

Potentially Traumatic Events as Predictors of Vicarious Trauma in Adolescents

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In the study, physical and emotional proximity of potentially traumatic events as predictors of vicarious trauma in adolescents were investigated. Visiting places after occurrence of bomb blasts was defined as physical proximity; while, emotional proximity was knowing a victim of a bomb blast or kidnapping. A purposive sample of 1074 adolescents aged 14-17 years was administered two measures; the Events Exposure Questionnaire developed by researcher and the Impact of Events Scale-Revised (Weiss & Marmar, 1997). The second measure was used with modifications to time frame and mean scores calculated. Two hypotheses purported that physical and emotional proximity would predict PTSD in adolescents. Regression analysis was performed. Although, the models generated account for about 2-3% of variance for physical and emotional proximity, they added to extant research. Importance of peer group, media, and endemic characteristics of society were also found to play a role in the development of PTSD symptoms through indirect exposure to violence.

Keywords. Potentially traumatic events, indirect exposure, vicarious trauma, proximity, posttraumatic stress

For more than a decade, Pakistan has experienced various types of violence and natural disasters. Violence has been in the form of terrorist attacks and bomb blasts at hospitals; places of worship and reverence; market places; train stations; schools; etc. These incidents are in addition to the well-planned attacks on military, governmental, and foreign establishments. The severity of the situation can be gauged from statistics of mere four years, from 2010-2013, during which approximately 2000-3000 civilians died annually (Institute for

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Conflict Management, 2014). Kidnapping for ransom is also prevalent according to the Society for the Protection of the Rights of the Child (2011). The Human Rights Commission for South Asia (2011) reports that out of 7000 cases of child abduction, 3090 cases were from the biggest metropolitan city, Karachi. The organization also mentions exponential rise in posttraumatic stress disorder (PTSD) among women and children living in the conflict affected areas of Khyber Pakhtunkhwa. Khalily (2011) found a high percentage of PTSD symptoms in young people between the ages of 11-22 years in these areas where greatest levels of violence and insurgency had occurred. At the same time, natural disasters in form of earthquakes and flooding have also wreaked havoc. Khalily, Foley, Hussain, and Bano (2011) have observed that the trauma inflicted at large is hitherto unprecedented, therefore, inevitable; requiring multidimensional strategies to tackle issues scientifically and therapeutically. Unfortunately, psychological services in response to such traumatic situations do not exist in the local healthcare system.

Extant literature (Brock, & Davis, 2008; Niaz, 2011) is suggestive that indirect and/or low dose exposure to a community disaster can be very traumatic, and up till now traumatic impact of such exposure levels have been excluded from discussions. Given the variety and scale of catastrophes, the need is dire for systematic research and development of intervention strategies according to local culture. A very large percentage of individuals fall between the age group 14-25 years (Pakistan Economic Survey, 2010-2011) and the implications of a traumatized generation are troubling. In a related study, researchers (Yazdani & Shafi, 2014) found that 42% of adolescents in the sample are indirectly exposed to violence and prevalence of moderate level of symptoms of PTSD is as high as 54%. If compared to the worldwide incidence of traumatic exposure, over 68% of children directly experience a traumatic event by the age of 16 years (Copeland, Keeler, Angold, & Costello, 2007). In another place, Costello, Erkanli, Fairbank, and Angold (2002) found that a large number of children are vulnerable to exposure to a potentially traumatic event annually. Of these, one in four is likely to experience a potentially traumatic event in their lifetime. Goslin, Stover, Berkowitz, and Marans (2013) mention a number of events which are considered potentially traumatic, such as abuse, domestic and community violence; motor vehicle accidents (MVAs); life-threatening illness and injuries; etc. Such events can cause persistent distressing symptoms between 20-90% of children exposed (Laor, Wolmer, & Cohen, 2001; Pine & Cohen, 2002). Fletcher (2003)

reports that an average 36% of exposed children will go on to develop PTSD.

Exposure to a potentially traumatic event implies that the focus shifts from victims of direct exposure to those who have been indirectly exposed and opens new areas of research. Indirect exposure can cause trauma and distress of low intensity. This distress is enough to cause suffering and experience of symptoms without knowing the reason. In adolescents, this increases their vulnerability to various impairments as they mature into adults. Researchers have begun to give paramount importance to early detection and predictability in the general population when the issue of dealing with the ripple effects of serious traumatic events arises (Lerias & Byrne, 2003). When a family member such as parent or sibling is traumatized, a vast and varied range of emotional issues; such as emotional distress, fears, and anxieties (Cathrall, 2004) are left in wake. Trauma can be transmitted indirectly through the family's shared environment, where the traumatic experience may be discussed or reenacted in frightening ways; family members may communicate in unconstructive patterns including avoidance or over-disclosure. The daily routine of life is supposed to be a source of stability in an unstable social environment (Cohen & Eid, 2007), such as going to school or work and back. When this becomes a source of risk for personal safety, children and adolescents may seem to habituate. However, an assumed normalcy places them at serious risks for their psychological well-being (Ahmed et al., 2011). Furthermore, serious effects regarding their cognitions, feelings, and behaviors take place. Death anxiety, mild to moderately high levels of stress and anxiety have been reported in university students as they witnessed attacks in public places or lived under threat of suicide attacks (Nayab & Kamal, 2010).

