

## **Indirect Exposure to Violence and Prevalence of Vicarious Trauma in Adolescents**

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The present study was designed to investigate the prevalence of vicarious trauma in adolescents. Adolescents indirectly experience trauma symptoms through traumatic events happening to others. The present paper focuses on outcomes from a larger research project and investigates the prevalence of vicarious trauma in adolescents. The purposive sample drawn from schools consisted of adolescents between the ages of 14-17 years. They were administered a demographic information form and special questions designed to get information about exposure to a traumatic event; and the Impact of Events Scale-Revised with modifications to time frame. It was assumed that adolescents are experiencing moderate levels of the core symptoms of PTSD. The hypothesis was supported. The study found that 54% of adolescents were experiencing moderate symptoms of vicarious trauma. The rate of exposure to traumatic events was high as 42% adolescents were exposed indirectly to terrorist attacks, target killings, gang wars, and the prevailing situation in the country. Natural disasters affect about 6% of the sample. The impact of national tragedies in the lives of the inhabitants emerged in the present research, as 27% adolescents mentioned air crashes. The results of the study support findings that indirect exposure to violence and traumatic events places adolescents at the risk of developing PTSD symptoms and may necessitate clinical and academic referrals. The implications for further research in the area are immense.

*Keywords:* Adolescents, prevalence, vicarious trauma, indirect exposure

Trauma and traumatic experiences are a major part of human life. Disasters are complex events because not only do they challenge the coping abilities of individuals and communities but often overwhelm them (Alexander, 2005). Due to an unnatural increase in the number of traumatic events in the world, children and adolescents are being exposed to varying levels of threats related to physical and psychological safety (Little, Akin-Little & Gutierrez, 2009). Indirect exposure to news of traumatic events, social media outlets and other individuals' direct suffering has increased. As such, one is required to constantly call upon mental, physical and social resources in order to cope with the unusual circumstances.

In Pakistan epidemiological figures about psychological issues in the populace are generally, at the best, estimates. Knowledge about how the adolescents in the country are being affected by the ongoing terrorism and disasters is not available. Psycho-social factors in society that place them at various levels of risk of exposure to trauma are not documented. Therefore there is a dire need to carry out trauma-related research in the country. Culturally relevant information and definitions (Wilson, 2007) are crucially required in order to plan effective crisis interventions and consequently carry out psycho-educational training and remedial measures.

With particular reference to the last decade or so, the country has suffered from both man-made and natural catastrophes. Earthquakes, floods and terrorist attacks have taken place and law and order situations have often deteriorated with mobs running rampant. From the beginning of year 2002 to the end of April 2010, a total of 8,141 incidents of terrorism have occurred in Pakistan. The figures indicate that 8,875 deaths of both civilians as well as law enforcement personnel have occurred, with injuries to a further 20,675 people. Statistics aside, the impact on lives, livelihood and income has been disastrous; while education attainment for virtually a whole generation of school-going age in the affected areas of Khyber Pakhtunkhwa and FATA has been jeopardized or severely undermined (Pakistan Economic Survey, 2009-2010). The implications are immense for a country which has a large percentage of its population between the ages of 15-45 years, (Pakistan Economic Survey, 2010-2011).

Extant literature indicates that though the impact of direct exposure to a traumatic event has been well studied, evidence for vicarious trauma is compelling. Goldich's review of literature (1998) has found strong evidence that adolescents and children are at significant risk of developing Posttraumatic Stress Disorder (PTSD) after both, experiencing and witnessing violence. The symptoms expressed are similar to those experienced by adults; dissociation, re-experiencing of traumatizing events in distressing and disorganizing ways, suffering from states of hyperarousal and hypervigilance. Serious risk-taking behaviours also occur. Lerias and Byrne (2003) suggest that vicarious trauma is the response of persons 'who have witnessed, been subject to explicit knowledge of or, had the responsibility to intervene in a seriously distressing or tragic event.' The event is perceived as a threat to personal safety and has led to experiencing feelings of intense fear, helplessness or horror. Secondly, the listener may empathize with the victim while listening to the account of the trauma and experience the same symptoms.

