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A QUALITATIVE STUDY ON POSTTRAUMATIC GROWTH PROCESSES IN TRAUMA VICTIMS: EVIDENCE FROM PAKISTAN

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SUMMARY

Background: *A disaster is a traumatic event that many people may have witnessed and had various implications on their mental and physical wellbeing. Psychologists have confirmed the fact that the traumatic event contributes not just to stress but also to posttraumatic growth (PTG), which evolves through the attempt to reunify after trauma or accident has disrupted fundamental life expectations. This study was conducted to explore and understand the factors leading to PTG among victims of disasters.*

Subjects and methods*: Thirty victims who experienced traumatic events were included in this study. Data were collected through semi-structured interviews.*

Results: *Themes created include closeness to God (Allah), acceptance, contentment, self-reliance, a vision of life, and responsibility as necessary factors leading to PTG. The highest percentage (88.1%) was observed for closeness to Allah and within that Salat and Zikr (prayers and remembrance) as coping strategies were recorded for all 30 participants.*

Conclusion: *The findings show that religious beliefs and closeness to God can bring great changes in victims' life after a traumatic experience.*

Key words: *posttraumatic growth (PTG) – trauma – victims – disasters - qualitative investigation - Islam - Salat - Zikr - Pakistan*

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INTRODUCTION

Over the last four decades, natural hazards such as earthquakes, flooding, hurricanes, and cyclones have caused substantial loss of human lives (United Nations International Strategy For Disaster Reduction 2002). A disaster is a traumatic incident that many people may have witnessed and had various implications on mental and physical wellbeing (Asnakew et al. 2019). Disaster could be natural or human-made, both types negatively affect human lives as well as their properties and livelihood. Earthquakes, floods, landslides, volcanoes, hurricanes, tornadoes, tsunamis, and other such hazards are natural disasters that have led to colossal loss of properties and lives. Human-made disasters are disasters that may be smaller in magnitude but have increased in frequency. Some of the examples are wars, civil wars, terrorism, nuclear disasters, industrial disasters etc. Accidents are also among human-made disasters that cause loss of lives and properties. Across the world, there are some workplace accidents, which also has an environmental impact. Some of the examples are the Bhopal Gas tragedy in India, the Chernobyl nuclear disaster in the Soviet Union, and the Rana Plaza tragedy. The Rana Plaza tragedy in Bangladesh is one of the deadliest industrial disaster in the history of apparel sourcing (Islam et al. 2017) killing approximately 1500 people.

The negative physical and cognitive impacts of natural and human-made disasters on victims are well reported (Galea et al. 2005). The extent of the disaster effects and the interpretations of the disaster by the survivors, the post-disaster situation, and survivor coping mechanisms have been connected with stress (Bolton et al. 2003, Chen et al. 2001). The posttraumatic growth (PTG) - "the transformative positive change that can occur as a result of a struggle with great adversity - has been a focus of interest for psychologists for more than two decades" (Maitlis 2020, p. 395). Positive transformation after traumatic experiences has empirically been exhibited in survivors of sexual assault and violence (Bakaitytė 2019. Kaye-Tzadok & Davidson-Arad 2016, Ullman 2014), natural and human-made disasters (Cao et al. 2018, Karanci & Acarturk 2005), wars (Lahav et al. 2017, Stein et al. 2018) and severe diseases (Cormio et al. 2017, Rezaei et al. 2017). It is generally accepted that traumatic experiences will devastate one's core values and negatively impact one's (trauma survivors) sense of self-esteem and beliefs (Janoff-Bulman 2004). Nonetheless, an increasing number of studies show that dealing with trauma will lead to PTG (Calhoun & Tedeschi 2014, Joseph & Linley 2008, Tedeschi & Calhoun 2004). Lately, psychologists have confirmed the fact that the traumatic event contributes not just to stress but even to the PTG, which evolves through the attempt to reunify after trauma or accident has disrupted fundamental life expectations (Zięba et al. 2019). Tedeschi & Calhoun (2004) established a model of PTG and defined it as positive psychological change experienced after struggling with highly challenging life situations. PTG can express itself in numerous ways, including greater confidence in personal power, a more positive social interaction with others, an increased understanding of potential possibilities in life, increased happiness in life, and a stronger sense of spirituality.

Hence, PTG will contribute to a broader understanding of worldly wisdom and good agreement with life (Jayawickreme & Blackie 2014, Ragger et al. 2019, Tedeschi & Calhoun 2004).

PTG is said to be governed by the incident's nature, temperament, managing emotional stress, assertiveness, negative thinking, socio-cultural effects, cognitive processes, recovery period, and religiosity and spirituality. PTG is not a direct product of trauma; instead, individuals develop this after dealing and competing for trauma (Şimşir et al. 2018). Some studies have shown that PTG depends on variables such as religiosity and spirituality (Khalaf et al. 2015, Seyed Bagheri et al. 2020, Subandi et al. 2014, Tsai et al. 2015).

Traumatic experiences can make a person learn lessons and acquire new skills that he/she did not have before. The activities may also inspire a person to have a happier personality and social life, ultimately leading him/her to develop and evolve in a meaningful way to become a stronger person (Subandi et al. 2014). Recently, Sinding Bentzen (2019) proposed a religious coping hypothesis. According to the hypothesis, individuals depend on religious values and rituals to appreciate and cope with intolerable and unforeseeable circumstances. Despite the diversity of religion, various elements of religion have been used to study PTG. Factors of inherent and extrinsic religiosity are the most commonly used factors in religious research. Broadly speaking, intrinsic religiousness refers to a strong faith in God and an intimate engagement with Him, while extrinsic religiousness describes larger social and personal ramifications of being related to a place of worship (Shaw et al. 2005). Religious coping includes religious-based perceptual, mental, behavioral, and emotional reactions towards life and circumstances. For example, Muslims have many culturally-based views on psychiatric trauma and recovery. They tend to believe events that occur in their life are predefined, predestined, and already written in their fate (Berzengi et al. 2017). Moreover, it is a common belief among Muslims, if anything bad happens in one's life that usually is the sign of forgiveness from Allah. Whereas, when something good happens that primarily considered as His reward and blessings. Accordingly, Muslims should stay firm in hardship with patience, persistence, and nonindulgence (Khan et al. 2009).

