JOURNAL OF POLITICAL STABILITY ARCHIVE

Online ISSN: 3006-5879 **Print ISSN:** 3006-5860

DOI: https://doi.org/10.63468/jpsa.4.3.19

Vol. 4 No. 3 (2026)

https://journalpsa.com.pk/index.php/JPSA/about

Recognized by: Higher Education Commission (HEC), Government of Pakistan

Death Anxiety, Post-Traumatic Growth, and Mental Health of Earthquake Survivors of Union Ganji, Gilgit Baltistan

Shakeel Ahmad
Lecturer, Department of Psychology, Fatima Jinnah Women College Affiliated with Karakorum International University, Gilgit Baltistan
shakeeluajk2016@gmail.com

Arifa Batool
Visiting Lecturer, Degree Girl College Skardu, Fatima Jinnah Women College, Skardu
arfaskd01@gmail.com

Sahar Abbas
Student Counsellor, Gilgit Army Public School, Jutial
saharwalikhan55555@gmail.com

Muhammad Hassan
Lisensed Psychologist, Psychotherapy and Behavior Therapy Department, Ministry of Health, Maldives
hassanghazalian1@gmail.com

* Corresponding Author

ABSTRACT

The current study was conducted by utilizing the Cross-sectional research design of survey method to check the relationship between death anxiety and mental wellbeing and the role of posttraumatic growth between their relationship. Survey method is one of the most common methods utilized to go through quantitative method to study a specific topic. A correlation research design was used to study the relationship between the variables of earthquake survivors. The purposive sampling technique was used to collect data. The Templar death anxiety scale, Posttraumatic growth (short form) Scale and Mental wellbeing scale were used. Results statistics also show that there is a significance relationship between DE and MWB. There is

positive correlation between mediator posttraumatic growth and the mental weal being (0.586, p<0.001). In conclusion, the findings of the present study suggest that posttraumatic growth plays a significant protective role in enhancing mental wellbeing and reducing the negative effects of death anxiety among earthquake survivors.

Keywords: Posttraumatic Growth, Mental Wellbeing, Death Anxiety

INTRODUCTION

Earthquake

Earthquake is the abrupt movement of the earth crust due to the movement of the seismic ways along the rocks under the earth crust. Seismic ways are originated by outburst of the energy stored in the earth crust; it happened when the rocks slip due to the friction. Earthquakes are most common in the areas where faults are present. Fault is a small area in which different rocks have relative motion. These faults are the branches of the tectonic plates which made the earth crust. Earthquakes occur according to the belts. Various belts are Circum pacific belt, Alpide belt. Alpide belts occupied the area of Mediterranean region to Asia (Bolt, 2023).

Gilgit-Baltistan

Gilgit-Baltistan is the northern part of Pakistan which connect Pakistan to China and play a vital role in trade between both countries. It is blessed with pasture lands, lakes, mighty mountains, deserts, glaciers and rivers. Recently this area was under attack of continuous earthquakes specially the union Gungi. Why do earthquakes happen? The question was answered by the tectonic revolution in the 1960s. It is happening because of rigid plates of the earth slide past each other. Earthquake physicists attempt to answer these phenomena and separate them from the relevant natural disaster, the earthquake measured by seismic technique and seismometer. Earthquakes may be defined as an unexpected violent shock of the ground that damages violently, because of movement within the earth crust or volcanic action. Pakistan is in the junction of Arabic Indian and Eurasian fault especially the area of north i.e. Gilgit-Baltistan. The Indian faults are continuously slipping toward the Eurasian faults and sub-ducted under it at the rate of 55mm per year (Besse & Courtillot, 1988). And these plates are colliding form last 30-40 million years (Aitchison et al., 2007).73000 were killed and 69000 were injured during the devastating earth quack of 2005 (EERA, 2006). Here, we are discussing the area where the earthquake started and lasting for four months, people were observing the aftershocks. So, this study conducted on the current aftershocks of earthquake in the union Ganji this area was not yet explored by any researcher. During the last 365 days there are 325 earth shocks recorded which vary in magnitude from 1-5. Which include 52 of 2+ M, 107 of 3+ M, 150 of 4+M and 2 of 5+ M.