Vicarious trauma occurs when the traumatic event has the same effect or experience on first responders, therapists, co-workers, family members, even bystanders (McCann & Pearlman, 1990). The present study draws upon the work carried out upon professionals and first responders and the cognitive changes they experience as a consequence of direct and indirect exposure. Thus it seeks to expand the scope of vicarious trauma which may be occurring in the general population, particularly by investigating vicarious trauma in adolescents. When a traumatic event, manmade or natural takes place, the consequent outfall

of traumatic events has been referred to as 'circles of vulnerability' (Ayalon & Lahad, 2001). From the epicentre of victims, there are four concentric circles. While individuals in the first circle are those who were directly exposed, the second circle includes witnesses who had a near miss experience. The third circle includes one who may have heard, smelt or felt the disaster, but did not witness the traumatic event. These are also the people who may have had occasional contact with the victims or left the place just before the incident happened. They are also referred to as near-miss. The fourth circle considers people who were outside the range of the traumatic event. Also included are people who have been exposed to media coverage of the incident and are the vulnerable groups which are unreported and unrecognized. This circle includes distant neighborhoods and communities, potentially the whole nation. While on one hand they seem least vulnerable, but because they are witnessing events on television, hearing about them through others or newspaper and more lately through the internet; they are exposed to the trauma. Adolescents by virtue of their age and exposure are at greater risk and are likely to have a lifetime of consequences (Greyber, Dulmus & Cristalli, 2012). The present study therefore investigated the presence of trauma symptoms in adolescents who were in the outer circles of vulnerability.

The age group of 16-17 has been found to be most vulnerable to PTSD, with the disorder being one of the most common psychiatric problems (Essau, Conradt & Petermann, 1999). The American Psychiatric Association (2000) states the lifetime prevalence of PTSD in the general population as 1-14% while in China and New Zealand the prevalence is very low. After an earthquake struck Iran, its prevalence was found to be around 40% (Javidi & Yadollahie, 2012). Studies carried out in the Gaza Strip also yield high figures of exposure and trauma symptoms in adolescents (Adel, 2011). However, definitions of trauma matter significantly. Elzy, Clark, Dollard and Hummer (2013) suggest that broad definitions of traumatic exposure lead up to a 70% rise in prevalence and type of exposure. Prior to undertaking any research in trauma this needs to be clarified.

When it comes to understanding the effect of trauma on children and adolescents, their developmental stages play a role in the ontogenesis of trauma. There are socio-emotional and physiological variations in the manifestation of trauma symptoms (Maercker, Michael, Fehm, Becker & Margraf, 2004). The present study investigated the prevalence of vicarious trauma in adolescents because the symptoms of PTSD become similar to adult manifestations. Adolescents have concrete thinking styles which are focused on the present. Consequently they have difficulty with abstract and symbolic concepts. Adolescents at this stage collect information from experience, analyze it then make critical decisions about future choices and consequences. In doing so, it becomes difficult to see the others' point of view and they question issues which others may accept at face value. When stressed, adolescents may revert to concrete simplistic thinking (Cohen, Berliner & Mannarino, 2000)

A number of studies related to the effects of various catastrophes have been carried out in the country. However they have focussed on samples consisting of older students; or the selected broad age ranges overlooking developmental issues and large segments of the population considered to be affected. Therefore the present study investigated the severity of exposure to traumatic events and vicarious trauma in adolescents between the ages of 14-17 years. In the light of literature reviews the hypothesis formulated was: There will be prevalence of vicarious trauma among adolescents.