Since Islam plays a key role in determining people's perceptions and coping mechanisms, Islam could probably affect the PTG adjustment of Muslims (Ali et al. 2004, Hasanović & Pajević 2010, 2013, 2015, Pajević et al. 2007, 2017). In studying mind-body relationships, Yücel (2010) suggested Muslim prayer helps to overcome the difficulties in life, relieves stress and depression, and relying on divine help and guidance (Yücel 2010). Practices in Islam such as Salat [prayers] and reading Qur'an [the holy book] play an important role in treating psychological disorders and increasing PTG (Masoodi & Maqbool 2017). Previously, various studies have focused on the role of religious belief in PTG (Askay & Magyar-Russell 2009; Azizzadeh Forouzi et al. 2018; Goutaudier et al. 2017; Russano et al. 2017; Şimşir et al. 2018). However, there is a lack of comparative studies on PTG. There is still no study in the previous literature in which the process of PTG is intended to find out both in human-made disasters and natural disasters at the same time. Furthermore, there is limited research conducted in Pakistan in the area of PTG, very prone to human-made and natural disasters. There is a need for exploring and understanding all factors leading to PTG in victims of human-made and natural disasters in a single study. Therefore, the purpose of the present study is to conduct an in-depth qualitative study to understand all factors leading to PTG and inductively develop a model of PTG.

There are a variety of implications and applications for studying PTG (Calhoun & Tedeschi 1999). First, increased research in PTG will add to our still-evolving understanding of the impact of trauma on life. For example, there is a school of thought focusing on that a dimensional approach to posttraumatic stress disorder (PTSD) would be preferable to current dichotomous diagnostic criteria (McNally 2004). Secondly, it is more helpful for therapists in assisting their clients to identify and maximize any positive impact of any adverse life experiences. This approach is opposite to the traditional techniques that often focus on the pathological elements of trauma. Third, PTG can be incorporated into existing trauma treatments which may lead to improved outcomes. Finally, finding out the process of PTG will be helpful for the governmental and non-governmental organizations (NGOs) working for the rehabilitation of trauma victims of human-made and natural disasters. In short, beside theoretical contribution to the existing literature, the findings of the present study will be helpful for rescue workers, health professionals, rehabilitation services providers, direct or indirect informants of trauma who has either directly faced the trauma or just heard or seen such disaster through media. The readers of this article can benefit from the findings of the study if they have faced any type of trauma themselves or got disturbed due to indirect trauma exposure.

This study was conducted to explore and understand the factors leading to PTG among victims of disasters.

SUBJECTS AND METHODS

Subjects or participants

The study group consists of 30 trauma victims of human-made disasters (bomb blast) and natural disasters (earthquake and victims of the flood). There were 5 males and 5 females in each category. In the current study, we aimed to include victims who experienced trauma at least six months before because the time duration of bereavement or overcoming the grief period is at least six months (American Psychiatric Association 2013) and the growth process is only possible after bereavement period.

Study design

A phenomenological design, defined by Yıldırım & Şimşek (2013), was used in the current study, in which we focused on phenomena that we are familiar with but do not have detailed knowledge for that. Furthermore, phenomenological study design is intended to illustrate the experiences of a few people imputing facts or notions (Creswell & Poth 2016). To do that, we carried out a qualitative study that enables researchers to gather detailed data with a limited number of participants (Yıldırım & Şimşek 2013). In the present study, the phenomenological approach was used to obtain rich narratives from the participants who had first-hand experiences of the phenomena i.e., who had gone through trauma of any kind (either natural or human-made). The phenomenological approach allows exploring the lived experiences of the phenomenon (Bogdan & Biklen 2007). In the present study, the focus of the phenomenological research was to explain commonalities of the experiences across the sample.

Data collection and interview protocols

The semi-structured interview is one of the most preferred methods to get deeper knowledge and providing self-expression (Şimşir et al. 2018). For reliability purposes, the literature was reviewed in the beginning and the questions were prepared based on selected themes and subthemes. Due to the nature of the qualitative research emergent themes were allowed to emerge from the data. The interviews were conducted by the first author and typically lasted about 45 to 50 minutes. They were audio-recorded and transcribed thereafter. In the current study, a semi-structured interview format was used.

The questions of the study are given below.

- How did you cope with the pains and problems that you experienced?
- What did you learn from these pains and problems?
- What kinds of changes have you experienced in your personality?
- Has there been any change in your vision of life?

Selected participants were briefed about the aims and objectives of the present study. It was not easy for the majority of participants to communicate their experiences directly at the start of the interview. Later, when the element of confidentiality was assured, they became more comfortable with the interview process and were able to talk more about their experiences freely. Names have been hidden to avoid being identified in quotations and ensure the participants' confidentiality. Data analysis was arranged in four steps. The first step was data transcription and researchers repeatedly read the transcripts to determine their themes and sub-themes. In the next step, researchers went through all the answers and noted down themes and sub-themes. Themes were defined in the third step and sub-themes best representing main themes were determined in the final step.

