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IMPACT OF TERRORISM ON CHILDREN'S MENTAL HEALTH

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ABSTRACT

The purpose of this study was to examine the impact of terrorism on mental health of children. To examine this phenomenon, anxiety and depression disorder symptoms of traumatized and non-traumatized children were compared as well as gender differences on the same were also explored. The data was collected from the schools of Baluchistan and Sindh. The sample consisted of 188 participants divided into two groups: traumatized children (n=94) and non-traumatized children (n=94) including 62 male and 126 female children, aged 12 to 14 years. The Revised Children's Anxiety and Depression Scale (Chorpita et al., 2000) was used to collect the data. The results of independent sample t-test reveal that the traumatized children scored higher on depression and anxiety disorder symptoms as well as on one of the anxiety subscales i.e generalized anxiety as compared to non-traumatized children. Further, significant gender differences between traumatized girls and boys on anxiety and depression disorder symptoms are also evident. The findings have significant implications.

Keywords: *Terrorism, Anxiety, Depression, Gender, Mental Health*

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INTRODUCTION

Today's world is facing numerous challenges and among these one of the biggest challenges is terrorism. According to National Institute of Justice (2011), terrorism is the unlawful act which involves the use of force and violence against people and organization to control through evoking fear. Bureau of Counterterrorism and Counting Violent Extremism (2016) stated that, "a total of 11,072 terrorist attacks occurred worldwide, resulting in more than 25,600 total deaths and more than 33,800 people injured". According to the Global Terrorism Index 2024, 96 per cent of terrorism-related fatalities significantly increased all over Pakistan; however, the provinces of Balochistan and Khyber Pakhtunkhwa were more affected as compared to other provinces. Terrorism has significant human, economic, psychological and ecological consequences (Bondar et al., 2019; Meng et al., 2024; Zakaria et al., 2019)

Terrorism is not a new phenomenon and the topic caught the attention of researchers during 90's however it culminated only after 9/11 attacks on World Trade Centre. The 9/11 attacks strongly impacted the world due to its wide coverage globally, forcing the think tanks to assess the psychological impact of these attacks on the mental health of people. The most prevalent mental health condition in affected population was identified as Post-Traumatic Stress Disorder (PTSD) (Durodie & Wainwright, 2019). However, later studies found anxiety and depression as the co-occurring symptoms in response to terrorism (Baca et al., 2008; Jacobson et al., 2018; Kendler et al., 2003; Perlman et al., 2011). Alper et al. (2020) also reported confusion and memory loss associated with mental health issues among effected population of 9/11 attack. Terrorist attack not just cause anxiousness and depression, but it also effects the behavior (Khan et al., 2012).

The psychological impact of terrorism is not only short-term but it can extend beyond immediate harm, resulting into lasting consequences. For instance, a study by Garrey et al. (2020) exhibited that survivors of 9/11 attack continue to experience PTSD symptoms and, in an effort, to cope with they engage in self-medication and alcohol. Giesinger et al. (2021) reported that PTSD was found to be associated with increased mortality in survivors of terrorism. In another study, Nilsen et al. (2023) examined whether the number of consultations for psychological reactions with out-of-hours emergency primary care changed in relation to the 2011 terrorist attacks in Norway by employing Norwegian sample during 2008 to 2013. They found that the reason for visit to primary care services

was psychological issues however; results were not significant for people residing in the area close to attack.

Psychological effects of terrorist attacks are seen to prevail in both those who were directly impacted, such as emergency responders (Muysewinkel et al., 2024; Wesemann et al., 2020), friends and family of victims as well as those who are impacted indirectly based on their location and form of exposure and even journalists and researchers, healthcare workers (Garcia-Vera et al., 2021). Henriksen et al. (2010) found that those who directly experienced crushing of World Trade Centre exhibited high level depression and anxiety symptoms. Thus, the study concluded that direct exposure to terroristic attacks have some kind of relationship between direct exposure and anxiety and depression. Other studies have demonstrated that watching terrorism, violence and large scale disasters through media resulted in psychological reactions (Hopwood et al., 2016; Jackson et al., 2011).