## **Method**

### **Participants**

For the present study, a purposive sample was drawn from government and private schools of Karachi. There were a total of 1074 adolescents, between the ages of 14-17 years with a mean age of 14.95 years. The sample included students from Matriculation and Cambridge systems of education. Adolescents who had direct exposure to trauma were

excluded from analysis. Table 1 gives the age and class distribution demographics of the sample. The percentage of boys in the sample was higher than girls. It was also found that 39% of the sample was aged 14 years and was enrolled in class 8. The second largest group at 39% was aged 15 years and was enrolled in class 9.

Table 1  
*Age and Class Distribution of Sample*

Demographic Variables	<i>n</i>	%
<b>Gender</b>		
Girls	476	44
Boys	598	56
<b>Age in Years</b>		
14	416	39
15	349	33
16	231	22
17	78	7
<b>Class</b>		
8 <sup>th</sup>	418	39
9 <sup>th</sup>	403	38
1 <sup>st</sup> year	192	18
O' levels	61	6

## Measures

A series of discussions and focus groups were carried out with groups of students in several schools. Based on common outcomes a questionnaire was devised which sought basic demographic information such as age and gender of student; parents' education, socio-economic status and occupation. Secondly, it comprised of nine items which sought information about exposure to direct or indirect traumatic events and types of incidents.

**Impact of Events Scale-Revised (IES-R).** Impact of Events Scale-Revised (IES-R) is a five point likert-type scale developed by Weiss and Marmar, in 1997. It is a self-report measure to tap symptoms of PTSD through three subscales, Intrusion, Hyperarousal and Avoidance and is not a diagnostic tool. The respondent scores items through 0-4. Mean scores of respondents were divided into three groups: low, moderate and high. Moderate scores were then statistically analyzed for significance. The scale was used with modifications to time frame as respondents were to report with reference to a past event because of which they were experiencing trauma symptoms.

## Procedure

Permission letter given by the University was shown to principals of the schools approached. The researcher explained the link between the prevailing traumatic events and their vicarious effect. After gaining permission, the researcher and a teacher visited each classroom where a standard set of instructions were given. The students were also asked for their consent, confidentiality was emphasised and the questionnaire was then administered. Maximum time to administer the questionnaire was 20 minutes, after which students were debriefed and thanked for their participation.

The data used here are part of a research project where adolescents were assessed for the prevalence of vicarious trauma, and the role of various factors in leading to PTSD symptoms was investigated. The present paper focuses only on investigating the presence of vicarious trauma in adolescents.

### **Operational Definitions**

#### *Vicarious Trauma:*

Being subject to the explicit knowledge of a distressing or tragic event as a consequence of which moderate symptoms of PTSD have developed (Lerias & Byrne, 2003).

#### *Indirect Exposure:*

Exposure to violence through having someone known get kidnapped or become victim of a bomb blast. Knowledge about disasters, terrorist attacks, events due to law and order disturbances through the victim or through any other source (Green, 1990).

### **Results**

The data was tabulated statistically using SPSS version 20.0. Percentages were calculated to obtain results.

Table 2

#### *Level of Scores on IES-R*

Scores	<i>f</i>	%
Low	435	41
Moderate	575	54
High	64	6

The hypothesis is supported as shown by the results in table

2. The presence of vicarious trauma symptoms is found to be at the moderate level by 54%.

Table 3  
*Severity of Traumatic Events Exposure in Adolescents*

Event	<i>f</i>	%
Airplane crashes	273	27
Terrorist attack	196	19
Road traffic accident	106	11
Friend's illness/death	27	3
Natural disaster	59	6
Robbery/mobile snatching	42	4
Family crises	23	2
Kidnapping	45	5
Situation in country	76	8
Target-killing gang wars	53	5
Own illness	7	.7
Total	1011	100

According to table 3, the severest exposure of adolescents is to airplane crashes at 27%, followed by 19% to terrorist attacks in the country. Exposure to road traffic accidents is 11% while death of a family member due to illness is 10%. Kidnapping, gang wars, target killing as a traumatic stressor occurs for 5% of sample; and incidents of robbery and mobile snatching occur at 4%. Least exposure is to family crises and respondents' own illness.