Mental Wellbeing

Definitions of wellbeing are notoriously broad, often including interwoven concepts such as happiness, life satisfaction, positive mental health, quality of life,

social capital, mental capital and human functioning (Salvador et al., 2004). Mental wellbeing and psychological wellbeing are also concepts which may be used interchangeably, and are often discussed in line with resilience, positive psychology and salutogenic perspectives (Linton et al., 2016, Bowling 2013). Mental wellbeing centers around three separate domains; evaluative wellbeing which relates to satisfaction with life, hedonic wellbeing which is linked to positive and negative emotions or affect, and eudemonic wellbeing with a focus on meaning in life (Metcalfe 2012; Diener, 2006). More specifically, evaluative wellbeing refers to people's thoughts about the quality or goodness of their lives, i.e., their overall satisfaction with their lives (Cantril, 1965). Hedonic wellbeing refers to feelings or moods such as positive and negative affect (Kahneman et al., 2004), and eudemonic wellbeing focuses on judgments about the meaning and purpose of one's life (Ryff, 2004). Although these three domains are associated with one another, they represent distinct aspects of wellbeing (Steptoe, 2015). Mental wellbeing has a particularly strong emphasis on the eudemonic domain highlighting the importance of pursuing meaningful goals, developing and growing as a person, and establishing quality ties (Chen, 2013). Employing a multidimensional approach which includes all these domains may produce the most informative results (Vanhoutte, 2014). Mental health is a broad term which includes emotional, psychological and social wellbeing, which affect the way we feel, think and behave. Wellbeing is a state in which a person realizes his abilities to deal with daily life stresses, doing his daily life chores in good manner and can be beneficial to his community. It determines a person dealing with daily stressors, how to deal with people and how he makes decisions (WHO, 2003). From the perspective of positive psychology mental health is the ability of an individual to enjoy life and make a balance between the efforts provided by the outcomes to be Psychologically resilient (Snyder, 2011).

Death Anxiety

It is preoccupied fear of being dead, anxiety of nonexistence. It comprises of emotional, cognitive and motivational components, which vary according to the age of the person and social support (Lehto& Stein, 2009). Another definition of death anxiety is that a mental state in both conscious and un-conscious level acting out as a defense mechanism when something threatening happening around (Kesebir, 2014). It is the unsafety feeling, fear or anxiety of dying or near to die (Malinauskaiteetal., 2017). Another name of death-anxiety is Thanatophobia which is a Greek word "thanato" Means death and "Phobos" Means fear.

Posttraumatic growth

Posttraumatic growth is defining as the positive psychological changes in the life and living standards after facing a tragedy or trauma and see possibilities of good living (Calhoun &Tedeschi, 2014). It is positively attached with hope, Proper functioning of relations with others and the capacity to deal with challenging life situations (Prati & Pietrantoni 2009). Taku said that posttraumatic growth is enduring struggle after being traumatized to find hope for living (Collier, 2016). The possibilities of growth after being traumatized or facing any loss is present in both

ancient and contemporary religious thinking and in old literature and philosophy. For example, the Buddhism also evolved due to human suffering. In Islam suffering is an important component toward heaven (Calhoun, 2014). Post traumatic growth and resilient are sometime taken as similar as both tend to strive for betterment after a trauma or loss but are different. Taku said that PTG is a slow and strong struggle and takes a lot of energy, after facing a trauma, to move toward growth and recovery (Collier, 2016)

LITERATURE REVIEW

Earthquakes affect a person both physically and emotionally (Fukuda et., al. 1999). In The Great Hanshin Earthquake 1995, fatalities are one of the most traumatic consequences of earthquake. Human loss especially more than half of the causalities are women and people older than 60 (Tandia, 1996). Survivors' lefts their homes and place which is another challenge for the people. It is founded in Basoglu (2008) that people who were exposed to earthquakes become depressed, earthquake anxiety and posttraumatic stress disorder. The quality of life of Turkish people is strongly affected by earthquake (Ceyhan, 2007). 25 percent of people suffered from posttraumatic stress disorder and 11 percent of the people suffered depression after being exposed to earthquake (Kilicet., al. 2006).