Evidences suggest that exposure to terrorism direct or through media affect people of all ages; even the memories of these events are pervasive and do not fade from the memories of survivors and impact negatively in their subsequent lives (Joshi, 2015; Leiner et al., 2016; Nilsen et al., 2023). Joshi and O'Donnell (2023) while contemplating cognitive, social and developmental perspectives wrote about the effects of terrorism on children. They posited that terror affects negatively almost all aspects of life such as disruption of educational process, loss of bread winner, caretaker, displacement, routine disruption and changes in community values. These negative aftereffects influence the children's brain, mind and body. Leiner et al. (2016) reviewed studies that were conducted on children on the US-Mexico border, who were engaged in drug related terrorism exhibited compound effect of poverty and terrorism. In another study, news about violence was widely depicted in media for extended number of days. Results revealed that younger children exhibited severe symptoms in response to these events (Leiner, 2012; 2015).

Numerous perspectives elucidate the psychological impact of terrorism. Some studies identified the underlying biological mechanism in traumatic experiences. According to them, a strong connection is built between stress and emotional trauma, the regulation of which results in permanent brain circuits (Heim et al., 2003). Bremmer et al. (1999) reported that hippocampus which plays an important role in memory seems to have been shrunk in those children who were exposed to PTSD. Other studies, using magnetic resonance imaging (MRI)

found asymmetry and reduced brain volume (Medina, 2003). Other studies suggest bio-psycho-social factors as the mediator between the impact of terrorism on PTSD, mood and anxiety disorder. These factors include gender, age, ethnicity, social support, preexisting trauma and mental illness and level of preparedness as impacting factors (Rigutto et al., 2021).

Nonetheless, the childhood trauma model dictates a direct relationship between children's behavior and childhood experiences (Stone & Zibulsky, 2015). A study by Silva et al. (2001) suggests that early childhood traumatic experiences set the stage for later development of PTSD. According to Maslow's hierarchy of needs, if person's safety needs are not fulfilled, he cannot focus on the achievement of higher need for achievement and learning. Students who are exposed to trauma outside the school are likely to bring their trauma into the class, hence find it difficult to attend and concentrate (Duplechain et al., 2008). In another study, children who have been suffering from PTSD were compared with controls and was found performing poorly on the task requiring attention, planning, organizing and abstract reasoning (Weller et al., 2003).

Gender related differences in stress have been reported as a result of direct exposure to terrorism. For instance, Kimhi and Shamai (2006) demonstrated gender differences on psychological symptoms. Likewise, a study by Farooqi and Habib (2010) found females to be scoring high on depression, anxiety and stress in survivors of suicide bombing in Lahore, Pakistan. Similarly, another study conducted by Ahmad et al. (2014) in Khyber Pakhtunkhawa (KPK) province of Pakistan found gender differences where higher prevalence of depression is seen in female sample. There seems to be a difference in the ratio of girls and boys school attacks. Khattak (2018) reported that girls' schools were more targeted than boys' schools in KPK province of Pakistan that's why girls were more victims of psychological distress.

Summing up, Pakistan has been one of the victims of terrorism for over two decades. As review of extant literature highlights that exposure to terrorist attacks not only have short-term psychological repercussion but also has detrimental effects that last into adulthood. Despite the fact that some research has been conducted in this area, it is imperative that this topic be studied with special reference to the impact of terrorism on the mental health of children in Pakistani context. As direct and indirect exposure to terrorism disrupt children's sense of safety and normal developmental process, leaving long lasting psychological scars. In addition, in order to handle the psychological consequences of terrorism, it is

also vital to identify the psychological needs that arise as a result of terrorism which eventually will result in the creation of relevant intervention for vulnerable population. Hence, the present study has been undertaken: first to examine the differences in level of anxiety and depression disorder symptoms between traumatized and non-traumatized children; and second to examine gender differences in level of anxiety and depression disorder symptoms between traumatized and non-traumatized children.

METHOD

Participants

The sample consisted of 188 students, 62 boys and 126 girls, studying in Grade 5th to 10th. Their ages ranged from 12 to 14 years with a mean age of 13.64 years (±*SD*= .63). The sample was recruited using purposive sampling method from different public and private schools (both co-education and girls' schools) of Sindh and Baluchistan where either threat of attacks were received or attacks happened in reality and those schools where no threats were received. The sample size was calculated through G*Power software (version 3.1.9.4), with an effect size of .20, α error .05 with power of .95 (Abbas et al., 2021).

The sample was further divided into two groups: traumatized children (22 males & 72 females) and non-traumatized children (39 males & 55 females). There were 94 children in each group. The traumatized children were the ones studying in schools where either the threats of terrorism were received or attacks occurred in reality. The non-traumatized children were the ones studying in schools where neither threats of terrorism were received nor attacks happened. The mean age of traumatized children was 13.79 years (±*SD*=.51) whereas non-traumatized children was 13.50 years (±*SD*=.72). The detailed demographic characteristics of the sample are given in Table 2.