### Discussion

The present research investigated the presence of trauma symptoms in adolescents. It was found that they are experiencing moderate level of core symptoms of PTSD and the hypothesis was thus supported. Furthermore, the exposure severity of adolescents indirectly to traumatic events was also investigated and it was found that they are exposed to a higher level of disaster and violence than adolescents.

The prevalence of vicarious trauma symptoms in 54 percent of the sample indicates that adolescents are experiencing distress and anxiety at a level which is constantly disturbing for them. With so many things going on around them, the traumatic event is just one more incident happening in life. Once the traumatic exposure has happened, life seems to have returned to normal. Routine takes over and the event fades from memory. However, the adolescent may be experiencing recurring and intrusive thoughts; constantly being alert, anticipating danger and taking steps to avoid danger may be present sleep patterns and appetite may be affected. At a cursory look all may seem normal and unless an attempt is made to discern a pattern of behaviour, parents and teachers will be unlikely to notice the negative changes. Thus alterations or deteriorations in patterns of thinking, feelings and behaviour will be attributed any reason other than the actual one. Moderate symptoms may not draw the attention of adults however; the distress being experienced by adolescents has implications for future. They have reported disturbed functioning on three scales of IES-R on events which occurred six months to a year ago and were not in the range of their personal experience. These are persisting reminders of moderate intensity which may be compelling them to make slight and unnoticeable changes in their behaviours as well.

Thus vicarious trauma has an enduring impact on the developing minds and lives of adolescents, particularly as its symptoms are on a continuum of PTSD. With community and interpersonal violence, war or disaster related exposure and other forms of disturbances in the society, adolescents and children are at a greater risk. This leads to the development of an

array of problems, where internalized and externalized trauma symptoms develop. Evidence has been found for the development of depression anxiety disorders, suicidal ideation; eating and conduct disorders (Brezo, Paris, Vitaro, Hébert, Tremblay, & Turecki, 2008) as well as many other severe psychological and physiological outcomes.

Compared to worldwide figures, the development of PTSD after exposure to traumatic events is 3-6% in adolescent boys and girls (Cook, et. al., 2005). The Great Smoky Mountains study by Copeland, Keeler, Angold and Costello (2007) was a longitudinal research and according to the authors, by age 16, 68% adolescents are exposed to at least one traumatic event. In the age group of 14-16 years, prior anxiety and previous exposure to trauma were identified as risk factors in the emergence of PTSD as long as a year after exposure. This study found 32% prevalence of exposure to trauma due to an injury or illness, a serious accident or a natural disaster. At 24%, the lifetime prevalence of traumatic exposure is due to the violent death of a loved one, terrorism, or because of severe harm; following closely at 23% witnessing a life event and at 21% was coming to know about life threatening event (Copeland, Keeler, Angold & Costello, 2007).

Elklit and Petersen (2008) studied four European nations and assessed investigated the direct and indirect exposure to a traumatic event as it happened to a family member or close friend. The mean age of this study was 14.5 years, and 90% of the sample reported exposure to a traumatic event. However, death of a family member was the most frequently occurring event while road traffic accidents ranked fourth. The authors have estimated lifetime prevalence of PTSD in the total sample at 9.0 %. Furthermore, 14.1% of the sample reached a subclinical level of PTSD.

Closer to home, Khan, Ghana, Margoob and Arfat (2011) found high prevalence of trauma symptoms in children from Srinagar ranging between 3-16 years of age, where 75% of them had witnessed violence. Khalily (2011) reports the presence of 16 out of 17 symptoms of PTSD among Swati individuals between the ages of 11-22 years. Kahlily, Fooley, Hussain and Bano (2010) in another study, point out the enormity of the problem. Thus Elzy, Clark, Dollard and Hummer (2013) conclude, that when a high magnitude of prevalence rates are combined with negative outcomes, the need to research into age related trauma prevention and treatment acquire a socio-economic urgency.