In Iceland it is founded in research that 24 Percent of the people develop posttraumatic stress disorder and 81 percent of them are suffered from earthquake related anxiety, inability to express thoughts and feelings, and emotional coping (Bodvarsdottir & Elklit, 2004). Earthquake survivors and Females of Taiwan reported higher scores on personal impact factors like threat and fear toward earthquake (Kung & Chen, 2012). A study done in Chengdu China founded that the earthquake stress lessens the depression coping and controlling strategies and sense of community. Shifting to new community develops a feeling of relaxation in old age survivors (Le et al., 2011). 5 to 60 percent of posttraumatic stress disorder was found in People after 2 years of facing earthquake and 60 percent are at risk of posttraumatic stress disorder (Omori & Fujimori 2010; Fujimori 1998).

The effect of disaster depends on the individual differences and disaster type itself which results in the trauma to become chronic or end with time (Rapheal, 1986). Mental health is one of the most important issues faced by the survivors of all types of disasters. A study in Japan founded at least 46 Percent of the earthquake survivors are facing serious and moderate level of mental health problems (Yokoyama et al., 2014).

During a longitudinal study a higher depression was found in people after facing a disaster which did not reduce events after a year of the mishap (Ando et al., 2017). The trauma affected individuals who experienced mental distress and other mental health problems but were not limited to posttraumatic stress, depression and anxiety symptoms. It also induces physical problems like sleep disturbance, eating issues (Harada et., al. 2015). A study on the people of Wenchuan after a year revealed that 26.3 Percent survivors of the earthquake have posttraumatic stress disorder, 48.9

percent are suffering from depression, and 49 Percent are patients of anxiety. People of middle age and elder age are mostly suffered from all their disorders while most of the females are suffered from PTSD and Depression (Zhang et al., 2015).

Another study in China revealed that symptoms of anxiety, depression and PTSD are more common after 6 months of period in children of grade 4 and 5 than those younger to them, it means that with the age the effect of trauma go stronger even after a long period of time (Liu et al., 2011). In a Turkish study it is funded that trauma effect the family, father is most affected by trauma and father with severe form of PTSD have children with PTSD. Mother was less affected by traumatic events in developing PTSD (Kilicet., al. 2003). A study in Indonesia to check the association between parents and children's symptoms of PTSD and founded that parents having posttraumatic symptoms is directly associated with their children distress, but children severity do not affect the parents stress level (Juth et al., 2015).

Almost 33 percent of the people rescued and survived after disaster have shown positive symptoms for depression, 9 percent of them are as severe posttraumatic stress disorder, 46 Percent people showed moderate to high level resilience. Loss of humans is associated with PTSD and depression while loss of infrastructure is associated with depressive symptoms. Less damaged people are found more resilient against the damaged ones (Schwind et al., 2019). Another study in China revealed that almost one of every five survivors of the earthquake is suffered with PTSD, depression and anxiety, and a percentage of 33.7, 43.8 and 38.6 respectively is found in the survivors, it is also founded that no social support after earthquake is also a troubling situation and leads toward mental issues (Zhang et al., 2012). Quetal. (2012) after generalizing the results of his study found that the presence of PTSD symptoms are 12 percent, depression symptoms are 40.8 percent. He found that there is significant association between earthquake and severity of symptoms of PTSD and no significance with depressive symptoms. McEwen and Stellar (1993) analyzed that long lasting stress reflexes are biologically changed and a lot of concern was shown toward acute stress. PTSD has a relation with physical and psychological conditions like failure of hypothalamic– pituitary–adrenal (HPA) axis (Yehuda, 2002). It involves the secretion of cortisol hormone in response to stress, as it is an evident to PTSD (Yehuda et al., 1991). Increased level of cortisol was found in highly stressed people due to earthquake (Bauer et al., 1994).

