoun et al. (2010) and translated by Aziz (2012). The PTGI measures the extent to which survivors of traumatic events perceive personal growth and positive changes as a result of the trauma (Tedeschi & Calhoun, 1996). It is a 10-item scale that provides five subscales measuring different dimensions of PTG with the help of 2 items each i.e., item no. 5 and 10 for Relationships with Others, item no. 7 and 9 for Personal Strength, item no. 3 and 6 for New Possibilities, item no. 4 and 8 for Spiritual Growth, and item no. 1 and 2 for Appreciation of Life. Subjects rate each item on a 6-point Likert scale ranging from 0 (*I did not experience this change as a result of my crisis*) to 5 (*I experienced this to a very great degree as a result of my crisis*). The possible total scores ranged from 0 to 50. The alpha reliability coefficient was .90 which shows that this instrument was highly reliable (Calhoun et al., 2010). Whereas, the coefficient of alpha reliability for Urdu translated version of PTGI-SF was .92 (Aziz, 2012) and for current sample it was .75 (Iqbal, 2013).

**Perceived Social Support Scale (PSSS):** The PSSS was developed by Rifai (as cited in Kousar, 2002). It measures perceived social support available from different sources such as Family, Friends, Relatives, and Work-Environment. It consists of 26 items measured on a five-point Likert type scale with five response categories ranging from 1= *Strongly Disagree* to 5 = *Strongly Agree*. Item number 3, 6, 14, 15, 17, 21, 24, and 26 are negatively worded. While administering this measure on non-working women, the items which measured the perceived social support from work environment were excluded. The alpha coefficient reliability of all the items was found to be .81 (Kousar, 2002) and for current sample it was .82 (Iqbal, 2013).

### Procedure

Participants for the present research were approached individually and with the help of gynecologists from different clinics and hospitals. The scales were given to the participants and they were asked to provide the required information. They were requested to give their answers as honestly and carefully as possible, without leaving any question unanswered along with the assurance of keeping provided information completely anonymous and confidential.

As the sample was sensitive to work with, therefore, following ethical issues were considered while collecting the data:

- Permission was taken from the concerned department for data collection.
- The research material was shown to the administration of the hospital/clinic in order to address any concern if there.
- The participants were informed about the purpose of the research clearly and the benefits of the research to society and possibly to the individual were told to them.
- Informed consent (i.e., permission) was taken from the participants and had the right to leave at any step during research process if they felt so.
- Participants were assured about confidentiality of all the provided information such that the data collected would be used for research purpose only which is of academic nature.
- It was ensured that participants will not be harmed psychologically or physically while obtaining information.
- Participants were informed about the length of time i.e., approximately 20 minutes which were expected to fill the questionnaires.

Overall, the data collection phase experienced some difficulties. Some private hospitals refused to give permission for access to patients. Some participants, expressed concerns about about the confidentiality of the data. They were answered satisfactorily and assured by explaining the true purpose of the data collection. In addition to this, the researcher also encountered many intense emotional experiences as those participants who

experienced miscarriage had very strong feelings towards their loss. Positive regard and empathy was extended towards them and some of the participants were recommended to seek counseling.

After data collection, data was entered into Statistical Package for Social Sciences (SPSS-18) in order to carry out statistical analysis and to validate the findings.

## Results

The present research was intended to explore the relationship between subjective distress of trauma and PTG of those women who experienced miscarriage with perceived social support obtained from different sources. Different statistical procedures were used to analyze the data which are tabulated as follows:

**Table 2**

*Descriptive Statistics on Post Traumatic Growth, Perceived Social Support and Impact of Events of Women Who Experienced Miscarriage (N = 96)*

Variables	Mean	SD	Median	Ranges		Skewness	Kurtosis
				Min	Max		
PTG	3.16	0.81	3.2	1.2	4.9	-.26	.02
PSS	2.62	0.83	2.67	0.65	4.85	.35	.77
Family	4.01	1.24	4.4	1	6	-1.26	.38
Friends	4.05	0.88	4.37	1.13	5	-1.46	2.14
Relatives	3.29	1.26	3.66	1	5	-.5	-1.08
Work environment <sup>a</sup>	4.19	0.4	4.2	3.5	4.7	-.51	-1.04
IE	2.43	1.01	2.7	0.13	4.87	-.43	-.42
Intrusive subscale	2.64	1.21	2.8	0.00	5	-.28	-.41
Avoidance subscale	2.52	1.19	2.5	0.13	4.75	-.00	-1.25

*Note.* <sup>a</sup>Sample size for Work Environment was  $n = 16$ ; Standard error of Skewness except for Work Environment was .24 and for Work Environment was .61; Standard error of Kurtosis except for Work Environment was .48 and for Work Environment was 1.2.