The selection of sample was done based on following inclusion and exclusion criteria:

- Only school going children were included.
- Only those students were included, who have been studying in the same school for more than one year.
- The students with physical disability were excluded.
- Children below the age of 12 and above 14 years were excluded.

Measures

Demographic Form

Demographic Form was used to gather background information such as class, gender, date of birth, family structure, financial status, total working person of the families of the participants.

Revised Children's Anxiety and Depression Scale

The Revised Children's Anxiety and Depression Scale (RCADS) (Chorpita et al., 2000) is a self-report measure comprising of 47 items measuring anxiety and depression disorder symptoms. The two scales anxiety and depression are further divided into six subscales including: social phobia (SP), panic disorder (PD), separation anxiety disorder (SAD), generalized anxiety disorder (GAD), obsessive compulsive disorder (OCD), and major depressive disorder (MDD). The age range of RCADS is 8 to 18 years. Item can be rated on 4 point Likert type scale ranging from *0= never* to *3= always*. The RCADS gives: *a total score* which can generated by summing up score on all six subscales; *two separate total scores for anxiety and depression* where anxiety total score can be generated by summing up scores on five subscales i.e. SAD, SP, GAD, PD, and OCD whereas depression total score can be generated by summing up items on MDD; and *total score for each subscale* which can be generated by summing up scores on items for each respective scale. The scores range for overall scale start from 0 to 141 where the higher raw scores show clinical significance. The t-score $\geq$ 65 show borderline clinical threshold whereas t-score $\geq$ 70 is considered above clinical threshold. The Cronbach's alpha ranged from .71 to .85 in different ethnic groups (Chorpita et al., 2000).

Procedure

After getting permission from the concerned authorities, the administration of the schools – where threats of terrorism were received or attacks occurred and where no threats of terrorism were received nor attacks occurred – was approached, describing objective of the study. Participants were approached at their academic institution with the help of staff. Participants were informed about the purpose of study, assured of the confidentiality of results, also informed about the right to withdraw participation and requested to give written consent. Afterwards, the researcher administered demographic information form and

Revised Children's Anxiety and Depression Scale. The questionnaires required almost 30 minutes to complete. The researcher was also available to provide debriefing session in case of emergency.

Statistical Analysis

Quantitative methods were employed to analyze the data by Statistical Package for Social Sciences (SPSS 23.0). Descriptive statistics like mean, and standard deviation were calculated to illustrate sample characteristics. To calculate the difference between both the groups on study variables as well as gender differences on study variables, independent sample *t*-test was used.

RESULTS

Table 1
Psychometric Properties of the Measures

Measures	*Range*	*α*
Revised Children's Anxiety and Depression Scale	0 - 141	.91
Anxiety Scale	0 - 111	.89
Social Phobia	0 - 27	.62
Panic Disorder	0 - 27	.72
Separation Anxiety Disorder	0 - 21	.68
Generalized Anxiety Disorder	0 - 18	.59
Obsessive-Compulsive Disorder	0 - 18	.60
Depression Scale (Major Depressive Disorder)	0 - 30	.63

Table 2
Description of Demographic Characteristics (N=188)

Variables	Traumatized Children (*n*= 94)		Non-Traumatized Children (*n*=94)	
	f	%	*f*	%
Gender				
Male	22	23.4	39	41.5
Female	72	76.6	55	58.5
Class				
5-6	12	12.8	06	6.4
7-8	40	42.6	77	81.9
9-10	42	44.7	11	11.7
Socioeconomic Status				
Lower	16	17.0	08	8.5
Lower Middle	60	63.8	35	37.2
Upper Middle	17	18.1	43	45.7
Upper	01	1.1	08	8.5
Family Structure				
Nuclear	38	40.4	51	54.3
Joint	56	59.6	43	45.7
Father				
Alive	87	92.6	94	100
Not Alive	07	7.4	0	0.0
Mother				
Alive	94	100.0	94	100
Not Alive	0	0.0	0	0.0

Table 3
Descriptive Statistics for Age of the Sample (N=188)

Variables	Traumatized Children (*n*= 94)		Non-Traumatized Children (*n*=94)		Overall Sample (N=188)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Age	13.79	.51	13.50	.72	13.64	.63

Table 4
Difference on Anxiety and Depression Disorder Symptoms between Traumatized and Non-Traumatized Children (N=188)

