Manifestation of Behavioral and Emotional Disturbances and Perceived Coping Strategies of Earthquake-Survived Children

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The present study was conducted to identify emotional and behavioral disturbances among earthquake-survived children and the perceived coping strategies of effected children. In the present study, a sample of 50 children (6-16 years) belonging to badly earthquake-affected areas were selected from different camps in Islamabad. Child Behavioral Checklist (CBCL) and Rotter Incomplete Sentence Blank (RISB) interpretations were used to assess variety of emotional and behavioral patterns, and Children Coping Strategies Checklist (CCSC) was used to understand the perceived coping strategies of effected children. Results showed some of the frequent emotional/behavioral reactions exhibited by children, like withdrawal, anxiety/depression, aggression, and attention-seeking behavior. Whereas gender-based comparisons indicated that female children showed more internalizing behavioral patterns (withdrawn and somatic complains) as compared to male children who exhibited more externalizing emotions (aggression and delinquent behavior). Among coping strategies, children tried to adopt positive cognitive restructuring, and for distracting attention, they used distraction strategies of coping. It is concluded that the earthquake-affected children exhibit significant negative emotional and behavioral reactions, and that male children adopt coping strategies more as compared to female children. The study identifies the negative emotional and behavioral reactions towards trauma, which can be helpful for identifying problematic area for counseling and therapeutic interventions for these children.

Keywords: behavioral and emotional disturbances, perceived coping strategies, earthquake, children

Introduction

The present study was designed to investigate the manifestation of behavioral and emotional disturbance and perceived coping strategies of earthquake-survived children. Earthquake greatly affects the life of human being unlike other natural disaster (e.g., hurricane and flood), because it occurs without any warning. That could be the reason of limitation of the sufferers who suffered from this disaster to make the psychological adjustment and cope with the event or facilitate coping with those incidents, which suddenly strike upon them (Young, 1997).

Traumatic events can have always so hard and profound effects not only on those persons who have been injured, but also on loved ones, survivors, and witnesses (Young, 1997). It is a common assumption that children are exceptionally vulnerable from the effects of trauma, because they are on the stage of development, so are their cognition. As the level of cognition is underdeveloped, they are more vulnerable to be affected, and

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due to this fact, they are not able to adopt the cognitive coping mechanisms (Gibbs, 1989). They also rely on their adults because they are at that age not able to deal with all necessities of life (Atkins, 1991).

Behavioral and Emotional Disturbances

Behavior can be defined as a set of actions or reactions of an organism in response to external or internal stimuli (Houghton, 2004). Behavioral disturbances represent significant behavioral excesses or deficits. Behavioral disturbance include behavior like aggressive behavior, nervousness, attention difficulties, rule-breaking behavior, social problems, reserved, etc. (Achenbach, 1982).

Emotional disturbance are conditional factors, which adversely affects performance like inability to build or maintain satisfactory interpersonal relationships with others (Rotter & Michael, 1950)

Belter and Shannon (1993) and Farlane (1987) identified the impact of natural disasters on children that led to negative emotional and behavioral consequences differed in varying degrees. According to their study, children showed considerable levels of behavioral and emotional distress at sub-clinical levels of posttraumatic stress disorder (PTSD).

A number of behavioral and emotional problematic symptoms have been seen in children who suffer from any traumatic experience, including fears, sleep problems, physical complaints, and conduct problems. Studies have shown high rates of behavioral and emotional symptoms in school-age children following exposure to disaster (La Greca, Silverman, Vernberg, & Prinstein, 1996). As children are lack of independence and assess to social support, once separated from family members, security are the great problem for them and emotional problems are more severe (Giller, 1995)

A study was conducted to identify emotional and behavioral reactions among children affected by the earthquake on October 8, 2005 in Pakistan done by Sajida Naz, Abeer Mansoor, and Iram Gul (2006). The results indicated that the most frequent reactions of children following trauma were somatic complaints, withdrawal, attention-seeking behavior, and aggression. Children showed emotional and behavioral reaction in response to traumatic experience, and the gender difference was identified.

Many emotional and behavioral reactions of disaster survivors stem out, because they think themselves as living problem, caused by that earthquake. For example, they have lost family members, they are not able to go to school or work, or they have lost their home.

Perceived Coping Strategies

Coping is the effort made to manage situation which rotationally harmful or stressful (Lazaraus, 1993; Folkman & Moskowitz, 2000). The impact of natural disasters is always severe and it would be greater for children and adolescents. Exposure to trauma brings children more behavioral and emotional disturbances in varying degrees. Compared to adults, young children get more impact, because they have underdeveloped cognitions, and due to this reason, they have underdeveloped coping mechanisms (Gibbs, 1989). They also rely on adults due to this resilience they are not able to adopt the coping strategies (Atkins, 1991). Mostly, girls are largely relying upon her adults, so they are not able to adopt coping strategies for themselves.