In Table 2, descriptive statistics were computed on transformed scores as the sum obtained was divided by their respective total number of items. The mean values of subscales of perceived social support show that out of all the sources, the maximum perceived social support was obtained from the Work Environment and the minimum was obtained from Relatives. For SD, the perceived social support from Relatives has the highest value which shows that scores on this source are more heterogeneous as compared to other sources and the responses are spread out over a large range of values from the mean. The mean values of subscales of impact of events scale show that the maximum symptoms of trauma were of intrusive type. For SD, the intrusive symptoms of trauma has the highest value which shows that scores of this type of trauma symptoms are more heterogeneous as compared to other symptoms and the responses are spread out over a large range of values from the mean.

As far as the skewness of the data is concerned, most of the values were negative which shows that high scores are present in the distribution. On the other hand, the values of kurtosis were both positive and negative. Such positive values show pointy distribution of data whereas the negative values show flat distribution of the data (Field, 2009). In order to check the normal distribution of the data, the standard error of skewness and kurtosis was considered. Since the absolute values of skewness and kurtosis were not more than twice the standard error of skewness and kurtosis overall, thus the data was approximately normally distributed (Field, 2009).

**Relationship between Post Traumatic Growth Scores, Social Support Scores and Impact of Events Scores of Participants**

To study the relationship between PTG, IE and PSS and their subscales, Pearson Product Moment Correlations were computed (see Table 3).

The correlation coefficients in Table 3 show that PTG has significant positive relation with perceived social support. The subscales of PTG except Spiritual Growth and Relationship with Others also show significant positive relation with perceived social support. Thus, the first hypothesis i.e., perceived social support is the positive predictor of PTG has been supported for the women who experienced miscarriage. On the contrary, subjective distress of trauma and its intrusive and avoidance symptoms have negative and nonsignificant relation with PTG and perceived social support and their subscales except for perceived social support from Family and Relatives which is negatively significant to intrusive symptoms. This indicated that more the perceived social support from Family and Relatives, less intrusive symptoms of trauma are experienced by the women who miscarry. Thus, the second hypothesis i.e., subjective distress of trauma is negatively related to perceived social support has been partially supported for women who experienced miscarriage that too for intrusive nature of trauma only. Moreover, the grey highlights show positive correlation among subscales of each scale thus indicating their construct validity (Cronbach & Meehl, 1955).

**Table 3**

*Correlations of Post Traumatic Growth, Perceived Social Support, and Impact of Event for Women Who Experienced Miscarriage (N= 96)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. PTG	-	.62**	.64**	.73**	.80**	.66**	.33**	.30**	.31**	.33**	.15	-.09	-.12	-.04
2. Appreciation of Life		-	.31**	.33**	.25*	.33**	.33**	.19	.31**	.29**	.09	-.03	-.04	.01
3. Spiritual growth			-	.28**	.40**	.31**	.05	.05	.17	.04	-.19	-.04	.00	-.06
4. New possibilities				-	.61**	.29**	.14*	.19**	.20	.26**	.29	-.03	-.18	.10
5. Personal strength					-	.39**	.34**	.34**	.27**	.36**	.20	-.14	-.18	-.09
6. Relationships with others						-	.14	.12	.10	.13	.17	-.06	.02	-.11
7. PSS							-	.59**	.75**	.52**	.45	-.08	-.18	.01
8. Family								-	.57**	.65**	-.08	-.05	-.23*	.07
9. Friends									-	.56**	.32	.03	-.08	.13
10. Relatives										-	.23	-.09	-.24*	.01
11. Work environment#											-	-.42	-.44	-.23
12. IE												-	.83**	.89**
13. Intrusive subscale													-	.53**
14. Avoidance subscale														-

Note: #Sample size for work environment was n= 16; Grey highlight show inter subscale correlation of each scale.  
 \*\*p < .01, \*p < .05.