According to Lerias and Byrne (2003), vicarious or indirect trauma takes on the same role or experience for the victim as direct trauma. The reactions are parallel, but of a lesser type of PTSD. An individual who has perceived the potentially traumatic event as a threat to personal safety must also have, as a consequence, experienced feelings of intense fear, helplessness or horror. The listener may empathize with the victim, while, listening to the account of the trauma and experience the same symptoms. Also being present in the environment that gave rise to the original victims' trauma has been found to cause trauma. Thus, vicarious trauma may result in chronic, medium levels of distress, and anxiety symptoms resulting in developing further impairment (Gershuny & Thayer, 1999; Lerias & Byrne, 2003; Steed & Downing, 1998).

Indirect exposure is the least studied and understood aspect of traumatic stress. However, many findings have indicated that indirect exposure to trauma produces similar effects to direct exposure (MacRitchie, 2004). The ontogenesis of trauma and PTSD involves a complex interplay of variables (Nickerson, Reeves, Brock, & Jimerson, 2009). According to Ekblad (2002), differentiations need to be made between the various kinds of events - single, chronic, interpersonal, communal, predictable, and unpredictable, which influence posttraumatic reactions. Next, within each classification, the important variables are: Level of exposure, duration of event, and range of impact. Physical and emotional proximity are characteristics of the traumatic event and considered important in the etiology of PTSD. *Physical proximity* in research refers to physical distance from the event and witnessing injury or death; it has been consistently found related to higher levels of distress in children. These effects are generally explained by the increased personal threat signaled by being physically close when another person is seriously injured, exposure to more grotesque scenes, and extensive sensory involvement in addition to vision (Nickerson et al., 2009). It is also considered to be in physical proximity, if a person has access to the place where the violence took place. For instance, when attacks take place in any public place, such as market, roadside check-post, mosque, etc., people are perforce exposed to the grotesque as they pass by on a daily basis. Often, the rubble is a stark reminder of the blast and killing of someone known. Therefore, the closeness to a traumatic event can be physical and/or emotional. The impact is magnified particularly for adolescents. For instance, the trauma that can occur after having someone known injured in a violent event is greater as compared to seeing or hearing about the event (Ekblad, 2002). *Emotional proximity* refers to a close relationship with the victims of a traumatic stressor and is the next most traumatic stress risk factor (Brock & Davis, 2008).

Severity and longevity of PTSD symptoms tends to increase with proximity (Pynoos et al., 1987). Later findings indicate that children are especially vulnerable to vicariously experienced traumatic events (Pynoos et al., 1996). Kauser and Kanwal (2010) assessed children at a school for acute stress disorder following a bomb blast at a next door governmental agency building. It was found that the majority of the children showed stress symptoms and girls showed a more subjective experience of horror and helplessness. Again, such studies mention the potentially traumatic effect of being geographically closer to the site of trauma leading to a more extreme or severe reaction. Dekovic, Koning, Stams, Kirsten, and Kirsten (2008) assessed adolescents for

physical and emotional proximity for traumatic stress reaction two years after exposure to disaster and 70% of the sample reported presence of PTSD. The DSM-IV-TR emphasizes that the risk of PTSD may increase as the intensity of physical proximity to the stressor increases (American Psychiatric Association [APA], 2000). There is an increased risk for symptom development because traumatized children commonly experience multiple forms of exposure, such as physical proximity and relationship to direct victims (Pfefferbaum, 2005). Traumas which involves close friends were ranked at moderate levels of interpersonal proximity and significantly predicted levels of somatic and anxiety problems (Price, 2012).

The present study is based on adolescents' exposure to indirect trauma after terrorist attacks occurring at numerous places in the country; either by visiting the attacked places or learning about the kidnapping of individuals known to them, and often hearing details related to the experience of that person. Adolescents are also exposed to a greater level of violence through grotesque scenes, images, and sensory experiences of man-made disasters, shown repetitively on media (Niaz, 2011). An understanding of predictors in cultural context is necessary. This will enable better understanding of potential risk factors in the adolescents' environment and open directions for developing assessment, intervention, and prevention strategies in schools, particularly, and in public, generally. This paper is derived from the author's doctoral work, in which the role of factors related to vicarious trauma among adolescents was investigated (Yazdani & Shafi, 2014). A strong cultural trend of gender differences is confirmed with higher percentage of girls than boys reporting moderate symptoms of vicarious trauma using The Impact of Event Scales-Revised (IES-R) Yazdani, Zadeh, & Shafi, 2015. The present paper thus examines physical and emotional proximity to potentially traumatic events as predictors of vicarious trauma. Physical proximity in the present study is defined as visiting sites where bomb blasts had taken place. Emotional proximity is defined as knowing someone who was a victim of bomb blast or kidnapping. This includes family member, relative, friend or friend of friend. The middle stage of adolescent period was selected for study due to the developmental considerations according to which adolescents' cognitive ability to assess and perceive trauma as well as expression of symptoms become more and more adult-like in manifestation (Cohen, Berliner, & Mannarino, 2000). Two hypotheses were proposed in this study to understand the predictive role of physical and emotional proximity as potentially traumatic events. The first hypothesis proposed was that physical proximity as an element of exposure to a potentially