Variables	Traumatized Children (*n*= 94)		Non-Traumatized Children (*n*= 94)		*t (186)*	*p*	*Cohen's d*
	M	*SD*	*M*	*SD*			
RCADS	71.85	17.54	42.01	15.58	12.71	.00*	1.79
Anxiety Scale	59.33	14.49	35.00	12.59	12.28	.00*	1.79
SP	15.85	4.51	10.50	4.05	8.56	.06	1.25
PD	11.79	4.70	6.18	4.04	8.78	.14	1.28
SAD	11.96	4.00	6.52	3.47	9.95	.21	1.45
GAD	9.23	3.45	5.46	2.66	8.41	.01*	1.22
OCD	10.50	3.09	6.34	3.09	9.04	.47	1.35
Depression Scale	11.59	4.53	6.02	3.95	8.97	.32	1.31

Note. RCADS = Revised Children's Anxiety and Depression Scale; SP = Social Phobia; PD = Panic Disorder; SAD = Social Anxiety Disorder; GAD = Generalized Anxiety Disorder; OCD= Obsessive Compulsive Disorder
*p<.05

Table 5

Gender Difference on Anxiety and Depression Disorder Symptoms between Traumatized Girls and Traumatized Boys (N=94)

Variables	Traumatized Children (*n*= 22)		Non-Traumatized Children (*n*= 72)		*t (92)*	*p*	*Cohen's d*
	M	*SD*	*M*	*SD*			
RCADS	61.73	16.46	73.72	16.91	-2.93	.00*	0.72
Anxiety Scale	39.02	15.02	51.08	18.38	-4.46	.00*	0.69
SP	14.36	4.96	16.31	4.38	-1.79	.08	0.44
PD	10.27	5.17	12.25	4.47	-1.75	.84	0.43
SAD	8.91	3.25	12.89	3.75	-4.48	.00*	1.09
GAD	7.32	3.37	9.82	3.27	-3.11	.00*	0.68
OCD	10.86	2.82	10.39	3.17	.63	.53	-0.15
Depression Scale	7.10	4.19	9.62	5.26	-3.27	.00	0.51

Note. RCADS = Revised Children's Anxiety and Depression Scale; SP = Social Phobia; PD = Panic Disorder; SAD = Social Anxiety Disorder; GAD = Generalized Anxiety Disorder; OCD= Obsessive Compulsive Disorder
*p<.05

DISCUSSION

The present study compared the differences on anxiety and depression disorder symptoms between traumatized and non-traumatized children. In addition, the gender differences on anxiety and depression disorder symptoms between traumatized and non-traumatized children were also examined. Some interesting findings are found which are presented below.

The results reveal significant differences between traumatized and non-traumatized children on anxiety and depression disorder symptoms as well as one of the anxiety subscales i.e. generalized anxiety disorder (Table 4). These findings are in accoradnace with findings from previous studies which support that terrorism attacks affect the mental health of children. Deschepper et al. (2018) demonstrated that affectees of terrorist attacks showed higher level of anxiety and depressive symptoms than those who were not exposed to such experience. Furthermore, Khan et al. (2019) in their study on the effects of terrorism in KPK, Pakistan reported that terrorism not only affect children rather their parents are also affected by these attacks to the extent that most parents have been found to be reluctant to send their children to school. Other studies have also demonstrated differences between children exposed to terrorist attacks compared to their counterparts (Attanayake et al., 2009; Papageorgiou et al., 2000).

The higher prevalence of mental health problems in children exposed to terrorist attacks may be explained as such that Pakistan being the lead character in war against terrorism, faced terrible consequences in the form of bomb blast in different cities. Not only people in the real time experience are affected rather immature media coverage also aggravate the situation. This renders the entire nation vulnerable to psychological trauma (Shahzad & Rashid., 2015). According to Hagan (2005) psychological symptoms are the direct result of terrorist attacks which is rooted in the victim's sense of helplessness. Since, terrorist attacks are random and frequently inevitable, victims lose their sense of safety and control over their surroundings and personal protection. This apparent lack of control leads to feelings of helplessness. Individuals may not be able to use their typical coping mechanisms when they feel powerless. This incapacity to manage intensifies emotions of vulnerability and greatly raises the risk of mental health issues like anxiety, depression, and post-traumatic stress disorder (Butler et al., 2003).

Relating to gender differences, the results demonstrate significant differences between male and female traumatized children with girls scoring high on anxiety and depression disorder symptoms as well as anxiety subscales of social anxiety disorder, and generalized anxiety disorder, (Table 5).These findings align with findings from previous studies which have documented female to be scoring higher than male on psychological symptoms. Nilsen et al. (2023) suggested gender and age may have moderating impact on psychological outcomes of terrorism. Silver et al. (2002) reported worst short-term outcomes for female effectees of terrorism. Similar results have been reported by Yehuda et al. (2002).