METHODOLOGY

The current study was conducted by utilizing the Cross-sectional research design of survey method to check the relationship between death anxiety and mental wellbeing and the role of posttraumatic growth between their relationship. Survey method is one of the most common methods utilized to go through quantitative method to study a specific topic. A correlation research design was used to study the relationship between the variables of earthquake survivors. The purposive sampling technique was used to collect data. The Templar death anxiety scale, Posttraumatic growth (short form) Scale and Mental wellbeing scale were used. I had chosen the

union Ganji Gilgit-Baltistan as population of my study, from where I conveniently select a sample of 100 individuals whose ages range from 18 to 35. I selected only those individuals who suffered from the earthquake in the union Ganji. Selected sample comprised of 50 men and 50 women from the target population. I chose sample from different professions like students, farmers, teachers, drivers, housewives and police man. For the collection of data. I gather data from one by one after signing the informed consent and if he/she needs any instructions and difficulty in understanding the scales items. After collecting the data, I started putting it into SPSS and started analyzing it.

RESULTS

Table 1: Intercorrelations among study variables

Variable	*N*	*M*	*SD*	DA	PTG	NP	AL	PS	SW	RO	MW
DA	100	22.16	2.14	1							
PTG	100	38.93	5.047	-.266	1						
NP	100	6.74	2.023	.094	.666	1					
AL	100	4.44	0.795	-.230	.365	.135	1				
PS	100	7.86	1.77	-.261	.689	.285	.216	1			
SW	100	8.24	4.319	-.169	.553	.285	.110	.135	1		
RO	100	7.66	1.558	-.192	.602	.288	.89	.224	.251	1	
MWB	100	56.12	6.533	-.597	0.586	.216	.227	.508	.387	.435	1

Note. DA= Death Anxiety, PTG=Post Traumatic Growth; NP=New Possibilities; AL= Appreciation of Life; PS= Personal Strength; SW= Spiritual Well-being; RO= Relating Others; MWB= Mental Well-being

Correlation is significant at the 0.01 level (2-tailed) **

Table 1 show that there is a negative correlation between death anxiety and the mental well- being (r = -.597, p<.05). Test statistics also show that there is a significance relationship between DE and MWB. There is positive correlation between mediator posttraumatic growth and the mental weal being (0.586, p<0.001. There is a negative relationship between AL, PS, SW and RO with death anxiety (-.230, p<0.196; -.261, p<0.354; -.169, p<0.093; -.192, p<.055 respectively), while the NP has a positive relation with death anxiety (.094, p<.354). There is positive relationship between NP, AL, PS, SW and RO with the mental weal being (.216, p<.031; .227, p<.023; .508, p<.001; .387, p<.001; .435, p<.001 respectively). The test statistics also show that there is a significant relation between all PTG subscales and mental well-being.

Table 2

Moderation Analysis for interaction between DA, PTG and MW

Model 1						
					95%CI	
Predictors	*β*	*SE*	*t*	*p*	*LL*	*UL*
Constant		6.732	6.361	.00	29.46	56.182
DA	-.197	.302	1.984	.02	0.00	1.20
R	-.197					
R^2	.039					
ΔR^2	.29					
Model 2						
Constant		6.231	3.885	.000	11.843	36.578
DA	-.13	.260	0.516	.607	-.382	.651
NP	.58***	.110	6.736	.000	.524	.962
R	.59***					
R^2	.345					
ΔR^2	.331					
Model 3						
Constant		44.579	1.436	.154	-24.479	152.498
DA	-.13	1.961	-0.825	.411	-5.511	2.275
NP	.58***	1.097	-0.219	.827	-2.417	1.936
DA x NP	-.19*	0.48	0.902	.370	-0.052	.138
Total R	-.59***					
R^2	.350					
ΔR^2	.330					

Note. *p<.01, **p<.001, ***p<.0001

Table 2 indicated that in model 1, death anxiety found to be a significant negative predictor of mental wellbeing b = -.19, p <.05. The model explained 29% of variance in dependent variable i.e., mental wellbeing. In model 2, the inclusion of new possibilities was significantly positively associated with mental wellbeing b = .58, p <.0001 while death anxiety is reduced to b =.13, p >.01. In model 3, interaction effects of death anxiety with new possibilities weakened the association between DA and MW, b = -.19, p <.05. Thus, new possibilities assisted the participants in reducing DA and improving MW. The entire model explained 33% of variance in dependent variable.