traumatic event would predict vicarious trauma symptoms among adolescents. The second hypothesis purported that emotional proximity as an element of exposure to a potentially traumatic event would predict vicarious trauma symptoms among adolescents.

Method

Participants

Purposive sampling was employed for data collection. Terrorist threats to schools in the country and the demands of the academic calendar restricted access of participants for researchers. Permissions to collect data were taken from central school managements. Four private and government secondary schools permitted data collection on the basis of confidentiality. A total of 1375 forms were administered to adolescents in Matric, 1st Year, and Cambridge classes; all students participated voluntarily and confidentiality was emphasized.

Inclusion criteria of present study were:

- Ages ranging between 14-17 years
- Traumatization through indirect exposure to traumatic events
- The traumatic stressor happened to someone known. This includes family member, relative, friend or friend of friend as well as hearing about what happened to someone through these sources

Exclusion criteria from the study were:

- Direct exposure to traumatic event
- Partially filled measures

After screening with exclusion criteria, the final sample consisted of $N = 1074$ adolescents between the ages of 14-17 years ($M = 14.97$, $SD = .29$). There were 598 boys (56%) and 476 girls (44%) in the sample. Age group of 14 years was the largest, 416 (39%) followed by 15 years old 349(33%), 16 years 231(22%), and 17 years 78(7%). It was found that 19% adolescents had reported that they knew someone who had been in a bomb blast and 25% knew someone who had been kidnapped.

Measures

Events Exposure Questionnaire (EEQ). It was developed in English. For administration in government schools, where English reading skills and comprehension skills are low, the EEQ was back

translated into Urdu language. The EEQ asks for respondents' basic demographic information; and has nine items which seek information with reference to direct and indirect exposure. Respondents were asked to check with yes/no options, and blank spaces were provided in the two items where they were asked to write relation to person who had been a victim of violence and/or kidnapping, if they knew any.

Physical proximity was analyzed through the item "have you visited/seen any of these places destroyed after an attack?" Six most commonly bombed places were mentioned, and option for other/none was also given.

Impact of Event Scale – Revised (IES-R). It is a self-report measure (Weiss & Marmar, 1997) which taps symptoms of PTSD. The Likert-type scale has 22 items which measure symptoms of Intrusion, Avoidance, and Hyper-arousal in three subscales. Respondents rate each item on a scale of 0 (*not at all*), 1 (*a little bit*), 2 (*moderately*), 3 (*quite a bit*), and 4 (*extremely*) in past seven days. In the present study, it was used with reference to events the respondent had experienced during last seven days or at any other time in the past. The respondents were asked to write the date and mention the kind of traumatic event to which they had been exposed.

The IES-R contains American-English idioms; hence, core steps were followed for back-translation by researcher. Cronbach's Alpha coefficients were calculated. Reliability for Intrusion subscale was .79, Avoidance subscale .74, and Hyper-arousal subscale was .66. Overall reliability for IES-R was found to be .88. As recommended by the authors of the scale, mean scores were used to assess levels of vicarious trauma, which were then divided into three categories: Low, medium, and high (Yazdani & Shafi, 2014; Yazdani, Zadeh, & Shafi, 2015).

Procedure

The Institute of Professional Psychology (IPP), Bahria University, Karachi issued a letter of introduction to the researcher to present to school managements. Meetings were then held with the principals to explain the nature of vicarious trauma and the need to study it in adolescents. Permission was given after meeting the condition of protecting school's and participant's confidentiality through maintaining anonymity and to collect data without disruption in class routine. Workshops for teachers and students after data collection were planned to help develop better coping skills after exposure to trauma as well as deal with any possible after effects of scale administration. A teacher then accompanied the researcher as

they went into classes; the researcher gave a standard set of directions and sought willingness to participate. Following this, the questionnaire was administered and queries raised by students about the research were answered. After collecting the questionnaires, a standard debriefing session ensued and the researcher gave directions to contact IPP if professional help was desired afterwards.

Results

Data were analyzed using IBM SPSS 21. Frequencies and percentages were calculated to check indirect exposure to a potentially traumatic event. In other words, every time an adolescent visited any place which had been the site of a blast, it was a potential source of trauma; and more the number of visits, the more chances of the adolescent getting traumatized. Therefore, number of visits were counted and percentages derived.