RESULTS

In this section, themes and sub-themes of disasters' survivors are mentioned (Table 1). The highest percentage (88.1%) was observed for closeness to Allah (only one God) and within that Salat (obligated prayer five times daily) & Zikr (remembrance) as coping strategies were recorded for all 30 participants. The lowest score was recorded for the responsibility theme whereas vision of life and self-reliance scored equally with 86.7%. Subthemes with the highest percentage include life is unpredictable and mortal (100%) followed by Allah helps to cope with suffering, acceptance of Allah's will, and patience/tolerance with 96.7% for each sub-theme.

Major Themes

Closeness to Allah

Participants described a deeper engagement with religion and existential actions. Salat & Zikr have been documented as PTG's initiative among participants that helped establish a deep personal relationship with Allah after a traumatic situation. The rest of the sub-themes in this category are based on Salat & Zikr that increase one's faith and gratitude towards Allah and ultimately help to minimize the level of suffering from grief.

I experienced death very closely, I was almost drowned in muddy water that was filled up to the roof and people saved me. After an hour or so when I realized I am alive, I thanked Allah and that's when I started to offer prayers to be closer to my Allah (Flood).

All of our villages were devasted and we lost everything and had nothing to eat. The only thing that kept us alive was our belief in Allah and our prayers strengthen us (Earthquake).

When I lost my husband in a bomb attack, I was in great pain and lonely. I continued my prayers and got closer to Allah (Bomb blast).

Acceptance

In this sample, the score of the theme "acceptance" was 85.6%, indicating that a large number of participants stated about the value of accepting reality even though it was very painful. In reality, acceptance was very much linked to the belief that whatever happened in one's life is planned by Allah and no one can deny this fact.

I have no question or doubt, whatever happened to us because it was written in our fate by Allah (Flood).

Everything is done by the will of Allah; we just have to live with it. He knows better! (Earthquake).

I know without any further arguments that some people want us Muslims to divide on sectarian grounds. But for us, it's all written by Allah (Bomb blast).

Table 1. Frequency table of themes and sub-themes of interviews

Main Themes	Percentage of themes (%)	Subthemes	Frequency (%)
Closeness to Allah	88.1	Salat & Zikr	30 (100)
		Spirituality	24 (80)
		Faith in Allah	28 (93.3)
		Allah helps to cope with sufferings	29 (96.7)
		Gratitude to Allah	27 (90)
		Follow Prophets as Role Model	21 (70)
		Allah compensates grieves and losses	26 (86.7)
Acceptance	85.6	Will power	23 (76.7)
		Acceptance of reality	25 (83.3)
		Acceptance of Allah's Will	29 (96.7)
Contentment	81.7	Positive Thinking	20 (66.7)
		Go Forward	25 (83.3)
		Be alive and contented (Strength)	24 (80)
		Patience / tolerance	29 (96.7)
Vision of Life	86.7	A vision of life changed	25 (83.3)
		Life is unpredictable and mortal	30 (100)
		Death is a reality	23 (76.7)
Self-reliance	86.7	Self-respect	25 (83.3)
		Independency	27 (90)
Responsibility	70	Owning responsibilities	19 (63.3)
		Being a responsible person gives strength	23 (76.7)

Source: Authors

Contentment

Contentment is the feeling of gratification and satiation on whatever we have, and no grievance on whatever we don't have. Around 81.7% of study participants reported the feeling of contentment that is considerably high. As per their verbatim, contentment is attained by the help of positive thinking, patience or tolerance, being contended, and keep going in life even after a disaster. These elements help in psychological growth after trauma.

Loss is done by Allah; must be better for me I believe. In any case, we should be tolerant and be patient (Flood).

We shouldn't lose hope, be courageous, share courage with others, and think forward. Everything is done by the will of Allah, even the loss, for any betterment. Keeping these things in mind we were strong enough to face any kind of calamity (Earthquake).

One way to overcome grief is by having positive thinking, as I did. Even this disaster was by the will of Allah…but we are supposed to think positively about such incidents. We should be contented with Allah's will and I believe that grieves make us stronger. Therefore, we should think positively (Bomb blast).

Vision of Life

This theme was significantly found in the verbatim of 86.7% of the study participants. They have lived across two different dimensions; life before trauma and their lives after suffering from trauma. They indulged in the thoughts and emotions related to the loss they suffered in this course. On the opposite, they learned to be optimistic, rehabilitate confidence, and for some, it was a general sense of gratitude.

I have seen a very cruel aspect of life…when the flood came there was nobody to help us…neighbors were also suffering from the same problem…a sense of helplessness was at the spot. I have seen death very closely as I was near to drawn (Flood).

The aim of my life has entirely changed…now I just help the people who are facing illness or any calamity….in this way I get satisfaction…because life is near to an end…and my deed will be my asset for the next world (Earthquake).

Life has entirely changed…. everything changed… I have lost my husband……got a misery…. shallowness inside me (Bomb blast).

Self-reliance

Another main contributor to PTG among participants was self-reliance. Around 86.7% of them expressed the feeling of self-reliance. Participants believed that no one would stand behind individuals in the miserable situation of life and a person should learn to be independent and self-sufficient.

I think we should keep our worries to ourselves and don't share them with people and shouldn't depend on other people. We must keep going and never lose hope. Just respect others and rely on ourselves. I suggest these to other sufferers too (Flood).

No, regardless of the situation we shouldn't rely on others. What we experienced in the earthquake was a life lesson for us to realize that it's not the end of the world and we must continue our lives and not depend on others, positively. In a situation like this, everyone is in the same boat (Earthquake).