Stepwise linear regression analysis for studying the relationship between different support sources and the subscales of PTG was run among women who experienced miscarriage in order to analyze the nature of perceived social support that predicts certain type of PTG.

**Table 4**

*Stepwise Linear Regression Analysis for Studying the Relationship between Different Support Sources and Subscales of PTG (N = 96)*

Predictor	Outcome	$\beta$	$R^2$	Adjusted $R^2$	$p$
Friends	Appreciation of Life	.31	.1	.09	.00

Family	New possibilities	.29	.08	.07	.00
Relatives	Personal strength	.36	.13	.12	.00

Note.  $\beta$  = Standardized coefficient.

The other two subscales of PTG i.e. Spiritual Growth and Relationships with Others are not incorporated in the analysis because none of the social support predicted them as an outcome. On the other hand, support from Work Environment is not included in the prediction because of sample size ( $n = 16$ ) which was too small for this analysis.

The values in the Table 4 show that perceived social support from Friends is contributing a significant change towards Appreciation of Life which is demonstrated by the value of  $R^2$  which is .1. The value of  $R^2$  explains the variance caused in dependent variable by the independent variable. This shows that 10 % of the variance in this domain of PTG is caused by perceived social support from Friends. Similarly, 8% and 13% of variance in the other two domains of PTG i.e. New Possibilities and Personal Strength is caused by perceived social support from Family and Relatives respectively. The overall model is statistically significant as  $p < .01$ . The value of standardized beta coefficient gives a measure of the contribution of each variable to the model in terms of standard deviation. The overall Table 4 illustrates that different support sources in the model are predicting subscales of PTG well.

#### Role of Subjective Distress of Trauma in PTG

One Way ANOVA was computed to explore the differences between women who experienced mild ( $n = 25$ ), moderate ( $n = 31$ ) and severe ( $n = 40$ ) subjective distress of trauma on PTG and its subscales. These categories were made on the basis of cut-off scores as given by Horowitz, Wilner and Alvarez (1979) such that scores ranging from 0-25 show mild; that ranging from 26-43 show moderate; and that ranging from 44-75 show severe subjective distress of miscarriage.

**Table 5**

*M, SD, and F-Values for Women Experienced Mild, Moderate, and Severe Distress of Trauma on PTG and Its Subscales (N = 96)*

Variable	Mild distress ( $n = 25$ )		Moderate distress ( $n = 31$ )		Severe distress ( $n = 40$ )		F	p
	M	SD	M	SD	M	SD		
PTG	32.84	8.09	32.9	7.61	29.88	8.55	1.58	.21
Appreciation of life	6.04	2.26	6.16	2.39	5.53	2.17	.78	.45
Spiritual growth	8.08	1.63	8.06	2.08	7.65	2.3	.48	.62
New possibilities	5.44	2.51	5.52	2.04	5.38	2.36	.03	.96
Personal strength	6.76	2.66	6.23	2.82	5.35	2.94	2.04	.13
Relationships with others	6.52	2.14	6.94	2.01	5.96	2.33	1.71	.18

Table 5 shows that nonsignificant differences are present among women who experienced mild, moderate and severe subjective distress of trauma on PTG and its subscales. Thus, the third hypothesis i.e., women with moderate level of distress of miscarriage have more PTG than with mild and severe levels has been rejected as nonsignificant differences are obtained on PTG and its subscales with respect to different levels of intensity of the trauma experienced.

#### Moderating Role of Time since Last Miscarriage for Perceived Social Support Predicting PTG

In order to evaluate the moderating role of time passed since last miscarriage for perceived social support predicting PTG, hierarchical multiple regression analysis was run. As recommended by Baron and Kenny



(1986), all variables were centered on their means to control for multicollinearity. Perceived social support, time since last miscarriage, and their interaction term were entered as predictors step by step using the enter method. PTG was entered as the outcome variable. The overall regression model was nonsignificant [ $F(3, 88) = 3.9, R^2 = .12, \beta = -.11, p = .52$ ] thus, time did not play any moderating role in prediction of perceived social support for PTG.