Simple Regression Analysis was performed using Enter Method to obtain model summary for physical proximity. Responses were coded 0 for no visit and 1 for any place visited. Frequency data of physical proximity was taken as independent variable/predictor variable and total score on the IES-R as dependent variable/criterion, assuming that the more the frequency or number of visits to a place destroyed, the higher the score on IES-R. Emotional proximity was the relationship of respondent with victims of a bomb blast or kidnapping, such as a family member, relative or friend or neighbor. Analysis was carried out by assigning hierarchical order codes to the various individuals reported by the respondent. These codes were then divided into Yes (1) and No (0) to perform Multiple Regression Analysis using Enter Method. Results are presented in following tables.

Table 1

Frequency of Places Visited by Adolescents (N=1074) after Bomb Attacks

Places Visited	<i>f</i>	%
Shrine	46	4
Mosque	88	8
School	45	4
Market	161	15
Hospital	23	2
Police Station	45	4
Other	330	30
None	429	40

Table 1 presents in frequency column the number of times adolescents ($N = 1074$) visited a particular place and in second column, gives the percentage. It is found that 40% of the total sample ($N = 1074$) have not visited any place devastated by a bomb blast and 30% of the sample have visited a place other than mentioned on the EEQ. The market is the most visited place.

Table 2

Emotional Proximity to Victim of Violent Events

	Knew Bomb Blast Victim		Knew Anyone Kidnapped	
	<i>f</i>	%	<i>f</i>	%
Family member	6	3	8	3
Relative	53	26	97	38
Friend & known	73	38	87	34
Neighbor	32	17	30	12
Other	29	15	30	12
Total	193	100	253	100

Table 2 displays that the total number of respondents is 193 and 253 out of ($N = 1074$) who knows a victim of bomb blast and kidnapping, respectively. Percentages are then calculated from these frequencies. Highest percentages of persons known to adolescents are friends as victims of bomb blast and a relative kidnapped.

Table 3

Coefficients for Linear Regression with Physical Proximity and Emotional Proximity as Determinants of Vicarious Trauma among Adolescents

Variables	Model 1		Model 2	
	<i>B</i>	<i>t(p)</i>	<i>B</i>	<i>t(p)</i>
Constant	1.34			
Physical Proximity Visits to Blast Sites	.18	4.39(.01)		
Constant			1.36	
EP1 (Knowing victim of bomb blast)			.063	4.92(.01)
EP2 (Knowing kidnapping victim)			.035	3.15(.002)
R^2	.018		.035	
<i>F</i>	1.10		1.10	
ΔR^2	.01		.033	
ΔF	19.27		19.27	

Table 3 presents the outcome of regression analysis performed in two different models, related to physical and emotional proximity. In the first model, every time an adolescent is physically exposed to a place where a bomb blast took place, chances of developing vicarious trauma increase. Coefficient multiple determination $R^2(.018)$ and adjusted $R^2(.017)$ indicates almost 2% of the variance is accounted for. It presents analysis of variance of the adolescents exposed to trauma where, IES-R total is the criterion variable which depends on visits of blast sites $F(1,1072) = 19.28, p < .000$; and significant regression coefficient $t = 4.39$. Results show that visiting places or sites where bomb blasts have occurred predicts occurrence of trauma symptoms among adolescents, and every time such a place is visited, the adolescent will be further traumatized.

The findings for emotional proximity to a victim of bomb blast or kidnapping are presented in Model 2. Co-efficient multiple determination $R^2(.35)$ and adjusted $R^2(.033)$, which indicates that 3.3% of the variance is accounted for. It also shows analysis of variance of the adolescents exposed to trauma where the IES-R total is the criterion variable which depends on emotional proximity to victim of violence $F(1,1071) = 19.28, p < .000$. Regression co-efficient is $t = 4.94$ and 3.15 for both categories of emotional proximity. Results show that knowing someone who was a victim of violence or kidnapping predicts positively trauma symptoms among adolescents.

Discussion

The numerous traumatic events which have taken place in Pakistan over last few decades have long lasting implications. From 49 bombings in the post-independence span of 25 years, to 68 incidents alone in 2007-8 all over the country, targeting people irrespective of their age or gender, attacks at educational institutions, hospitals, roadsides, religious and market places (Hassan, 2012) have occurred. Man-made crisis are potentially traumatic events and more stressful as compared to others (Nickerson et al., 2009). The knowledge that a trusted one or another human being can purposely destroy lives, shatters the trust and assumptions of a growing individual that the world is safe (Catherall, 2004; Dyb et al., 2014).