Salgueroa et al. (2011) also discovered high level of depression among females as compared to male.

These findings may be explained in terms of the underlying differences in use of coping strategies. Numerous researchers reported the use of cognitive and emotional strategies in response to terrorism among girls as compared to boys, disengagement and avoidance were more exhibited by boys (Russionello et al., 2002). However, it is also found that emotional focused interventions, such as social support and catharsis could help to make less severity on symtoms (Russionello et al., 2002). Further, during 2000s, 92 attacks have been reported to be on girls' schools as compared to 20 attacks in boys' schools. In the subsequent years there has been 218 attacks on girls' schools as compared to 144 for boys' schools, this might be due to block the way for girls' education. These high figures render the girls more vulnerable to the effects of terrorism (Popalzai, 2012).

In conclusion, the findings of the present study highlight the impact of terrorist attacks on mental health of children and that male and female children are impacted differently with female gender being more vulnerable to mental health problems. These obtained findings have certain limitations that must be taken into consideration. First, the survey had limited access because of the dangerous and no-go areas of Baluchistan and Sindh. That is why the sample size was comparatively small, particularly the traumatized participant. Many schools' authority did not allow to conduct survey out of insecurity. The second limitation of this study was the absence of mental health records after terrorist attacks and other related events. Another limitation of study is difficulty to differentiate children who have been affected by terrorist attacks or by the general law and order situation in Baluchistan, such as the separatist movement, targeted religious killing, the operations of armies and the chronic violence in some areas of Karachi, Sindh, which is said to cause psychological disturbance (Govender & Killian, 2001). Future studies may address these limitations by expanding sample size to get a broader view of the problem. The present variable should be studied in addition with academic grades and existing mental health conditions.

Despite limitations, the findings certainly have clinical implications. The study provides insightful reason on children's mental health problems due to stressful life experiences such as terrorist attacks. Children's reported problems of concentration, insecurity and fear should be professionally addressed through effective interventions. Teachers in war ridden areas should also be trained to counsel students and rehabilitate them. This will prove first hand first aid to

children. Inclusion of child's mental health be a part of school system where a psychologist is mandatory. Parents and teachers should be taken on board so they can facilitate relief for children. In addition to negative consequences, some positive aspects need to be highlighted in dealing with aftermath of terrorism, as a result of which altruistic and volunteer activities increase and a resilient society emerges which is better prepared to deal with terrorism.

REFERENCES

Abbas, Q., Kanwal, U., Saeed, W., Khan, M. U., Shahzadi, M., & Faran, M. (2022). Relationship of Muslim Religiosity and Death Anxiety with the Mediating Effect of Optimism and Depression Among Cancer Patients in Pakistan. *Journal of Religion and Health*, *61*(2), 1418–1436. https://doi.org/10.1007/s10943-021-01415-2

Ahern, J., Galea, S., Resnick, H., Kilpatrick, D., Bucuvalas, M., Gold, J., & Vlahov, D. (2002). Television images and psychological symptoms after the September 11 terrorist attacks. *Psychiatry*, *65*(4), 289–300. https://doi.org/10.1521/psyc.65.4.289.20240

Ahmad, S., Mohammad, H., Ahmed, S., & Sajid, I. A. (2014). Gender differences in depression among the affectees of war on terrorism and the role of psychological interventions in the rehabilitation. *Pakistan Journal of Criminology, 6*(2), 95-112.

Alisic E. (2012). Teachers' perspectives on providing support to children after trauma: a qualitative study. *School psychology quarterly : the official journal of the Division of School Psychology, American Psychological Association*, *27*(1), 51–59. https://doi.org/10.1037/a0028590.

Alper, H. H., Tuly, R. A., Seil, K., Brite, J., (2020). Post-9/11 mental health comorbidity predicts self- reported confusion or memory loss in World Trade Center Health Registry Enrollees. *International Journal Environment Research. Public*,*17*,7330.

Attanayake, V., McKay, R., Joffres, M., Singh, S., Burkle, F., Jr, & Mills, E. (2009). Prevalence of mental disorders among children exposed to war: a systematic review of 7,920 children. *Medicine, Conflict, and Survival*, *25*(1), 4–19. https://doi.org/10.1080/13623690802568913

Baca, E., Baca-García, E., Pérez-Rodríguez, M. M., & Cabanas, M. L. (2005). Short and long-term effects of terrorist attacks in Spain. In *The Trauma of Terrorism: Sharing Knowledge and Shared Care, An International Handbook* (pp. 157-170). Taylor and Francis.