Table 3

Moderation Analysis for interaction between DA, PS and MWB

Model 1						
					95%CI	
Predictors	*B*	*SE*	*t*	*p*	*LL*	*UL*

Constant		6.732	6.361	.00	29.46	56.182
DA	-.19*	.302	1.984	.02	0.00	1.20
R	-.19*					
R^2	.039					
ΔR^2	.29***					

Model 2

Constant		6.204	6.012	.000	25.37	49.235
DA	-.11	.758	.276	.450	-.338	.756
PS	.21**	.332	2.084	.000	1.145	2.464
R	.21**					
R^2	.044					
ΔR^2	.17*					

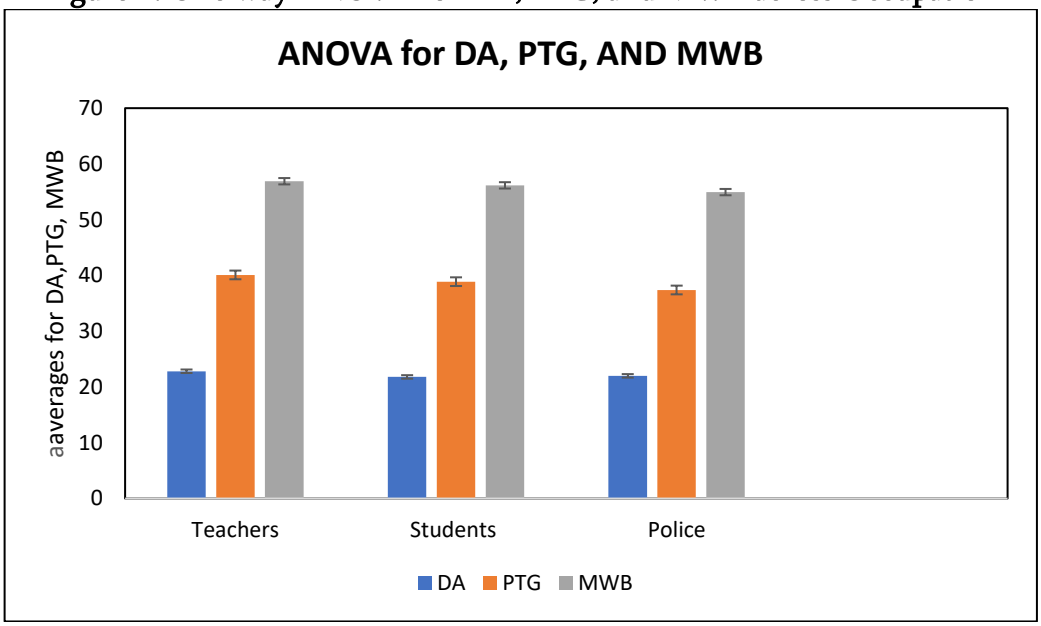
Model 3

Constant		30.013	2.566	.012	17.431	136.584
DA	-.11	1.357	-1.168	.45	-4.278	1.108
PS	.432***	3.620	10.86	.00	10.246	4.123
DA x PS	-.58***	0.162	5.350	.00	0.103	.540
Total R	-.60***					
R^2	.36					
ΔR^2	.25					

Note. *p<.01, **p<.001, ***p<.0001

Table 3 indicated that in model 1, death anxiety found to be a negative significant predictor of mental wellbeing b = -.197, p <.05. The model explained 29% of variance in dependent variable i.e., mental wellbeing. In model 2, the inclusion of personal strength is significantly positively associated with mental wellbeing b = .21, p <.001 while death anxiety is minimized to b = -.11, p>.05. In model 3, interaction effects of death anxiety with personal strength weakened the association between DA and MW, b = -.58, p < .0001. Thus, personal strength assisted the participants in reducing DA and improving MW. The entire model explained 25% of variance in dependent variable.

Figure 1: One way ANOVA for DA, PTG, and MWB across Occupation



The above figure showed that participants have different occupations like teachers, students, and police did not differ in death anxiety, post traumatic growth, and mental well-being as p>.05.