The present study investigated the indirect effect of violence on adolescents and explored the role of physical and emotional proximity in developing vicarious trauma. The study found that each successive visit to a destroyed place has the potential to develop vicarious trauma in adolescents as does the knowledge that someone known has been a

victim of a bomb blast or kidnapping. Both hypotheses were, thus, supported as emotional and physical proximity to traumatic event and victim can lead to the development of core symptoms of PTSD at a moderate level. Keeping in mind that symptoms of vicarious trauma are purported to be of moderate intensity, the range of symptoms for present study were assumed to be present in adolescents in the sample if their mean scores on the IES-R were in the middle range; where low scores indicated no symptoms and high scores meant PTSD was present. Two models through regression analysis were evoked, although, the levels of variance achieved are low, their significance level is high and the impact of findings has useful implications with regard to the local culture and development of vicarious trauma. These findings opens directions for further research.

According to (Kilpartick et al., 2013), the stressor criterion A1 has been a most challenging aspect of PTSD diagnosis in DSM-IV-TR. It addressed direct involvement or experience of an individual as witness or confrontation to an event that could cause death or severe injury to self or others. Furthermore, memory of trauma is at the heart of diagnosis and the organizing core around which all of the other symptoms can be understood (Friedman, Resick, Bryant, & Brewin, 2011). The diagnostic criteria of DSM 5 (APA, 2013) for PTSD have been changed and range broadened to include exposure to threatened death, serious injury and aversive details; ruling out exposure through the several forms of electronic and print media. This incorporates aspects of emotional proximity and widens the scope for diagnosis of PTSD. The role of memory needs to be further studied, as constant reminders in the physical environment arouse a host of thoughts and feelings in individuals who have come across gruesome destruction. Reconstruction in an under-developed country is always slow, and given the relentless pace of terrorist attacks in the country, exposure has been continuous. As a norm, very young children are sent several times a day to the neighborhood shops to buy items of daily use. However, by the age of 9 years or so, boys assume greater responsibility and independence, and are even allowed independent mobility often across the city, hence, they are exposed to a world their parents often have no idea of. If the terrorist site is enroute to the school, they face constant reminders of the blast. Shaw (2003) reports evidence where research has demonstrated significant positive relationships between proximity of residence to a terrorist attack and increased psychological distress. Another finding from a related research on this same subject is that whenever any event traumatic or otherwise happens on the roadside, people gather around usually just watching events unfold (Yazdani & Shafi, 2014). This lack of avoidance leads to greater symptoms of intrusion and hyperarousal,

and the present findings of the role of indirect physical proximity to vicarious trauma eventually link them to a higher incidence of moderate symptoms of PTSD in adolescents (Yazdani & Shafi, 2014; Yazdani et al., 2015).

The culture of Pakistan is collectivistic families' support system is extensive, extending beyond home (Bashir, Jianqiao, Abrar, & Ghazanfar, 2012). Children are fully aware of any traumatic happening in the lives of relatives or friends. There are many sources of information for adolescents about violence-related happening to their friends, relatives, and the world, in general (Yazdani, 2013). It was found that mostly it was the knowledge that a friend or someone they knew of through a friend who had been victim of a bomb blast, or a relative who had been kidnapped. This has implications for placing adolescents at risk as their social circle make their most vulnerable to exposure to violence. Secondly, threats to peers can disrupt one's own self of security and peace. At times when adolescents need role models, authority figures, and a sense of security, their lives seem out of control due to threats to life of their loved ones.

A review of extant literature shows that where there is a closer relationship with the victim, adolescents are likely to also have a sympathetic response (Brock, 2006; Nickerson, et al., 2009). In many countries, Palestine, Bosnia, Rwanda, to name a few, exposure to extreme violence and constant threat of losing loved ones brings about changes at several levels. These are contemporaneous and longitudinal with indicators for maladjustment. Posttraumatic stress is prominent with anxiety, depression, and internalizing behaviors among other problem being observed (Dubow, Huesmann, & Boxer, 2009).

The realization that large numbers of the population particularly children and adolescents live in potentially traumatizing situations, is taking on a sense of urgency. The situations they may encounter can be a one-time incident or frequent, pervasive, and chronic events. Furthermore, ethnic political violence potentially exposes children and adolescents to dislocation from their homes. Perceived safety and security disintegrates and this leads to psychological repercussions (Dubow et al., 2009). Issues arising from environmental, familial or socio-political events also need to be understood in this context rather than as behavioral or emotional problems (Wolfe & Mash, 2006). Following national or communal trauma and due to variability in responses, the impact of terrorist events is likely to go far beyond those directly exposed. The dominant role being played by the media, both on television and internet is also having a contributory effect on transmitting information regarding traumatic events (Yazdani, 2013). The tendency is to downplay effects of trauma particularly vicarious

among adolescents and children. Professionals need to avoid pathologizing “normal” responses to an abnormal event. The role of health care providers and educationists becomes central in creating awareness. Pfefferbaum, Seale, Brandt, and Pfefferbaum (2003) also direct the attention of professionals working with children to assess them for exposure and stress, irrespective of the fact that they may not have been impacted directly; there is a contagious quality to the spread of posttraumatic stress. Sophisticated intervention research should be a priority, increasingly accounting for circumstance, culture, and ecology and embedded within a strong developmental framework (Silver et al., 2004).