Table 2. Theme-wise Comparison between Human-made Disaster and Natural Disasters

Themes	Human-made disaster (n=10)		Natural disaster (n=20)		Difference (%)	p
	N	(%)	*N*	(%)		
Closeness to Allah	6	60	14	70	10	0.000
Acceptance	6	60	15	75	15	0.000
Vision of Life	5	50	16	80	30	0.000
Contentment	7	70	15	75	05	0.000
Self-reliance	6	60	18	90	30	0.000
Responsibility	8	80	17	85	05	0.000

Source: Authors

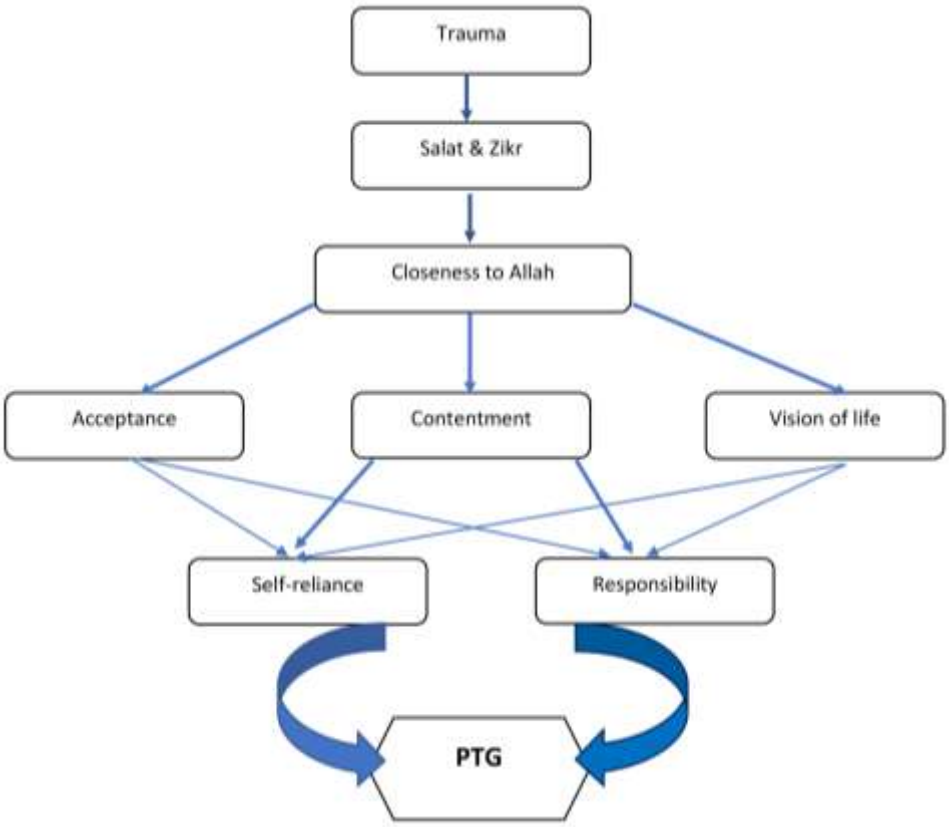

Figure 1. Conceptual Model of PTG (Authors' work)

Expecting help from people is simply a question of one's honor. We should never expect from others because expectations break our heart when people don't fulfill. We then get indulge in self-defeating thoughts and it hampers our psychological growth (Bomb blast).

Responsibility

Owning responsibilities and being a responsible person in a family increases one's ability to tackle the entire situation with great faith. For this, a person must stay optimistic despite all he/she has faced in life and after tragic suffering, this plays a contributing role in the PTG.

After my mother-in-law died in the flooding, I had to take all responsibilities of her (Flood).

After the death of my mother in the earthquake, my father took full responsibility for us and did things that he never did in his whole life. He adopted the dual role of parenthood (Earthquake).

Since the death of my husband, I have to pay all duties and behave like the father of my children. Because there was no one else who owned the responsebilities of my children (Bomb blast).

It was really challenging to integrate diverse themes into a more coherent model and in terms of linkages with each other. After reviewing and establishing the relationships among all themes a model presented in Figure 1 was inductively derived from the data.

Figure 1 shows the process of PTG processes and the interaction of various themes in this regard. When a trauma victim accepts the traumatic event as happening by the will of Allah, it leads him/ her towards the 'Closeness to Allah'. "Closeness to Allah" is achieved through Salat and Zikr. Furthermore, the empirical model derived from the data reveals that Salat and Zikr has an indirect effect on PTG. Notably, this PTG model illustrates that Salat and Zikr lead to a closeness to Allah which itself is connected with

various interrelated factors leading to PTG. Those interrelated factors include acceptance [of reality], contentment and vision of life. Contentment itself leads to reliance and a sense of responsibility among survivors. All these direct and indirect relationships lead to PTG among trauma survivors.

Comparison of PTG processes between human-made and natural disaster victims

The level of PTG is assumed to be dependent on the type and severity of the traumatic event. Overall, the rate of all themes was high for the victims of natural disasters as compared to their counterparts. This may be because a person often believes that natural catastrophe happens entirely with Almighty Allah's intervention and that eventually brings him/her closer to Allah and develops feelings of acceptance and contentment. However, human-made disasters are the result of deliberate bad actions of humans (Table 2).

Following prepositions have been derived from the interpretative analysis of data and model:

- There is a correlation between PTG and religious beliefs in the victims of natural and human-made disasters in Pakistan. Victims' coping strategies were categorized as closeness to Allah (based on Salat and Zikr), acceptance, a vision of life, contentment, self-reliance, and responsibility.
- The highest percentage (88.1%) was observed for closeness to Allah and within that Salat and Zikr [prayers and remembrance] as coping strategies were recorded for all 30 participants. The findings show that religious beliefs and closeness to the God can bring great changes in victims' life after a traumatic experience.
- Most of the trauma victims of human-made disasters and natural disasters have PTG after facing severe trauma. No participants rejected the idea of PTG.
- The process of the growth in victims of human-made disaster and natural disasters is the same.
- The level of PTG is assumed to be dependent on the type and severity of the traumatic event as there is a high level of PTG in the victims of natural disasters as compared to the victims of a human-made disaster.