Vernberg et al. (1996) conducted a study on children to explore the different indicators affecting child response to the trauma. The findings of the study indicated that there were number of factors, such as social support, individual differences, and overall life adjustment that affected the coping of a child. They may feel unable to respond appropriately to others and unable to confront the issues of everyday life.

Hypotheses

The hypotheses that are tested in this study are as follows:

1. There is manifestation of behavioral disturbance in earthquake-survived children;
2. There is manifestation of emotional disturbance in earthquake-survived children;
3. There is adaptation of coping strategies by earthquake-survived children in response to behavioral and emotional disturbance;
4. Gender difference in manifestation of behavioral and emotional disturbances and perceived coping strategies of earthquake-survived children.

Methods

Participants

The purposive sample for this research was comprised of 50 children, of which 35 from the temporary camps in Islamabad (Aabpara G-6 and H11), while the rest (15) was from affected areas of Kashmir. The sample of the research comprised female and male children. The age range of the children was 6-16 years old (Mean age = 11.08). Those children were included in the present research who suffered from parental loss or not, and those who lost their homes and property. Those children were excluded from the present research who was not age appropriate (6-16 years old), nor earthquake-survived children, who suffered from any imputation or had severe injury.

Design: Within-group research design was used in this study.

Instruments: Demographic data sheet.

The detailed demographic information including the information related to child's age, gender, socioeconomic status, education, from which area they belong to were collected based on the personal information of the children and their parents. The following three methods were used in the research:

RISB tests (Rotter, 1950). RISB test is a semi projective test developed by Rotter, Lah, and Rafferty. This test originally was developed in 1950. RISB comprised 40 questions that are required to complete for evaluation of personality. The cut-off score is 135. Below cut-off score indicates adjustment, and above shows maladjustment.

CBCL (Achenbach, 1991). CBCL is used to measure a child's change in behavior over time. The author Achenbach published it in 1991. Behavior like aggressive behavior, attention problems, social problems, somatic complaints, anxious/depressed, thought problems, delinquent rule-breaking behavior, Withdrawn, etc. could be examined with the help of this checklist.

CCSC (Ayers, Sandler, West, & Roosa, 1990). CCSC is a self-report inventory in which children describe their coping efforts. That checklist is for children ages 6-16 years old. Items for the Children Coping Strategies Checklist Subscales (CCSC-R) are grouped by their subscales/dimensions. The five dimensions are distraction strategies, positive cognitive restructuring, avoidance strategies, problem-focused coping, and support-seeking strategies. Ayers, Sandler, West, and Roosa developed this checklist in 1990.

Procedure

For this study, firstly the translation and adaptation of RISB test, CBCL, and CCSC were carried out. The process of translation was adopted for the adaptation of instruments, which were developed in Urdu versions of the English instrument for the use in the Pakistani context.

Then, for the administration of the test on earthquake survivors, the official permission was taken from official authorities of the relief camps. Informed consent was taken from guardians and parents of research participants. The brief instructions were given to the children for administration of the tests. Tests had been administered on the children one by one. All tests were given to the children for self-administration and the children answered the questions themselves. After data collection, data was analyzed with the inferential statistical.

Results

Table 1 shows that the frequencies and percentages of the emotions manifested by the earthquake-survived children. It indicates that 64% children showed adjustable behavior, while 36% children showed maladjustment. It also shows differences on scores of CBCL. The data indicate, on the bases of cut-off score, that 48% children showed adjustable behavior, while 52% children showed maladjustment.

Table 1

Cut-Off Scores of Earthquake-Survived Children (N = 50) on RISB Test and CBCL (in Frequency and Percentage)

	Cut-off score	<i>f</i>	%
RISB	1-135 (adjustable)	32	64.00
	135 & above (maladjusted)	18	36.00
	Total	50	100.00
CBCL	1-112 (adjustable)	24	48.00
	112 & above (maladjusted)	26	52.00
	Total	50	100.00

Table 2

Cut-Off Scores of Earthquake-Survived Children (N = 50) on Scores of CCSC-R (in Frequency and Percentage)

Subscales of CCSC	Subscales cut-off score	<i>f</i> (Perceived coping strategies)	%
Problem-focused coping	24	33	66.00
Positive cognitive restructuring	32	39	78.00
Distraction strategies	18	36	72.00
Avoidance strategies	24	24	48.00
Support-seeking strategies	18	27	54.00

Table 2 shows that the frequencies and percentages of the coping techniques adopted by the earthquake-survived children. It shows differences on scores of CCSC-R, and indicates that positive cognitive restructuring (78%) and distraction strategies (72%) are more adopted by the children comparatively to support-seeking strategies, avoidant strategies, etc..