Conclusions and Implications

Trauma, while it is common and unavoidable in the life of children and adolescents, poses serious risks to mental health. Even though physically safe, they are getting emotionally affected when a relative or friend is kidnapped or hurt in a bomb blast. The main reason is that the world seemed safe, and then, humans hurt each other; this traumatic exposure shatters assumptions of trust and personal safety. Additionally, adolescents may be visiting places destroyed out of a macabre sense of curiosity as this is an endemic quality, but the act in itself becomes a physical, potentially traumatic event and places them at risk of PTSD. Where individual lives are enmeshed as in collective societies, relations, and friends are a source of strength and positivity. Conversely, the pain and hurt of another can be keenly felt. Thus, it remains to be seen how long the ongoing effects of trauma can buffer the present generation from its vicarious effects; particularly when emergency and medical services have evolved better and speedier responses, but intervention at psychological levels is missing. There is a dire need to understand how trauma affects individuals in the Pakistani context. In this context, schools acquire significance. They are the potential source of identification, intervention and support for the traumatized children and adolescents.

Limitations and Suggestions

The present study investigated the role of emotional and physical proximity in the development of vicarious trauma. The present study is limited in that the research was exploratory and sought information

through self-report questionnaires. It investigated indirect exposure to potentially traumatic events and only explored those elements of trauma which occur in the physical environment of adolescents. The results are suggestive of the presence of modest level of core symptoms of PTSD. Trauma is a multi-faceted phenomenon as it involves numerous variables in the individual, the situation, and after the traumatic event; and in order to gain holistic understanding, the scope of research needs to be broadened. A better understanding through applying several techniques of data collection, for example, use of other PTSD inventories, conducting interviews in addition to self-report questionnaire or additionally talking to parent/teacher may yield richer information.

The sample consisted of students from upper secondary school and first year of college. The results cannot be generalized to a large segment of adolescents who are out of school and have additional indirect exposure and psychosocial problems; hence, have greater vulnerability to vicarious trauma.

Limited variance was explained in the regression analysis model. This highlights the need for research in developing a better understanding of the role of proximity, especially, physical in vicarious trauma. The present study focused only on the number of visits to sites destroyed by bomb blasts. Further, research can focus on the time factor, for example, how long and how often a place was visited after a blast; investigate gender differences, that is, whether boys and girls differ with respect to a desire for viewing macabre or grotesque and whether going to that place was avoidable or not.

Effect of peer groups and media in bringing information about the traumatic events and the spreading of information and details regarding the happening to friends of friends vividly close to a young person highlights an important area of research. The interplay of these variables are part of the physical environment of adolescents and in order to develop intervention strategies a clearer understanding of the virtual world is needed.

The IES-R total scale scores were only analyzed in this study. Further research on the scores of the three subscales may yield more information about the Intrusion, Hyper-arousal, and Avoidance pattern of responses in the development of vicarious trauma. Such studies can help develop intervention strategies, therefore, gender differences need to be investigated in both emotional and physical proximity. Very often adolescents' activities are unknown to their immediate families, schools can play important role in bridging this gap by developing crisis intervention programs.

References

- Ahmed, A. E., Masood, K., Dean, S. V., Shakir, T., Kardar, A. A. H., Barlass, U., & Hasnain, F. (2011). The constant threat of terrorism: Stress levels and coping strategies amongst university students of Karachi. *Journal of Pakistan Medical Association*, *61*(4). <https://www.ncbi.nlm.nih.gov/pubmed/21465991>
- American Psychiatric Association (APA, 2000). *Diagnostic and statistical manual of mental disorders* (4th ed., Text Revision). Washington D. C: Author.
- American Psychiatric Association (APA, 2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington D. C: Author.
- Bashir, M., Jianqiao, L., Abrar, M., & Ghazanfar, F. (2012). The organization's cultural values: A study of public sector universities in Pakistan. *African Journal of Business Management*, *6*(10), 3686-3693. Retrieved from <http://www.academicjournals.org/AJBM> doi:10.5897/AJBM11.2677 ISSN 1993-8233
- Brock, S. E. (2006). *Crisis intervention and recovery: The roles of school-based mental health professionals*. Bethesda, MD: National Association of School Psychologists.
- Brock, S. E., & Davis, J. (2008). Best practises in school crises intervention. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (5th ed.,pp 781-798). Bethesda, MD: National Association of School Psychologists.
- Catherall, D. R. (2004). *Handbook of stress, trauma, and the family*. NY, USA: Brunner-Routledge.
- Cohen J. A., Berliner L, & Mannarino, A. P. (2000). Treating traumatizing children: A research review and synthesis. *Trauma, Violence, and Abuse*, *1*, 29-47.
- Cohen, M., & Eid, J. (2007). The effect of constant threat of terror on Israeli Jewish and Arab adolescents. *Anxiety, Stress and Coping*, *20*(1), 47-60. Retrieved from <http://socialcosmos.library.uu.nl/index.php/sc/article/viewFile/47/42>
- Copeland, W., Keeler, G., Angold, A., & Costello, J. (2007). Traumatic events and posttraumatic stress in childhood. *Archives of General Psychiatry*, *64*(5), 577-584. doi:10. 1001/archpsyc. 64. 5. 577
- Costello, E. J., Erkanli, A., Fairbank, J. A., & Angold, A. (2002). The prevalence of potentially traumatic events in childhood and adolescence. *Journal of Traumatic Stress*, *15*, 99-112.
- Deković, M., Koning, I. M., Stams, J., Kirsten L. G., & Kirsten, L. B. (2008). Factors associated with traumatic symptoms and internalizing problems among adolescents who experienced a traumatic event. *Anxiety, Stress, and Coping*, *21*(4), 377-386. doi:10.1080/10615800701791161.