Beers, S., & DeBellis, M. (2002). Neuropsychological function in children with maltreatment-related posttraumatic stress disorder. *American Journal of Psychiatry*, *159*, 483-486.

Bondar, A. I., Mashkov, O. A., Zhukaskas, S. V., & Nygorodova, S. A. (2019). Ecological threats, risks and environmental terrorism: System definition. *Ecological Science, 2,* 113-121. https://doi.org/10.32846/2306-9716-2019-2-25-1

Bremner, J. D., Narayan, M., Staib, L. H., Southwick, S. M., McGlashan, T., & Charney, D. S. (1999). Neural correlates of memories of childhood sexual abuse in women with and without posttraumatic stress disorder. *The American Journal of Psychiatry*, *156*(11), 1787–1795. https://doi.org/10.1176/ajp.156.11.1787

Institute of Medicine (US) Committee on Responding to the Psychological Consequences of Terrorism, Stith Butler, A., Panzer, A. M., & Goldfrank, L. R. (Eds.). (2003). *Preparing for the Psychological Consequences of Terrorism: A Public Health Strategy*. National Academies Press (US). https://doi.org/10.17226/10717

Chorpita, B. F., Moffitt, C. E., & Gray, J. (2005). Psychometric properties of the Revised Child Anxiety and Depression Scale in a clinical sample. *Behaviour research and therapy*, *43*(3), 309–322. https://doi.org/10.1016/j.brat.2004.02.004

Chorpita, B. F., Yim, L., Moffitt, C., Umemoto, L. A., & Francis, S. E. (2000). Assessment of symptoms of DSM-IV anxiety and depression in children: a revised child anxiety and depression scale. *Behaviour research and therapy*, *38*(8), 835–855. https://doi.org/10.1016/s0005-7967(99)00130-8

Deschepper, R., Six, S., Gidron, Y., Depoorter, A. M., Vandekerckhove, M., Gheysens, N., Van Overmeire, R., & Bilsen, J. (2018). Association between feeling threatened by a terrorist attack and subjective health: a

web survey a week after the attacks of 22 March 2016 in Belgium. *European Journal of Psychotraumatology*, *9*(1), 1500821. https://doi.org/10.1080/20008198.2018.1500821

Duplechain, R., Reigner, R., & Packard, A. (2008). Striking differences: The impact of moderate and high trauma on reading achievement. *Reading Psychology, 29*(2), 117-136. doi:10.1080/02702710801963645

Durodié, B., & Wainwright, D. (2019). Terrorism and post-traumatic stress disorder: a historical review. *The Lancet Psychiatry*, *6*(1), 61–71. https://doi.org/10.1016/S2215-0366(18)30335-3

Fairbrother, G., Stuber, J., Galea, S., Fleischman, A. R., & Pfefferbaum, B. (2003). Posttraumatic stress reactions in new York City children after the September 11, 2001, terrorist attacks. *Ambulatory pediatrics : the official journal of the Ambulatory Pediatric Association*, *3*(6), 304–311. https://doi.org/10.1367/1539-4409(2003)003<0304:psriny>2.0.co;2

García-Vera, M. P., Sanz, J., & Sanz-García, A. (2021). Ten things every psychologist should know about treating psychological disorders in victims of terrorism.*Psicothema*, *33*(2), 177–187. https://doi.org/10.7334/psicothema2021.33

Garrey, S. K., Welch, A. E., Jacobson, M. H., Brackbill, R. M., & Gargano, L. M. (2020). The Intentional Self-Medication of 9/11-Related PTSD Symptoms with Alcohol: 15 Years after the Disaster. *International Journal of Environmental Research and Public Health*, *17*(15), 5327. https://doi.org/10.3390/ijerph17155327

Giesinger, I., Li, J., Takemoto, E., Cone, J. E., Farfel, M. R., & Brackbill, R. M. (2020). Association Between Posttraumatic Stress Disorder and Mortality Among Responders and Civilians Following the September 11, 2001, Disaster. *JAMA Network Open*, *3*(2), e1920476. https://doi.org/10.1001/jamanetworkopen.2019.20476

Govender, K., & Killian, B. J. (2001). The Psychological effects of chronic violence on children living in South African townships, *South African Journal of Psychology*. https://doi.org/10.1177/008124630103100201

Hagan, J. F., Jr, American Academy of Pediatrics Committee on Psychosocial Aspects of Child and Family Health, & Task Force on Terrorism (2005). Psychosocial implications of disaster or terrorism on children: a guide for the pediatrician. *Pediatrics*, *116*(3), 787–795. https://doi.org/10.1542/peds.2005-1498

Heim, C., Meinlschmidt, G., & Nemeroff, C. B. (2003) Neurobiology of early life stress and its relationship to PTSD. *Psychiatric Annal, 33*, 18-26.