Table 3 shows differences on scores on RISB test. The *t*-test was applied at $\alpha = 0.05$, where the *t*-value is calculated to be 0.53, while critical value is 0.07, which lies in the rejection region, showing that there is difference between two groups.

Table 4 shows differences on scores of subscales of CBCL. It shows that the gender-based differences on scores of somatic complaints, withdrawn, delinquent behavior, and aggressive behavior category of CBCL, which is highly significant. The *t*-test was applied at $\alpha = 0.05$ and $p < 0.001$ indicates that these four subscales are highly reliable on gender-base. High mean indicates more problems. Thus, female children show more

somatic complaints ($M = 5.86$, $SD \pm 0.36$) as compared to that of male children ($M = 1.68$, $SD \pm 1.09$). Similarly females indicate as having more withdrawal ($M = 16.43$, $SD \pm 1.75$) than that of males ($M = 8.14$, $SD \pm 3.93$). However, on delinquent and aggressive behavior, the result shows more delinquent behavior in boys ($M = 24.55$, $SD \pm 1.50$) as compared to girls ($M = 9.64$, $SD \pm 6.62$) and more aggressive behavior in boys ($M = 38.09$, $SD \pm 1.77$) as compared to girls ($M = 15.46$, $SD \pm 6.01$). On other subscales, there is no significant difference found on gender-base.

Table 3

Mean and Standard Deviation of Earthquake-Survived Male ($N = 22$) and Female ($N = 28$) Children on Cut-Off Score of RISB Test

	Gender	M	SD	t	p
Cut-off score of RISB	F	1.39	0.50	0.537	0.594
	M	1.32	0.48		

Note. $df = 48$, * $p < 0.05$.

Table 4

Mean and Standard Deviation of Earthquake-Survived Male ($N = 22$) and Female ($N = 28$) Children Scores of CBCL

Subscales of CBCL	Gender	M	SD	t	p
Withdrawn	F	16.43	1.75	9.990	0.001*
	M	8.14	3.93		
Somatic complains	F	5.86	0.36	19.120	0.001*
	M	1.68	1.09		
Anxious/depressed	F	13.71	4.34	0.239	0.812
	M	13.41	4.68		
Social problems	F	7.36	2.57	0.780	0.439
	M	7.91	2.37		
Thought problems	F	5.64	2.64	0.410	0.684
	M	5.32	2.95		
Attention problems	F	10.18	4.39	0.224	0.824
	M	9.91	3.99		
Delinquent behavior	F	9.64	6.62	10.334	0.001*
	M	24.55	1.50		
Aggressive behavior	F	15.46	6.01	17.056	0.001*
	M	38.09	1.77		
Sex problems	F	5.61	2.38	18.907	0.253
	M	6.41	2.50		
Sex problems	F	5.61	2.38	18.907	0.253
	M	6.41	2.50		

Note. $df = 48$, * $p < 0.05$.

Table 5 shows differences on scores on CCSC-R. It shows gender-based differences on scores of positive cognitive restructuring and distraction strategies subcategory of CCSC, which is highly significant. The t -test was applied at $\alpha = 0.05$ and $p < 0.001$ indicates that these two subscales are highly reliable on gender-base. Thus male children show more positive cognitive restructuring ($M = 44.73$, $SD \pm 5.82$) as compared to that of female children ($M = 34.18$, $SD \pm 5.00$). Similarly, comparison indicates significant gender differences on

distraction strategies category of CCSC and highly significant is found here. Females indicate as having less adaptation of distraction strategies ($M = 17.29$, $SD \pm 4.88$) since earthquake than that of males ($M = 32.23$, $SD \pm 6.09$). It shows no significant difference in other coping subscale like problem-focused coping, avoidance strategies, and support-seeking strategies.

Table 5

Mean and Standard Deviation of Earthquake-Survived Male ($N = 22$) and Female ($N = 28$) Children on Scores of CCSC-R

Subscales of CCSC	Gender	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Problem-focused coping	F	27.07	10.57	1.184	0.242
	M	23.68	9.33		
Positive cognitive restructuring	F	34.18	5.00	6.894	0.001*
	M	44.73	5.82		
Distraction strategies	F	17.29	4.88	12.630	0.001*
	M	32.23	2.96		
Avoidance strategies	F	23.57	6.09	1.120	0.268
	M	21.82	4.62		
Support-seeking strategies	F	16.50	7.82	0.040	0.968
	M	16.41	8.15		

Note. $df = 48$, * $p < 0.05$.

Discussions

The research aimed to investigate manifestation of behavioral and emotional disturbance and perceived coping strategies of earthquake-survived children. Findings of the study indicate that there is a behavioral and emotional disturbance seen in earthquake-survived children. The score of RISB observed the characteristics that affected the child's personality. Gender-based difference found out in the study indicates that there is gender-based difference in the manifestation of emotional disturbance. The frequencies and percentages on the score of CBCL show high scores on behavioral disturbances in children.