- Dubow, E. F., Huesmann, L. R., & Boxer, P. (2009). A social-cognitive-ecological framework for understanding the impact of exposure to persistent ethnic-political violence on children's psychosocial adjustment. *Clinical Child Psychology Review, 12*, 113-126. doi:10.1007/810567-009-0050-7.
- Dyb, G., Jensen, T. K., Nygaard, E., Ekeberg, O., Diseth, T. H., Wentzel-Larsen, T.,...Thorensen S. (2014). Post-traumatic stress reactions in survivors of the 2011 massacre on Utoya Island, Norway. *British Journal of Psychiatry, 7*, 204-361. doi:10.1192/bjp.bp.113.133157.
- Ekblad, S. (2002). Ethnopolitical warfare, traumatic family stress, and the mental health of refugee children. In C. E. Stout (Ed.), *Clinical aspects and responses* (Volume pp.27-48. Connecticut: Praeger.
- Fletcher, K. E. (2003). Childhood posttraumatic stress disorder. In E. J. Mash, & R. A. Barkley (Eds.), *Child psychopathology* (2nd ed., pp. 310-371). New York: Guilford Press.
- Friedman, M. J., Resick, P. A., Bryant, R. A., & Brewin, C. R. (2011). Considering PTSD for DSM-5. *Depression Anxiety, 28*(9), 750-769. doi: 10.1002/da.20767.
- Gershuny, B. S., & Thayer, J. F. (1999). Relations among psychological trauma and dissociative phenomena and trauma-related distress: A review and integration. *Clinical Psychology Review, 19*, 631-657. Retrieved from [http://dx.doi.org/10.1016/S0272-7358\(98\)00103-2](http://dx.doi.org/10.1016/S0272-7358(98)00103-2)
- Goslin, M. C., Stover, C. S., Berkowitz, S., & Marans, S. (2013). Identifying youth at risk for difficulties following a traumatic event: Pre-event factors are associated with acute symptomatology. *Journal of Trauma Stress, 26*(4), 475-82. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/jts.21825/pdf>
- Human Rights Commission South Asia. (2011). *Karachi: 7,000 children kidnapped in 2011*. Retrieved from <http://www.hrcsa.org/UN%20Commission%20on%20Human%20Rights.htm>
- Institute for Conflict Management. (2014). *Fatalities in terrorist violence in Pakistan*. Retrieved from <http://www.satp.org/satporgtp/countries/pakistan/database/casualties.html>
- Kausar, R., & Kanwal, S. (2010). Psychological effects of terror attack on children: Acute stress symptoms. *Indian Journal of Clinical Psychology 37*(2), 158-162. Retrieved from <http://www.indianjournals.com/ijor.aspx?target=ijor:ijcp&volume=37&issue=2&article=008>.
- Khalily, M. T. (2011). Mental health problems in Pakistani society as a consequence of violence and trauma: A case for better integration of care. *International Journal of Integrated Care, 1*-7. doi:10-1-101574/ijic2011-128
- Khalily, M. T., Foley, S., & Hussain, I., & Bano, M. (2011). Violence, psychological trauma, and possible acute post-traumatic interventions in