DISCUSSION

The present study discussed various aspects of PTG and analyzed the interaction between frequently involving variables/constructs in the PTG mechanism, but in a different way. Salat and Zikr are an integral part of the current model. Religiosity is a subject of concern for PTG analysis since it has been identified as a central factor that can influence an individual's level of cognitive functioning after a trauma (Acquaye 2017). In the current model, Salat and Zikr act together with PTG in predicting outcomes such as positivity and quality of life.

"Salat" is an Arabic word that means prayers. Salat is the second pillar in Islam (Koubaa et al. 2020) and five times 'Salat' is mandatory for all Muslims ((Pajević et al. 2017; Osama et al. 2019). Zikr is a Persian word widely used interchangeably for the Arabic term "dhikr". Zikr means "remembrance" (Abuali 2020) or "recollection" signifying the invocation of God [Allah] referring to "remembrance of God [Allah] by heart (Dastagir 2018). This practice of remembering Allah is based on meditation that can be done individually or collectively (Sulistyawati et al. 2019). Zikr encompasses prayer, supplication, worship glorification and recitation (Abdul-Hamid & Hughes 2015, Dastagir 2018). Considerable mind/body research has been conducted on the correlation between mental states and neuro-endocrinological function (Newberg et al. 2003). Only a few studies were conducted on Muslim-based religious practices and their stress reduction and life-enhancing qualities (Pajević et al. 2017, Saniotis 2018). Thus, in the context of the present study, it is hypothesized that Salat and Zikr would mediate the relationship between trauma and PTG. The PTG has been explored among Muslims in recent studies (Rezaei et al. 2017, Seyed Bagheri et al. 2020, Şimşir et al. 2018). There can be a sequential relationship among the six constructs starting from trauma leading through religiosity ultimately resulting in PTG in line with the psycho-spiritual model of Bray (2013). This Psycho-spiritual transformation model of PTG has recently been empirically tested by (Khursheed & Shahnawaz 2020) to assess the relationship between trauma and PTG in parents who lost their children in Kashmir. According to this model, trauma does not shatter the fundamental beliefs but instead leads to spiritual growth, but in the case of our study, we considered religiosity instead of spirituality as in Islam both phenomena are inter-related. Consistent with the studies of Bray (2013) and Khursheed & Shahnawaz (2020), the present study showed a correlation between PTG and religious beliefs in the victims of natural and human-made disasters in Pakistan. Victims' coping strategies were categorized as closeness to Allah (based on Salat and Zikr), acceptance, a vision of life, contentment, self-reliance, and responsibility. All themes scored between 70-88.1% and no participants rejected the idea of PTG.

From a systematic review, Shaw et al. (2005) found that faith and spirituality are generally useful for people in coping with the effects of a stressful experience, and that optimistic religious concept is commonly correlated with PTG. Similarly, the positive association of religious coping with PTG is also reported by Gerber et al. (2011). They concluded that religious participation and/or spiritual activity is usually correlated with greater psychological well-being. In line with our study is the study of Karanci & Acarturk (2005), who studied PTG and their relation to coping and hope among Marmara earthquake survivors in Turkey. Their results revealed that positive coping and a fatalistic attitude were linked to PTG and that those who trusted in

destiny could tolerate the calamities better. Similar to Henslee et al. (2015), we found that positive religious coping decreases depression and improves the quality of life. These findings are consistent with earlier research showing religious coping with positive psychological change (Ano & Vasconcelles 2005, Sipon et al. 2014).

Spirituality through prayers, belief in Allah, knowledge, kindness, and courage may turn the feelings of depression into a more optimistic drive for mental growth (Subandi et al. 2014). Such results are consistent with our observations, in which victims believed that Salat and Zikr were the basic motivation factors that allowed them to stay hopeful despite the circumstances they faced. Pajević et al. (2017) compared the outcomes of Bosnia–Herzegovina war among war veterans who prayed/did not pray and who did not suffer the mental disorders after the war. They found emotional conflicts to be resolved effectively in war veterans who followed religion than their counterparts who did not practice religion. Furthermore, Yücel (2010) was of the view that Muslim prayer (Salat) serves as a foundation for overcoming the demands of life, minimizing anxiety/ depression while promote to depend on Divine support and help (Yücel 2010). Present scientific studies into religious-based mindfulness practices demonstrate a beneficial impact on psycho-physical well-being and treating chronic stress conditions (Gonçalves et al. 2015, Grossman et al. 2004).

An interesting finding of our study was that all the participants indicate the practice of Salat and Zikr which could be highly associated with PTG. Zikr (remembrance of Allah) is a meditative activity that can be carried out personally or jointly where Salat is an integral part of Zikr and an important feature of living a holy life. The Qur'an (18:24; 2:152; 33:40) instructs Muslims to honor Allah all day and all night (Geels 1996). Studies on the effect of prayers in psychotherapy have shown positive outcomes in individuals with psychiatric conditions such as stress, depression, and anxiety (Abdullah et al. 2012). Psychological literature of previous studies has also established that observing religious practices improve mental health (Koenig et al. 2001). Ijaz et al. (2017) have reported that Muslims who regularly offer Salat have improved mental well-being relative to those who do not regularly offer it (Ijaz et al. 2017). The study by (Doufesh et al. 2014) observed a positive change in the functioning of the nervous system following Salat where an increase in parasympathetic activity and a decrease in sympathetic activity would lead to relaxation and thereby reduce the stress. Several scholars explored the medicinal implications of Salat in addition to the degree to which it facilitates psycho-physical health (Reza et al. 2002; Sayeed & Prakash 2013). It may also be proposed that Salat contributes to a rise in brain-derived neurotrophic factor, which results in neuroprotective and neurotrophic benefits and ultimately contributes to the antidepressant action (Saniotis 2018). Moreover, it was observed in the present study that the rate of PTG was higher among victims of natural disasters as compared to those who experienced human-made disasters. This may be attributed to the positive coping of fate, a strategy that requires acceptance and is related to growth. However, the approach of fate may be less accepted when the traumas are related to human-made disasters.