Henriksen, C. A., Bolton, J. M., & Sareen, J. (2010). The psychological impact of terrorist attacks: Examining a dose-response relationship between exposure to 9/11 and Axis I mental disorders. *Depression and Anxiety, 27*(11), 993–1000. https://doi.org/10.1002/da.20742

Ho, C., Quek, T. C., Ho, R., & Choo, C. (2019). Terrorism and mental illness: A pragmatic approach for the clinician. *British Journal of Psychiatry. 25*, 101–109.

Hopwood, T. L., & Schutte, N. (2016). Psychological Outcomes in Reaction to Media Exposure to Disasters and Large-Scale Violence: A Meta-Analysis. *Psychology of Violence, 7,* 316-327. 10.1037/vio0000056.

Institute for Economics & Peace. (2024). *Global Terrorism Index 2024: Measuring the impact of terrorism*. Institute for Economics & Peace. https://www.economicsandpeace.org/wp-content/uploads/2024/02/GTI-2024-web-290224.pdf

Institute of Medicine. (2003). *Preparing for the Psychological Consequences of Terrorism: A Public Health Strategy*. Washington, DC: The National Academies Press. https://doi.org/10.17226/10717.

Jackson, R., Jarvis, L., Gunning, J., & Marie Breen Smyth, T. (2011). A Critical Introduction. *Self+ Culture+ Writing: Autoethnography for/as Writing Studies*, 3-27.

Jacobson, M. H., Norman, C., Nguyen, A., & Brackbill, R. M. (2018). Longitudinal determinants of depression among World Trade Center Health Registry enrollees, 14-15 years after the 9/11 attacks. *Journal of Affective Disorders, 229*, 483–490.

https://doi.org/10.1016/j.jad.2017.12.105

Joshi, P. T., & Fayyad, J. A. (2015). Displaced Children: The Psychological Implications. *Child and Adolescent Psychiatric Clinics of North America, 24*(4), 715–730. https://doi.org/10.1016/j.chc.2015.06.003

Joshi, P. T., & O'Donnell, D. A. (2003). Consequences of child exposure to war and terrorism. *Clinical Child and Family Psychology Review*, *6*(4), 275–292. https://doi.org/10.1023/b:ccfp.0000006294.88201.68

Kendler, K. S., Hettema, J. M., Butera, F., Gardner, C. O., & Prescott, C. A. (2003). Life event dimensions of loss, humiliation, entrapment, and danger in the prediction of onsets of major depression and generalized anxiety. *Archives of General Psychiatry, 60,* 789–796

Khan, A. M., Sarhandi, I., Hussain, J., Iqbal, S., & Taj, R. (2012). Impact of terrorism on mental health. *Annals of Pakistan Institute of Medical Sciences, 8*(1), 46–49.

Khattak,S. (2018). Exploring the Effect of Terrorism on Education Sector: A Case Study of KhyberPakhtunkhwa- Pakistan. *Journal of International Women's Studies, 19*(6), 157-177

Kimhi, S., & Shamai, M. (2006). Are women at higher risk than men? Gender differences among teenagers and adults in their response to threat of war and terror. *Women & Health*, *43*(3), 1–19. https://doi.org/10.1300/J013v43n03_01

Leiner, M., Peinado, J., Villanos, M. T., Lopez, I., Uribe, R., & Pathak, I. (2016). Mental and emotional health of children exposed to news media of threats and acts of terrorism: The cumulative and pervasive effects. *Frontier Pediatric 23*(4), 26. doi: 10.3389/fped.2016.00026.

Leiner, M., Puertas, H., Caratachea, R., Avila, C., Atluru, A., Briones, D., & Vargas, C.d (2012). Children's mental health and collective violence: a binational study on the United States-Mexico border. *Revista panamericana de salud publica = Pan American Journal of Public Health*, *31*(5), 411–416. https://doi.org/10.1590/s1020-49892012000500009

Leiner, M., Villanos, M. T., Puertas, H., Peinado, J., Ávila, C., & Dwivedi, A. (2015). The emotional and behavioral problems of children exposed to poverty and/or collective violence in communities at the Mexico-United States border: A comparative study. *Salud Mental*, *38*(2), 95–102. https://doi.org/10.17711/SM.0185-3325.2015.013

Medina J. (2003). Hippocompal volume and predicting PTSD. *PsychiatricTimes, 20*, 2, 8-11.