DISCUSSION

Initially after analyzing the data on SPSS. we calculated that PTG has a positive relation with mental wellbeing the subtypes of posttraumatic also positively influence mental wellbeing. As for earlier studies of Tedeschi and Calhoun (2004), is a seminal work on posttraumatic growth. It provides an overview of the conceptual foundations of PTG and presents empirical evidence supporting its existence. The authors argue that PTG is associated with positive outcomes, including enhanced mental well-being and better psychological adjustment. This meta-analysis conducted by Shakespeare-Finch and Lurie-Beck (2014) examined the relationship between posttraumatic growth and symptoms of posttraumatic distress disorder (PTSD). The findings revealed a negative correlation between PTG and PTSD symptoms, suggesting that individuals who experience higher levels of posttraumatic growth tend to have lower levels of distress and better mental well-being. Prati and Pietrantoni (2009) conducted a meta-analysis to explore the factors contributing to posttraumatic growth. They found that optimism, social support, and positive coping strategies were significant predictors of PTG. These factors were associated with better mental well-being and higher levels of posttraumatic growth. Zoellner and Marker (2006) conducted a critical review of the literature on posttraumatic growth and proposed a two-component model. Their review highlighted the positive impact of posttraumatic growth on mental well-being, suggesting that PTG can lead to improvements in psychological functioning and overall adjustment following trauma.

Another aim of the study is to check how Death anxiety significant impact on posttraumatic growth. It is analyzed that posttraumatic growth and death anxiety are

inversely related to each other and the subscales of the posttraumatic growth. Research on the relationship between death anxiety and posttraumatic growth is relatively limited. While there is evidence to suggest that death anxiety can impact posttraumatic growth, it is important to note that the research in this specific area is still evolving. Tomich and Helgeson (2004) examined the relationship between death anxiety and posttraumatic growth. They found that death anxiety was negatively associated with benefit finding, suggesting that higher levels of death anxiety were related to lower levels of posttraumatic growth. Gjerde et al., (2017) conducted a population-based study investigating the relationship between childhood adversities, death anxiety, and posttraumatic growth in young adulthood. They found that death anxiety mediated the relationship between childhood adversities and posttraumatic growth. Higher levels of death anxiety were associated with decreased posttraumatic growth in individuals who had experienced childhood adversities. While not specifically examining posttraumatic growth, this study by Goldenberg and Arndt (2008) presents the Terror Management Health Model, which suggests that death anxiety can influence various health-related outcomes. The model proposes that individuals may engage in defensive health behaviors as a means of managing death anxiety. This defensive response to death anxiety may hinder the potential for posttraumatic growth.

The last aim of the study is how Posttraumatic growth and death anxiety both has simultaneous influence mental wellbeing of earthquake survivors. As the date showed after running the regression analysis the relation of death anxiety and mental wellbeing is reduced by inculcating the posttraumatic growth as a mediator.it is also revealed that the subscales also lessen the relationship between the death anxiety and mental wellbeing A study focuses on the aftermath of the 9/11 terrorist attacks examines the correlates of posttraumatic growth. Sibley and Liu (2004) founded that posttraumatic growth was associated with higher levels of psychological well-being and life satisfaction among trauma survivors. However, the study does not specifically explore the simultaneous influence of death anxiety.

REFERENCES

Ando, S., Kuwabara, H., Araki, T., Kanehara, A., Tanaka, S., Morishima, R., Satake, H., & Kasai, K. (2017). Mental health problems in a community after the Great East Japan Earthquake in 2011: A systematic review. *Harvard Review of Psychiatry, 25(1)*, 15–28. https://doi.org/10.1097/HRP.0000000000000124

Basoglu, M., Salcioglu, E., & Livanou, M. (2002). Traumatic stress responses in earthquake survivors in Turkey. *JournalofTraumaticStress*, *15*(*4*), 269–276. https://doi.org/10.1023/A:1016322031348

Bodvarsdottir, I., & Elklit, A. (2004). Psychological reactions in Icelandic earthquake survivors. *Scandinavian Journal of Psychology, 45(1*), 3–13. https://doi.org/10.1111/j.1467-9450.2004.00373.x

Calhoun, L. G., & Tedeschi, R. G. (2014). The foundatio*ns* of posttraumatic growth: An expanded framework. In S. Joseph (Ed.), *Positive psychology in practice*

(2nd ed., pp. 17–37). Wiley.