CONCLUSION

The current study aimed to observe the PTG among survivors of natural and human-made disasters in Pakistan. Different themes such as closeness to Allah, acceptance, contentment, vision of life, self-reliance, and responsibility were generated after the interview. However, Salat and Zikr were mainly considered as the important coping strategies for PTG among the study participants. Therefore, we propose that religious beliefs are the central move to achieve positive changes in personality following stressful experiences. All other themes were also linked indirectly with the religious factors, for example, acceptance of Allah's will.

Limitations

This was a cross-sectional analysis with a limited number of participants, which raised the problem of generalization of results. A longitudinal study may be needed to obtain comparable results over time. Besides, all participants have the same religious beliefs and common cultural values and backgrounds. Identical types of samples with different religious views would probably present a different perspective of PTG.

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Contribution of individual authors:

Samra Zubair Lodhi: Idea conceptualization, data collection, analysis, and initial draft.

Seema Gul: Literature review, project supervision, analysis, and review.

Amira Khattak: Method, findings, discussion, and final draft.

References

1. *Abdul-Hamid WK & Hughes JH: Integration of Religion and Spirituality Into Trauma Psychotherapy: An Example in Sufism? J EMDR Prac Res 2015; 9:150-156*
2. *Abdullah CH, Ismail HN, Ahmad NSH & Hissan WSM: Generalized anxiety disorder (GAD) from Islamic and Western perspectives. World Journal of Islamic History and Civilization 2012; 2:44-52*
3. *Abuali E: Words clothed in light: Dhikr (recollection), colour and synaesthesia in early Kubrawi Sufism. Journal of the British Institute of Persian Studies 2020; 58:279-292*