Meng, C., & Ghafoori, N. (2024). The economic impact of terrorism in South Asia. *Socio-Economic Planning Sciences, 96*, 102084. https://doi.org/10.1016/j.seps.2024.102084

Muysewinkel, E., Vesentini, L., Van Deynse, H., Vanclooster, S., Bilsen, J., & Van Overmeire, R. (2024). A day in the life: Psychological impact on emergency responders during the 22 March 2016 terrorist attacks. *Frontiers in Psychiatry*, *15*, 1353130. https://doi.org/10.3389/fpsyt.2024.1353130

Nilsen, L. G., Wentzel-Larsen, T., & Stene, L. E. (2023). The short-term impact of terrorism on public mental health: an emergency primary care approach. *BMC Public Health, 23,* 2325. https://doi.org/10.1186/s12889-023-17240-z

Papageorgiou, V., Frangou-Garunovic, A., Iordanidou, R., Yule, W., Smith, P., & Vostanis, P. (2000). War trauma and psychopathology in Bosnian refugee children. *European Child & Adolescent Psychiatry*, *9*(2), 84–90. https://doi.org/10.1007/s007870050002

Perlman, S. E., Friedman, S., Galea, S., Nair, H. P., Eros-Sarnyai, M., Stellman, S. D., Hon, J., & Greene, C. M. (2011). Short-term and medium-term health effects of 9/11. *Lancet (London, England)*, *378*(9794), 925–934. https://doi.org/10.1016/S0140-6736(11)60967-7

Popalzai, M. (2012). Official: *160 Girls Poisoned at Afghan School*," CNN, 29 May 2012. https://edition.cnn.com/2012/05/29/world/asia/afghanistan-girls-poisoned

Rigutto, C., Sapara, A. O., & Agyapong, V. I. O. (2021). Anxiety, depression and posttraumatic stress disorder after terrorist attacks: A general review of the literature. *Behavioral Sciences (Basel, Switzerland), 11*(10), 140. https://doi.org/10.3390/bs11100140

Russionello, C. V., Skalko, T. K., O'Brien, K., McGhee, S. A., Bingham-Alexander, D., & Beatley, J. (2002). Childhood posttraumatic stress disorder and efforts to cope after Hurricane Floyd. *Behavioral Medicine, 28,* 61–72.

Salguero, J. M., Fernández-Berrocal, P., Iruarrizaga, I., Cano-Vindel, A., & Galea, S. (2011). Major depressive disorder following terrorist attacks: a systematic review of prevalence, course and correlates. *BMC Psychiatry*, *11*, 96. https://doi.org/10.1186/1471-244X-11-96

Shahzad. S., & Rashid. A.(2015). *Media exposure regarding terrorist events and posttraumatic stress disorder in youth.* In Second International Conference On Media, Communication And Culture. http://www.icmcc2015.usm.my/

Stone, S., & Zibulsky, J. (2015). Maltreatment, academic difficulty, and systems-involved youth: Current evidence and opportunities. *Psychology in the Schools*, 52(1), 22–39.

Weller, E. B., Shlewiet, B. K., & Weller, R. A. (2003) Traumatized children: Why victims of violence live out their nightmares. *Current Psychiatry, 2*, 30-40.

Wesemann, U., Bühler, A., Mahnke, M., Polk, S., & Willmund, G. (2020). Longitudinal mental health effects of the 2016 terrorist attack in Berlin on various occupational groups of emergency service personnel. *Health Security*, *18*(5), 403–408. https://doi.org/10.1089/hs.2019.0108

Wetherington, C. E., Hooper, S. R., Keenan, H. T., Nocera, M., & Runyan, D. (2010). Parent ratings of behavioral functioning after traumatic brain injury in very young children. *Journal of Pediatric Psychology*, *35*(6), 662–671. https://doi.org/10.1093/jpepsy/jsp081

Yehuda R. (2002). Post-traumatic stress disorder. *The New England Journal of Medicine*, *346*(2), 108–114. https://Doi.Org/10.1056/Nejmra012941

Zakaria, M., Jun, W., & Ahmed, H. (2019). Effect of terrorism on economic growth in Pakistan: An empirical analysis. *Economic Research-Ekonomska Istraživanja, 32*(1), 1794–1812. https://doi.org/10.1080/1331677X.2019.1638290