Ceyhan, E. (2007). Earthquake, depression and quality of life among Turkish survivors. *Social Behavior and Personality, 35(8*), 1047–1056. https://doi.org/10.2224/sbp.2007.35.8.1047

Fukuda, S., Morimoto, K., Mure, K., & Maruyama, S. (1999). Posttraumatic stress and coping behavior among survivors of an earthquake. *Environmental Health and Preventive Medicine, 4(2),* 95–100. https://doi.org/10.1007/BF02931959

Gjerde, A., Dyregrov, A., & Dyregrov, K. (2017). Death anxiety and posttraumatic growth among young adults exposed to childhood adversity. Omega: *Journal of Death and Dying, 75(1),* 37–54. https://doi.org/10.1177/0030222815612287

Goldenberg, J. L., & Arndt, J. (2008). The implications of death for health: A terror management health model for behavioral health promotion. *Psychological Review, 115(4),* 1032–1053. https://doi.org/10.1037/a0013326

Harada, N., Shigemura, J., Tanichi, M., Kawaida, K., Takahashi, S., & Yasukawa, L. (2015). Mental health and psychological impacts from the 2011 Great East Japan Earthquake disaster: A systematic literature review. *Disaster and Military Medicine, 1(17),* 1–12. https://doi.org/10.1186/s40696-015-0008-x

Juth, V., Silver, R. C., Seyle, D. C., Widyatmoko, C. S., & Tan, E. T. (2015). Post-disaster mental health among parent–child dyads after a major earthquake in Indonesia. *Journal of Abnormal Child Psychology, 43(7),* 1309–1318. https://doi.org/10.1007/s10802-015-0009-8

Kilic, C., Aydin, I., Taskintuna, N., & Ozcurumez, G. (2006). Predictors of psychological distress in survivors of the 1999 earthquakes in Turkey. *Journal of Nervous and Mental Disease,* 194(7), 494–498. https://doi.org/10.1097/01.nmd.0000228506.34149.50

Lehto, R. H., & Stein, K. F. (2009). Death anxiety: An analysis of an evolving concept. *Research and Theory for Nursing Practice, 23(1),* 23–41. https://doi.org/10.1891/1541-6577.23.1.23

Prati, G., & Pietrantoni, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: *A meta-analysis. Journal of Loss and Trauma, 14(5),* 364–388. https://doi.org/10.1080/15325020902724271

Shakespeare-Finch, J., & Lurie-Beck, J. (2014). A meta-analytic clarification of the relationship between posttraumatic growth and symptoms of posttraumatic stress disorder. *Journal of Anxiety Disorders, 28(2),* 223–229. https://doi.org/10.1016/j.janxdis.2013.10.005

Sibley, C. G., & Liu, J. H. (2004). Short-term psychological effects of the September 11 terrorist attacks: The role of posttraumatic growth and coping in New Zealand. Social Behavior and Personality: *An International Journal, 32(2*), 131–143. https://doi.org/10.2224/sbp.2004.32.2.131

Steptoe, A. (2015). Happiness and health. *Annual Review of Public Health, 36*, 339–360. https://doi.org/10.1146/annurev-publhealth-031914-122529

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15(1),* 1–18.

https://doi.org/10.1207/s15327965pli1501_01
Tomich, P. L., & Helgeson, V. S. (2004). Is finding something good in the bad always good? Benefit finding among women with breast cancer. *Health Psychology, 23(1),* 16–23. https://doi.org/10.1037/0278-6133.23.1.16
Yokoyama, Y., Otsuka, K., Kawakami, N., Kobayashi, S., & Ogawa, A. (2014). Mental health and related factors after the Great East Japan Earthquake. *PLOS ONE, 9(7),* e102497. https://doi.org/10.1371/journal.pone.0102497
Zoellner, T., & Maercker, A. (2006). Posttraumatic growth in clinical psychology—A critical review and introduction of a two-component model. *Clinical Psychology Review, 26(5)*, 626–653. https://doi.org/10.1016/j.cpr.2006.01.008