- Pakistani society. *The Australasian Journal of Disaster and Trauma Studies, 1*, 1-11. doi:10.1080/10615800701791161.
- Kilpatrick, D., Resnick, H. S., Milanak, M. E., Miller, M. W., Keyes, K. M., & Friedman, M. J. (2013). National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and proposed DSM-5 criteria. *Journal of Traumatic Stress, 26*, 537-547. doi:10.1002/jts.21848
- Laor, N., Wolmer, L., & Cohen, D. J. (2001). Mothers' functioning and children's symptoms 5 years after a SCUD missile attack. *American Journal of Psychiatry, 158*, 1020-1026. doi:10.1176/appi.ajp.158.7.1020
- Lerias, D., & Byrne, M. K. (2003). Vicarious traumatization: Symptoms and predictors. *Stress and Health, 19*, 129-138. doi:10.1002/smi. 969
- MacRitchie, V. J. (2004). *An exploration of pts symptomology in victims of violent crimes in South Africa* (Unpublished Honours Dissertation). University of Witwatersrand, Johannesburg. Retrieved from <http://wiredspace.wits.ac.za/jspui/bitstream/10539/2060/2/SECONDARY%20TRAUMATIC%20STRESS%20PDF.pdf>
- Nayab, R., & Kamal, A. (2010). *Assessed and reassessed level of terrorism catastrophizing, perceived stress, and death anxiety and behavioural changes among university students*. Poster presented at conference on Developmental Psychopathology. National Institute of Psychology, Quaid-i-Azam University, Islamabad.
- Niaz, U. (2011). *Wars, insurgencies and terrorist attacks: A psychosocial perspective from the Muslim world*. Karachi: Oxford University Press.
- Nickerson, A. B., Reeves, M. A., Brock, S. E., & Jimerson, S. R. (2009). *Identifying, assessing and treating PTSD at school*. CA; USA: Springer.
- Pakistan Economic Survey*. (2010-2011). Government of Pakistan, Finance Division, Economic Adviser's Wing, Islamabad. Islamabad, Pakistan: Printing Corporation of Pakistan Press.
- Pfefferbaum, B. (2005). Aspects of exposure in childhood trauma: The stressor criterion. *Journal of Trauma and Dissociation, 6*, 17-26.
- Pfefferbaum, B., Seale, T. W., Brandt, E. N., & Pfefferbaum, R. L. (2003). Media exposure in children one hundred miles from a terrorist bombing. *Annals of Clinical Psychiatry, 15*(1), 1-8.
- Pine, D. S., & Cohen, J. A. (2002). Trauma in children and adolescents: Risk and treatment of psychiatric sequelae. *Biological Psychiatry, 51*, 519-531. Retrieved from http://www.nctsn.org/nctsn_assets/pdfs/articles/trauma_risk_treat_sequelae.pdf
- Price, M. (2012). *Complex trauma experience in children and adolescents: An assessment of the effects of trauma type and role of interpersonal proximity* (Unpublished Master Dissertation). University of Hawai'i at Hilo, USA.
- Pynoos, R. S., Fredrick, C., Nader, K., Arroyo, W., Steinberg, A. M., Eth, S., Nunez, F., & Fairbanks, L. (1987). Life threat and posttraumatic stress in

- school-age children. *Archives of General Psychiatry*, 44, 1057-1063. doi:apa.org/psycinfo/1998-11440-002
- Pynoos, R. S., Ritzmann R. F., Steinberg A. M., Goenjian A., & Priscearu I. A. (1996). Behavioral animal model of PTSD featuring repeated exposures to situational reminders. *Biological Psychiatry*, 39, 129-134.
- Shaw, J. A. (2003). Children exposed to war/terrorism. *Clinical Child and Family Psychology Review*, 6(4), 237-246.
- Silver, R. C., Poulin, M., Holman, E. A., McIntoh, D. N., Gil-Rivas, V., & Pizarro, J. (2004). *Exploring the myths of coping with a national trauma: A longitudinal study of responses to the September 11th terrorist attacks*. Retrieved from <https://webfiles.uci.edu/rsilver/Silver%20et%20al.%20J%20Aggression,%20Maltreatment%20&%20Trauma.pdf>
- Society for the Protection of the Rights of the Child. (2011). *Violence against children*. Retrieved from <http://www.sparcpk.org/PA-VAC.html>.
- Steed, L., & Downing, R. (1998). A phenomenological study of vicarious traumatisation amongst psychologists and professional counsellors working in the field of sexual abuse/assault. *Australasian Journal of Disaster and Trauma Studies*, 2, 1-8. Retrieved from <http://www.massey.ac.nz/~trauma/>
- Weiss, D. S., & Marmar, C. R. (1997). The Impact of Event Scale-Revised. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399-411). New York: Guilford Press.
- Wolfe, D. A., & Mash, E. J. (2006). *Behavioral and emotional disorders in adolescents: Nature, assessment and treatment*. New York, USA: The Guilford Press.
- Yazdani, A. (2013). *Prevalence of vicarious trauma and related factors as a source of indirect exposure to violence in adolescents* (Unpublished Doctoral Thesis). Institute of Professional Psychology, Bahria University, Karachi, Pakistan.
- Yazdani, A., & Shafi, K. (2014). Indirect Exposure to violence and prevalence of vicarious trauma in adolescents. *Bahria Journal of Professional Psychology*, 13, 57-71.
- Yazdani, A., Zadeh, Z. F., & Shafi, K. (2015). Gender differences in adolescents experiencing vicarious trauma. *Pakistan Journal of Clinical Psychology*, 14, 27-39.

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