There has been spiraling violence and militancy in the form of communal and sectarian clashes, indiscriminate bomb blasts targeting the civilian population as well as the military in the country. Children have indirectly suffered as they have lost their parents or family members to violent death or kidnappings; opportunities for study and recreation have deteriorated, and freedom of movement severely restricted for fear of personal safety. In this present scenario, persisting for more than a decade now, the fabric of the Pakistani society is irrevocably interwoven with people whose lives have been shattered one way or the other through manmade disasters. Basically a collectivistic society, people have strong social support systems. Normal households comprise of grandparents and children who in turn have their own families, all under the same roof. Therefore the joys and sorrows of one are felt and shared by all. The family system works as a buffer against the stresses of life and is a source of growth and resilience.

This is the strength of the society and needs to be protected in order to preserve the mental health of adolescents.

The study also indicates that adolescents are being impacted by the ongoing traumatic events in the city and country. The rate of trauma event prevalence is highest in the exposure to aeroplane crashes. Terrorist attacks in several major areas of the city had also occurred with alarming frequency and impunity and this is second in ranking to exposure. If violent events such as terrorist attacks, kidnappings, gang wars and target killing incidents as well as incidents of robbery and mobile snatching are considered in one broad category, the rate of exposure to violent events goes up by a high percentage. Combined with the sense of unease, anxiety and concern for one's future, which is a typical thinking style of adolescents, the situation in country is alarming for a nominal percentage. However, as previously discussed, the definitions of trauma play a pivotal role in increasing the rates of exposure. If all these percentages are added, manmade disasters come to the top of the table with the highest percentage.

During the period under study, a small aircraft had crashed into a residential area in Karachi. Later in the year two flights taking off from Karachi had crashed in Islamabad. A high percentage of adolescents (27%) were affected by these fatalities. Exposure to road traffic accidents (RTA) in the country at 11% reflects the mindset of a nation which is not safety conscious. Indeed this is borne out by the fact, that in spite of the high frequency of disasters occurring all over the country, systematic rescue operations and intervention strategies have yet to be put in practise. The general public fails to observe safety rules and the government fails to ensure implementation. When disasters strike, bystanders violate safety and security requirements and are the first responders to the incident. Thus the circles of vulnerability are all the more scattered and effects of trauma are unregulated and so far dispersed that adolescents felt the lingering pain and grief of the relatives of the victims of the airplane crashes. While the rate of fatalities for RTAs is higher than airplane crashes in world, yet the impact of the air crash is far more widespread. This maybe because of a number of reasons e.g., role of media, but the fact remains that its range of impact is magnified many times over. According to the Global Status Report on road safety released by WHO (1997), individuals between 15 and 44 years account for up to 60% of global road traffic deaths. Pakistan falls in the middle-income group of countries where there is a disproportionately high burden of road traffic deaths relative to level of motorization (WHO, 1997).

It is a matter of concern, that where traumatic events such as the death or illness of a loved one, such as grandparent, are second on the list of prevalence, in the present study, these have a low ranking. These figures point to a serious breakdown in the natural order of events in human lives. It is a wakeup call for the professionals and social scientists as Pakistani society faces strong challenges to peaceful coexistence.

## **Conclusion**

The results of the present study indicate that there is a large percentage of the sample which had scores in the low symptom category. Unless their resilience and coping skills are not appropriately developed a high percentage of adolescents are vulnerable to full blown symptoms of PTSD if further exposed to a traumatic stressor.

## **Limitations and Recommendations**

A thorough understanding of the psycho-social risk factors for youth, manifestations of symptoms of trauma, coping and resilience capabilities as well as appropriate systems of intervention according to the local environment is needed. The range and scope of the

research needs to be expanded and gender differences need to be explored to further enrich the findings. The topic lends itself to further study and with the extent of trauma related incidents prevalent in the society, it can be studied from multiple angles. The data was collected from adolescent's thorough self-report forms and can be subject to errors in reporting or recall. Interviews along with self-report forms can obtain richer information.

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