4. *Acquaye HE: PTSD, optimism, religious commitment, and growth as post-trauma trajectories: A structural equation modeling of former refugees. Professional Counselor 2017; 7:330-348*
5. *Ali SR, Liu WM & Humedian M: Islam 101: Understanding the religion and therapy implications. Professional Psychology: Research and Practice 2004; 35: 635-642*
6. *American Psychiatric Association. 2013. Diagnostic and statistical manual of mental disorders (DSM-5®): American Psychiatric Pub*
7. *Ano GG & Vasconcelles EB: Religious coping and psychological adjustment to stress: a meta-analysis. J Clin Psychol 2005; 61:461-480*
8. *Askay WS & Magyar-Russell G: Post-traumatic growth and spirituality in burn recovery. International review of psychiatry (Abingdon, England) 2009; 21:570-579*
9. *Asnakew S, Shumet S, Ginbare W, Legas G & Haile K: Prevalence of post-traumatic stress disorder and associated factors among Koshe landslide survivors, Addis Ababa, Ethiopia: a community-based, cross-sectional study. BMJ Open 2019; 9:e028550*
10. *Azizzadeh Forouzi M, Roudi RashtAbadi OS, Heidarzadeh A, Malkyan L & Ghazanfarabadi M: Studying the relationship of posttraumatic growth with religious coping and social support among earthquake victims of Bam. Health in Emergencies and Disasters Quarterly 2018; 4:55-61*
11. *Bakaitytė A: Post-traumatic growth in female survivors of intimate partner violence. Soc Work 2019; 17:209-225*
12. *Berzengi A, Berzenji L, Kadim A, Mustafa F & Jobson L: Role of Islamic appraisals, trauma-related appraisals, and religious coping in the posttraumatic adjustment of Muslim trauma survivors. Psychological Trauma: Theory, Research, Practice, and Policy 2017; 9:189-197*
13. *Bogdan R & Biklen S. Fieldwork. In Qualitative Research for Education: An Introduction to Theories and Methods: International Edition. London, United Kingdom: Pearson, 2007*
14. *Bolton EE, Glenn DM, Orsillo S, Roemer L & Litz BT: The relationship between self-disclosure and symptoms of posttraumatic stress disorder in peacekeepers deployed to Somalia. J Trauma Stress 2003; 16:203-210*
15. *Bray P: Bereavement and transformation: A psycho-spiritual and post-traumatic growth perspective. J Rel Health 2013; 52:890-903*
16. *Calhoun LG & Tedeschi RG: Facilitating posttraumatic growth: A clinician's guide. Mahwah, NJ: Routledge, 1999*
17. *Calhoun LG & Tedeschi RG:Handbook of posttraumatic growth: Research and practice. New York: Psychology Press, 2014*
18. *Cao C, Wang L Wu J, Li G, Fang R, Cao X et al.: Patterns of posttraumatic stress disorder symptoms and posttraumatic growth in an epidemiological sample of chinese earthquake survivors: A latent profile analysis. Front Psychol 2018; 9*
19. *Chen CC, Yeh TL, Yang YK, Chen SJ, Lee IH, Fu LS et al.: Psychiatric morbidity and post-traumatic symptoms among survivors in the early stage following the 1999 earthquake in Taiwan. Psychiatry Res 2001; 105:13-22*
20. *Cormio C, Muzzatti B, Romito F, Mattioli V & Annunziata MA: Posttraumatic growth and cancer: a study 5 years after treatment end. Support Care Cancer 2017; 25:1087-1096*
21. *Creswell JW & Poth CN: 2016. Qualitative Inquiry and Research design: Choosing among five approaches (4th ed.). Thousand Oaks, California, United States: Sage Publishing, 2016*
22. *Dastagir G. Dhikr/Zikr. In Kassam ZR, Greenberg YK, & Bagli J (eds.): Islam, Judaism, and Zoroastrianism, 213-215. Dordrecht: Springer Netherlands, 2018*
23. *Doufesh H, Ibrahim F, Ismail NA & Wan Ahmad WA: Effect of muslim prayer (salat) on α electroencephalography and its relationship with autonomic nervous system activity. The Journal of Alternative and Complementary Medicine 2014; 20:558-562*
24. *Galea S, Nandi A & Vlahov D: The epidemiology of post-traumatic stress disorder after disasters. Epidemiol Rev 2005; 27:78-91*
25. *Geels A: A note on the psychology of dhikr: The halveti-jerrahi order of dervishes in Istanbul. The International Journal for the Psychology of Religion 1996; 6:229-251*
26. *Gerber MM, Boals A & Schuettler D: The unique contributions of positive and negative religious coping to posttraumatic growth and PTSD. Psycholog Relig Spiritual 2011; 3:298-307*
27. *Gonçalves JPB, Lucchetti G, Menezes PR & Vallada H: Religious and spiritual interventions in mental health care: a systematic review and meta-analysis of randomized controlled clinical trials. Psychol Med 2015; 45:2937-2949*
28. *Goutaudier N, Nahi H, Boudoukha AH, Séjourné N & Chabrol H: Religious beliefs and post-traumatic growth following stillbirth in a sample Moroccan women. Eur Psychiatry 2017; 41:S724-S724*
29. *Grossman P, Niemann L, Schmidt S & Walach H: Mindfulness-based stress reduction and health benefits: A meta-analysis. J Psychosom Res 2004; 57:35-43*
30. *Hasanović M & Pajević I: Religious moral beliefs as mental health protective factor of war veterans suffering from ptsd, depressiveness, anxiety, tobacco and alcohol abuse in comorbidity. Psychiatria Danubina 2010; 22:203-210*
31. *Hasanović M & Pajević I: Religious Moral Beliefs Inversely Related to Trauma Experiences Severity and Depression Severity among War Veterans in Bosnia and Herzegovina. J Rel Health 2013; 52:730-739*
32. *Hasanović M & Pajević I: Religious Moral Beliefs Inversely Related to Trauma Experiences Severity and Presented Posttraumatic Stress Disorder Among Bosnia and Herzegovina War Veterans. J Rel Health 2015; 54:1403-1415*
33. *Henslee AM, Coffey SF, Schumacher JA, Tracy M, H. Norris F & Galea S: Religious coping and psychological and behavioral adjustment after hurricane katrina. The Journal of Psychology 2015; 149:630-642*
34. *Ijaz S, Khalily MT & Ahmad I: Mindfulness in salah prayer and its association with mental health. J Rel Health 2017; 56:2297-2307*
35. *Islam MT, Khattak A & Stringer C. A governance deficit in the apparel industry in Bangladesh: Solutions to the impasse? In Hira A & Benson-Rea M (eds.): Governing Corporate Social Responsibility in the Apparel Industry after Rana Plaza, 111-145. New York: Palgrave Macmillan US, 2017*