#### **Moderating Role of Time since Last Miscarriage for Subjective Distress of Trauma Predicting PTG**

In order to evaluate the moderating role of time passed since last miscarriage for subjective distress of trauma predicting PTG, hierarchical multiple regression analysis was run. The same previous steps were followed for standardizing the scores of all variables by centering through mean. Subjective distress of trauma, time since last miscarriage, and their interaction term were entered as predictors step by step using the enter method. PTG was entered as the outcome variable. The overall regression model was nonsignificant [ $F(3, 88) = .37, R^2 = .01, \beta = .11, p = .57$ ] thus, time did not play any moderating role in prediction of subjective distress of trauma for PTG.

#### **Moderating Role of Perceived Social Support for Subjective Distress of Trauma Predicting PTG**

In order to evaluate the moderating role of perceived social support for subjective distress of trauma predicting PTG, hierarchical multiple regression analysis was run. The same previous steps were followed for standardizing the scores of all variables by centering through mean. Subjective distress of trauma, perceived social support, and their interaction term were entered as predictors step by step using the enter method. PTG was entered as the outcome variable. The overall regression model was nonsignificant [ $F(3, 92) = 4.28, R^2 = .12, \beta = .36, p = .43$ ] thus, perceived social support did not play any moderating role in prediction of subjective distress of trauma for PTG.

### **Discussion**

The present research aimed to explore the relationship between trauma, perceived social support from different support sources and PTG for women who experienced miscarriage. The study was conducted on a sample of 96 women which was taken from Gynea Out Patient Departments (OPDs) in hospitals or private clinics of Rawalpindi/Islamabad.

Firstly frequencies and percentages were obtained for demographic variables within the entire sample to develop a better understanding of the sample characteristics (Table 1). Then the Alpha Reliability Coefficients were computed on Post-Traumatic Growth Scale, Impact of Events Scale and Perceived Social Support Scale. The alpha reliability ranges from .75 (PTGI) to .92 (Social Support Scale from Family). For PTGI, the alpha reliability was .75 which is acceptable. For perceived social support scale, it ranges from .82 to .92 which is good whereas for impact of events scale, it ranges from .78 to .83 which is also acceptable (George & Mallery, 2003). The alpha reliability of perceived social support scale from Work Environment is exceptionally low because of the low sample size of working women. Thus, the reliability estimates of the measures used ranged from acceptable to good which shows that all the measures gave consistent scores throughout the sample. Prior to studying hypotheses, an initial exploration of the data was conducted through descriptive statistics for screening the primary study variables in order to check trend in responses and also for normality (Table 2). The values of skewness values were quite negative which shows that high scores are present in the distribution. This may be because the sample of the present study was sensitive as the participants experienced a trauma, thus their responses were more inclined towards high values. The scores of all the measures were normally distributed which indicates that the responses were relatively evenly distributed on both sides of the mean.

Regarding hypothesis testing, the first hypothesis i.e., perceived social support is the positive predictor of PTG has been supported by the results and indicated that perceived social support and its subscales predict PTG such that PTG occurred because of perceived social support obtained from different sources i.e., family, friends, relatives, and work environment and uniquely accounted for 11% of the variance in PTG (Table 4). This result was similar with many previous findings that perceived social support predicts PTG and it is important for development and sustainment of PTG. Tedeschi and Calhoun (2004) claimed social support to be integral in their model of PTG progression, asserting that it facilitates growth outcomes following initial distress reactions. They stated that social support is a direct predictor of positive change after a crisis. In a retrospective study of Holocaust survivors, Lev-Wiesel and Amir (2003) found that social support was related to PTG in the area of new

possibilities. Social support is also predictive of PTG among Gulf War veterans (Maguen, Vogt, King, King, & Litz, 2005), cancer patients (Tanriverd, Savas, & Can, 2012), and cancer survivors (Weiss, 2004).