The result indicates that there is difference lying on every subscale of the CBCL. Gender-based findings shows that reactions of reserved behavior, physical complaints, anxious/depressed, social problems, attention problems, etc. are seen in children, and that there is significant difference lies among four subscales of the checklist. High mean on the subscale is the indication of high score of the problem found among those children. The scores of children on CBCL indicate that how many children adopt coping strategies to overcome the problem through the frequencies and percentages. Coping strategies like problem-focused coping, positive cognitive restructuring, distraction strategies, avoidance strategies, and support-seeking strategies are adopted by the children. High mean indicates high score on the subscale of the CCSC, and gender-based difference is also found out.

On the bases of results, it is clarified that the female children show high level of behavioral problems as compared to male children like in withdrawn, somatic complains, depression attention, and sex. However, male show high scores on aggressive, delinquent, and social problems. However, when as concern with gender difference, the children show significance difference among some subscale of CBCL like aggressive, delinquent behavior—higher score of male, and on withdrawn, somatic complains, girls scored high rates. Gender-based differences on scores of somatic complaints, withdrawn, delinquent behavior, and aggressive behavior category

of CBCL, are highly significant. This finding is consistent with Shaw, Aplegate, and Tanner (1995) who found that boys tended to have more externalizing symptoms and girls tended to display internalizing symptoms. Possible explanation could be given as cultural effects, because in Eastern culture, girls are not allowed to externalize their behavior and emotions. Stereotypical and expected behavior of a female, in typical Pakistani culture, is being highly passive, and generally, the behavior of withdrawn is considered normal. However, increasing number of somatic complaints in female children is quite alarming in present study. However, when they do not have the way to excrete their disturb behavior or when cannot tell to others, they found new ways to externalized their behavior by showing symptoms in form of somatic pains. These results are reliable with earlier studies, which have indicated that young children often show somatic, and other physical complaints after a stressful event (Moro, 1994; Erwin, 2001; Terr, 1991; Sugar, 1988). Girls manifest more problems as compared to boys in most aspects like in depression thought and attention problem. Green, Korol, Grace, and Vary (1991) in their recent studies have reported mixed findings concerning the relationship between gender and traumatic stress. Children are believed to be remarkably susceptible to the affects of disaster due to their immature cognitive coping mechanisms (Gibbs, 1989) and their reliance on adults (Atkins, 1991).

The RISB identifies the overall personality impact. Children show optimistic and pessimistic responses. Most of the children identify earthquake as the greatest fear of their life, which they cannot forget, which they feel at every step of their life. They feel themselves worthless and disturbed. Fear, acute anxiety, feelings of emotional numbness, and grief are observed in the children, and these may be obvious.

They feel themselves mostly at dangerous condition and that if earthquake occurs again, they will die. This all indicate that the children show high level of PTSD symptoms. The research on children's response to exposure to traumatic events clearly documents that children who experience traumatic events are at risk for developing both short- and long- term negative emotional reactions (Allen & Rosse, 1998). Preliminary findings suggest that children with high levels of anxiety have more chances of developing posttraumatic symptom logy (Loginan, Shannon, Taylor, Finch, & Sallee, 1994)

As concern to gender difference, the mean score of the female children are comparatively high to male children, but the gender difference is not significant among male and female children. Coping strategies can be assessed in combination with the reactions to trauma. This research has provided useful information for clinicians about the coping strategies of children and the issue that influence them. The children responses show that the children also adopt coping strategies, like in the form of problem-focused coping, positive cognitive restructuring, distraction strategies, avoidance strategies, and support-seeking strategies.

However, as concerned with gender difference, the boys used more coping strategies as compared to girls. The significant gender difference is identified on the score of positive cognitive restructuring, and distraction strategies. The children adopt coping in the form of avoiding that thought, by focusing the problem, distraction and through support-seeking strategies. The gender difference is found in the subscale of positive cognitive restructuring and distraction strategies; here male children show high level of coping adaptation as compared to female. According to research, the age of the child does not matter in responding and adopting coping responses, while girls are as more vulnerable to be affected by the disaster and are less adopting that activity which distracts their attention (Belter & Shannon, 1993; La Greca et al., 1996; Shannon et al., 1994; Vernberg, La Greca, Silverman, & Prinstein, 1996).

Conclusion

It can be concluded that the children manifest behavioral and emotional disturbances after facing traumatic experience. They also adopt coping strategies in the response of this behavioral and emotional disturbance. Compared to male children, female children manifest more behavioral and emotional disturbance, and mostly do not accept coping strategies, while male children adopt the strategies for overcoming disturbances. The effective intervention plans can be made to remedy the desired problematic areas, which might be the cause of their poor performance in their later life.

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