36. *Janoff-Bulman R: Posttraumatic growth: Three explanatory models. Psychol Inq 2004; 15:30-34*
37. *Jayawickreme E & Blackie LER: Post-traumatic growth as positive personality change: Evidence, controversies and future directions. European Journal of Personality 2014; 28:312-331*
38. *Joseph S & Linley PA: Trauma, recovery, and growth: Positive psychological perspectives on posttraumatic stress. USA: John Wiley & Sons, 2008*
39. *Karanci NA & Acarturk: Post-traumatic growth among marmara earthquake survivors involved in disaster preparedness as volunteers. Traumatology (Tallahass Fla) 2005; 11:307-323*
40. *Kaye-Tzadok A & Davidson-Arad B: Posttraumatic growth among women survivors of childhood sexual abuse: Its relation to cognitive strategies, posttraumatic symptoms, and resilience. Psychological Trauma: Theory, Research, Practice, and Policy 2016; 8:550-558*
41. *Khalaf DR, Hebborn LF, Dal SJ & Naja WJ: A critical comprehensive review of religiosity and anxiety disorders in adults. J Rel Health 2015; 54:1438-1450*
42. *Khan ZH, Sultana S & Watson PJ. Pakistani Muslims dealing with cancer: Relationships with religious coping, religious orientation, and psychological distress. In Piedmont RL & Village A (eds.): Res Soc Sci St Rel, 217-237. Leiden, The Netherlands: Brill, 2009*
43. *Khursheed M & Shahnawaz MG: Trauma and post-traumatic growth: Spirituality and self-compassion as mediators among parents who lost their young children in a protracted conflict. J Rel Health 2020; 59:2623-2637*
44. *Koenig HG, Larson DB & Larson SS: Religion and coping with serious medical illness. Ann Pharmacother 2001; 35:352-359*
45. *Koubaa A, Ammar A, Benjdira B, Al-Hadid A, Kawaf B, Al-Yahri SA et al.: Activity monitoring of islamic prayer (salat) postures using deep learning. Paper presented at the 2020 6th Conference on Data Science and Machine Learning Applications (CDMA) 2020.*
46. *Lahav Y, Kanat-Maymon Y & Solomon Z: Posttraumatic growth and dyadic adjustment among war veterans and their wives. Front Psychol 2017; 8*
47. *Maitlis S: Posttraumatic growth at work. Annual Review of Organizational Psychology and Organizational Behavior 2020; 7:395-419*
48. *Masoodi S & Maqbool S: Posttraumatic growth through Quran and sunna: Islamic perspective. International Journal of Indian Psychology 2017; 4:50-57*
49. *McNally RJ. Conceptual problems with the DSM-IV criteria for posttraumatic stress disorder. In Rosen GM (eds.): Posttraumatic Stress Disorder, 1-14. 2004*
50. *Newberg A, Pourdehnad M, Alavi A & d'Aquili EG: Cerebral Blood Flow during Meditative Prayer: Preliminary Findings and Methodological Issues. Percept Mot Skills 2003; 97:625-630*
51. *Osama M, Malik RJ & Fiaz S: Activation of the trunk muscles during Salat (Muslim Prayer). J Pak Med Assoc 2019; 69:1929*
52. *Pajević I, Hasanović M & Delić A: The influence of religious moral beliefs on adolescents' mental stability. Psychiatria Danubina 2007; 19:173-183*
53. *Pajević I, Sinanović O & Hasanović M: Religiosity and mental health. Psychiatria Danubina 2005; 17:84-89*
54. *Pajević I, Sinanović O & Hasanović M: Association of Islamic prayer with psychological stability in Bosnian war veterans. J Rel Health 2017; 56:2317-2329*
55. *Ragger K, Hiebler-Ragger M, Herzog G, Kapfhammer H-P & Unterrainer HF: Sense of coherence is linked to post-traumatic growth after critical incidents in Austrian ambulance personnel. BMC Psychiatry 2019; 19:89*
56. *Reza MF, Urakami Y & Mano Y: Evaluation of a new physical exercise taken from salat (prayer) as a short-duration and frequent physical activity in the rehabilitation of geriatric and disabled patients. Ann Saudi Med 2002; 22:177-180*
57. *Rezaei H, Forouzi MA, Roudi Rasht Abadi OS & Tirgari B: Relationship between religious beliefs and post-traumatic growth in patients with cancer in southeast of Iran. Mental Health, Religion & Culture 2017; 20:89-100*
58. *Russano S, Straus E, Sullivan FG, Gobin RL & Allard CB: Religiosity predicts posttraumatic growth following treatment in veterans with interpersonal trauma histories. Spirituality in Clinical Practice 2017; 4:238-248*
59. *Saniotis A: Understanding mind/body medicine from muslim religious practices of salat and dhikr. J Rel Health 2018; 57:849-857*
60. *Sayeed S & Prakash A: The Islamic prayer (Salah/Namaaz) and yoga togetherness in mental health. Indian J Psychiatry 2013; 55:224-230*
61. *Seyed Bagheri SH, Dehghan M & Khoshab H: Post-traumatic stress disorder and post-traumatic growth among muslim CPR survivors. J Rel Health 2020; 59:3157-3167*
62. *Shaw A, Joseph S & Linley PA: Religion, spirituality, and posttraumatic growth: A systematic review. Mental Health, Religion & Culture 2005; 8:1-11*
63. *Şimşir Z, Dilmaç B & Özteke Kozan Hİ: Posttraumatic growth experiences of Syrian refugees after war. J Humanistic Psychology 2018:1-18*
64. *Sinding Bentzen J: Acts of God? Religiosity and natural disasters across subnational world districts*. The Economic Journal 2019; 129:2295-2321*
65. *Sipon S, Nasrah SK, Nazli NNNN, Abdullah S & Othman K: Stress and religious coping among flood victims. Procedia - Social and Behavioral Sciences 2014; 140: 605-608*
66. *Stein JY, Levin Y, Bachem R & Solomon Z: Growing apart: A longitudinal assessment of the relation between post-traumatic growth and loneliness among combat veterans. Front Psychol 2018; 9*
67. *Subandi M, Achmad T, Kurniati H & Febri R: Spirituality, gratitude, hope and post-traumatic growth among the survivors of the 2010 eruption of Mount Merapi in Java, Indonesia. Australasian Journal of Disaster and Trauma Studies 2014; 18:19-26*
68. *Sulistyawati RA, Probosuseno & Setiyarini S: Dhikr therapy for reducing anxiety in cancer patients. Asia-Pacific journal of oncology nursing 2019; 6:411-416*
69. *Tedeschi RG & Calhoun LG: Posttraumatic growth: Conceptual foundations and empirical evidence. Psychol Inq 2004; 15:1-18*
70. *Tsai J, El-Gabalawy R, Sledge WH, Southwick SM & Pietrzak RH: Post-traumatic growth among veterans in the USA: results from the National Health and Resilience in Veterans Study. Psychol Med 2015; 45:165-179*

71. *Ullman SE: Correlates of posttraumatic growth in adult sexual assault victims. Traumatology (Tallahass Fla) 2014; 20:219-224*
72. *United Nations International Strategy For Disaster Reduction: Natural disasters and sustainable development: Understanding the links between development, environment and natural disasters, 2002. Available: https://www.who.int/hac/techguidance/ems/natprofiles/en/ [11/23, 2020]*
73. *Yıldırım A & Şimşek H: Scientific research methods in social sciences. Ankara, Turkey: Seçkin Publishing 2013*
74. *Yücel S: Prayer and healing in Islam: Tughra Books, 2010*
75. *Zięba M, Wiecheć K, Biegańska-Banaś J & Mieleszczenko-Kowszewicz W: Coexistence of post-traumatic growth and post-traumatic depreciation in the aftermath of trauma: Qualitative and quantitative narrative analysis. Front Psychol 2019; 10*

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