Graff-Reed (2004) also found that following a traumatic event, availability of the most essential component which may help in all aspects of recovery is social support, suggesting that succeeding adjustment and psychological growth influenced the individual and event characteristics of a trauma by the mechanism of social support. Thus, with the help of social resources, individuals muster effective coping strategies and the event is redefined in a more positive light.

The possible explanation of such results could be the narrow social context within which miscarriage occurs. Unfortunately, those who have experienced a miscarriage often feel that the subject is taboo, and that there are very few people to whom they can talk comfortably about their loss. Often women who experienced a miscarriage feel isolated and lonely, particularly when others around them are having babies. In such a situation, social support from immediate family members and friends is very much important which would help in coping with the feelings of guilt and loneliness. Thus, women who miscarry will experience lesser worries and hopelessness which in turn will lead to optimism and growth.

The second hypothesis i.e., subjective distress of trauma is negatively related to perceived social support has been partially supported for women who experienced miscarriage. The results in Table 3 show the partial support of this hypothesis as perceived social support from family and relatives is negatively correlated to intrusive symptoms of miscarriage experienced by the women. Previous studies have shown that lower social support is related to more distress (Thompson et al., 2000) specifically PTSD (Dirkzwager, Bramsen, & Ploeg, 2003; Neria, Solomon, & Dekel, 1998; Pfeifer, 2011; Widows, Jacobsen, & Fields, 2000). Carpenter (2006) also concluded that perceived support from friends and perceived availability of social resources appeared to protect patients from traumatic stress symptoms. As far as miscarriage is concerned, identical results have been found in a study concluding that lack of support from immediate support sources will result in psychological morbidity following miscarriage and other traumatic events (Dyregrov & Matthiesen, 1987). Thus, more intense and prolonged grief reactions have been found in women who perceived less support from their social set-up (Hughes & Riches, 2003). These evidences are in accordance with the second hypothesis which has been partially supported in the present study.

Unfortunately, literature has reported that society often views miscarriage differing from other child losses, as insignificant event, which is likely to cause mothers feeling alone and invalidated in their grief (Bennett, Litz, Sarnoff Lee, & Maguen, 2005). Family and friends, who were supportive during the pregnancy, may withdraw their support from bereaved parents because they may not know how to offer condolences or deal with the loss. People are unfamiliar from how to respond and cannot relate themselves to those parents who have experienced a loss; therefore, a common reaction is to say nothing (Rajan, 1994). Following a miscarriage, social integration is a function in which one feels that he belongs or is part of a group suggesting that individuals may get support in an effective way from the support groups after experiencing such trauma. There is a need to shift societal attitudes toward miscarriages such that there should be less inhibition involved in discussing it openly so that women who miscarry may feel less alienated and distressed following miscarriage. Research also emphasized upon the role of social support as it has been concluded by Van and Meleis (2003) that when friends and family were supportive and available to the mother, their existence was so significant that there was no need to seek additional aid through counseling or support groups after miscarriage.

The third hypothesis i.e., women with moderate level of subjective distress of miscarriage have more PTG than with mild and severe levels was not supported in the current research as nonsignificant differences were obtained on PTG with respect to different levels of intensity of the trauma experienced (Table 5). Therefore, the assumption that low and high level of traumatic stress results in lower PTG and moderately experienced subjective distress is optimal for experiencing PTG was rejected. In the previous researches inconsistent findings have been obtained regarding this relationship. Many researches concluded curvilinear relationship (Levine, Laufer, Hamama-Raz, Stein, Solomon, 2008; Solomon & Dekel, 2007) which is actually the equivalent explanation of current assumption; on the other hand researches also found that no significant relationship is present between subjective distress and PTG (Kira et al., 2013; Schexnaildre, 2011).

It may be that duration since last miscarriage and method of measurement which contributes towards the nonsignificant finding. It is believed that process of growth is not triggered by the trauma itself; rather, it is the individual's effort to strive for benefit finding out of the adverse impact of the trauma on their lives (Tedeschi & Calhoun, 2004b). Another theory of PTG claimed that illusory component of PTG is unrelated to distress unless it interferes with coping strategies (Zoellner & Maercker, 2006). The incongruity in the concept of PTG has been acknowledged in the literature showing that the relationship between PTG and PTSD is complex (Solomon & Dekel, 2007). Hence, there is a need of further testing of non-linear associations between PTG and subjective distress of the trauma. However, the finding of significant relation will be encouraged and suggests that researchers should further uncover the true nature of relationship between these two variables.

An additional analysis was also done with the help of stepwise linear regression analysis for studying the relationship between different support sources and the subscales of PTG in order to analyze the nature of perceived social support that predicts certain type of PTG. The results in the Table 4 show that perceived social support from Friends is contributing a significant change towards Appreciation of Life domain of PTG. The possible explanation for such results might be because of the considerable role friends play in one's life either he is married or not. Experiencing miscarriage and consequently all the sufferings which accompanied such loss, friends often play a very important part by giving the much needed support and strength needed. Their presence helps to appreciate life in a more positive and better way. As far as the role of family is concerned, the results in Table 4 shows that perceived social support from family members contribute a significant change towards New Possibilities domain of PTG. Family members can provide support in a number of ways; majorly in helping the individual to search out for new and alternate options that can help her to cope with the loss. Also, Perceived social support from relatives predicts Personal Strength among women who experienced miscarriage as shown in Table 4. In our society, these are the relatives who actually gossip about the unfortunate mother rather than understanding her situation. The results shown that if enough support is provided by them than the sufferer can recognize her personal strength, thus helping her in struggling out of the trauma.

### *Implications of the Study*

The present piece of work is a significant contribution towards trauma research and how experiencing trauma facilitates the healing process. Many significant findings have been obtained that can be implied in this prompting field of research such as:

1. The study will be helpful in the field of mental health especially psychiatrists, psychologists, and social workers; they can understand the feelings, needs, and desires of women who experienced miscarriage.
2. It may also have significance in the field of trauma counseling. It will be helpful for therapists and special health practitioners to understand the possible effects of miscarriage and probable changes that may occur in the cognitions of women after experiencing such incident.
3. It is suggested to the therapists and counselors to assess the risk factors predisposing to psychological morbidity for miscarrying women: e.g. a history of psychiatric illness, prior pregnancy loss, childlessness, lack of social support, and poor marital adjustment in order to have a complete history which would help in the treatment process.
4. So far a great deal of research is dedicated to the investigation of negative outcomes following a trauma and the concept of PTG is still in its initial phase of exploration. So, the findings of this study has implications in research setting by suggesting examination of further aspects of PTG which remain unanswered in the current study.

### **Limitations and Suggestions**

Every research, no matter how well it is conducted, has some limitations. The present study has certain limitations that should be taken into account while considering its results and contributions. The sample was relatively small and non representative of the whole population. It is suggested that for future research, the sample size should be increased and if possible Random sampling should be used. The data was collected from Gynea OPD's of Government hospitals and clinics of Islamabad/Rawalpindi, where most of the participants belong to low or middle socio-economic status, thus the results obtained represent only limited social class. It is recommended to include participants from higher socioeconomic status also for future researches. The measure used for assessing PTG was a short version because of time constraints. It was observed during analysis that if the actual version was used than more rich findings would be obtained. Future researchers should be careful

while selecting the instrument. Sample was collected from Gynea OPD where it was not possible to avoid environmental distractions that might affect the responses of the participants. It is suggested that PTG should be studied with other variables such as coping styles, rumination process, experiential avoidance of trauma, hope, and resilience and also with varied samples who experienced trauma other than miscarriage because it is a complex emerging phenomena having many questions which still needs to be answered. Certain advanced statistical analysis such as Multiple Regression Analyses is suggested to study the combine effect of predictors which was not conducted in the present research. The present research only employs quantitative measures. Qualitative tools of assessment may also help in exploring the in-depth process of PTG with perceived social support.

In conclusion, results revealed the predictive role of perceived social support for PTG. Perceived social support was found to be partially negatively related to trauma. It was found that women with moderate level of subjective distress of miscarriage did not experience more PTG than with mild and severe levels. Because research into PTG is still in its early stages, these findings can raise more questions than they answered. It is hoped that the current study will be a positive addition to the literature and motivate future researchers to explore in greater detail the experience of positive growth in those who find themselves facing traumatic events such as bereavement or loss of a loved one, etc.

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