

COPING AND POSTTRAUMATIC STRESS SYMPTOMS IN CHILDREN EXPOSED TO A NATURAL DISASTER

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INTRODUCTION

- Disasters have long-term effects on children that can lead to impairments in multiple areas of functioning
- Few long-term studies that examine factors that may contribute to either the development or maintenance of posttraumatic distress
- Purpose of the current study was to examine the relationship between coping and long-term distress
- Hypotheses were that
 - A positive relationship would exist between distress and number of coping strategies used
 - Efficacy of coping strategies would be negatively related to posttraumatic distress

METHOD

Procedure

- Data were gathered from two schools in southwest OK 13 months after a tornado
- Children in grades 3-6 and their parents were participants
- Parents completed measures assessing demographic and exposure information at home
- Children were administered self-report questionnaires

Measures

- Demographic Questionnaire
- Tornado Exposure Questionnaire (TEQ) by parent and child
- Reaction Index (Frederick, Pynoos, & Nader, 1992)
- Kidcope (Spirito, Stark, & Williams, 1988)

Participants

- 102 children ages 8-12 enrolled at one of two public elementary schools in rural southwestern Oklahoma towns
- The majority of the sample was Caucasian (90.9%), with a mean age of 10.4 years ($SD = 1.23$)
- Children were spread across grades 3-6 (21.8% in 3rd grade, 15.5% in 4th grade, 25.5% in 5th grade, 37.3% in 6th grade) and split evenly across gender (47.3% male, 52.7% female)
- Majority of participants reported no damage to their homes (68.3%), but five of the families experienced a total loss
- Parent-report child fear was spread across not at all scared (14%), somewhat scared (20.6%), scared (24.3%), very scared (21.5%), and terrified (19.6%)
- The children's self-reported fear showed 17.6% reported being not at all scared, 44.1% reported being somewhat scared, 14.7% reported being scared, and 23.5% reported being very scared

RESULTS

Reaction Index

The average RI total score was 27.20 ($SD = 14.19$), which is in the moderate range, with scores ranging from 1 to 70. According to their self-reports, 10 children experienced no PTSD symptoms, 39 experienced mild PTSD symptoms, 32 experienced moderate PTSD symptoms, 18 experienced severe symptoms, and 3 experienced very severe symptoms.

Kidcope

The mean number of coping strategies endorsed was 7.60 ($SD = 3.10$). Frequency scores were computed for each of the coping strategies to determine how many children reported using each strategy after the tornado. In addition, group mean efficacy scores were computed for each of the strategies to determine how effective the children believed the strategies had been (see Table 1).

Relationship Between Coping & Distress

Analyses were conducted to examine the relationship between posttraumatic stress symptoms and coping. There was a statistically significant relationship between RI total score and total number of coping strategies, $r(102) = .435, p < .001$. Visual examination of the number of coping strategies used by each classification of RI scores would suggest that groups which show the most PTSD symptoms also used the largest number of coping strategies (see Table 2). A one-way ANOVA revealed significant group differences ($F(4) = 5.58, p < .001$) and Tukey's post-hoc analyses revealed significant differences in number of coping strategies used between the No PTSD Symptoms group and the Moderate ($p = .002$) and Severe ($p = .001$) Symptom groups.

Frequency and Efficacy of Coping Strategies

Coping Strategy	%	Mean Efficacy*
Distraction	84	1.12
Social Withdrawal	62	0.66
Problem Solving	58	0.67
Emotional Regulation	69	0.89
Wishful Thinking	90	1.12
Cognitive Restructuring	88	1.67
Self-Criticism	8	0.20
Blaming Others	6	0.11
Social Support	75	1.98
Resignation	40	0.75

* Range = 0-2

TABLE 1

PTSD Classification, Mean Coping Strategies, & Mean Efficacy

RI Classification	Mean Coping Strategies	Mean Efficacy
No Symptoms	4.33 ($SD = 3.87$)	.580 ($SD = .505$)
Mild Symptoms	6.97 ($SD = 3.34$)	.859 ($SD = .489$)
Moderate Symptoms	8.48 ($SD = 1.95$)	1.084 ($SD = .335$)
Severe Symptoms	9.25 ($SD = 2.21$)	1.115 ($SD = .322$)
Very Severe Symptoms	8.67 ($SD = 0.58$)	.887 ($SD = .404$)

TABLE 2

RESULTS (CONT)

Relationship Between Coping & Distress (cont)

Analyses were also conducted to compare the efficacy of the coping strategies among RI groups (see Table 2). Again, a one-way ANOVA revealed significant group differences $F(4) = 4.31, p = .003$. Tukey's revealed significant differences between the No Symptoms group and the Moderate Symptoms ($p = .011$) and the Severe Symptoms groups ($p = .007$).

A correlation matrix was used to examine the relationship between the frequency of individual coping strategies and posttraumatic distress. Another correlation matrix was used to examine efficacy of individual coping strategies and posttraumatic distress (see Table 3).

Correlations between RI Total Score and KC Scales

KC Scale	Frequency		Efficacy	
	r	p	r	p
Distraction	.224*	.024	.177	.111
Social Withdrawal	.050	.622	.103	.346
Problem Solving	.234*	.018	.260*	.011
Emotional Regulation	.358*	<.001	.358*	.001
Wishful Thinking	.394*	<.001	.346*	.002
Cognitive Restructuring	.268*	.006	.123	.217
Self-Criticism	.269*	.007	.234*	.018
Blaming Others	.158	.116	.198*	.046
Social Support	.339*	<.001	.339*	<.001
Resignation	.089	.373	.083	.409

TABLE 3

DISCUSSION

- Hypothesis for a positive relationship between posttraumatic distress and number of coping strategies was supported
- Suggests that children with higher levels of distress continue to search for more ways to cope with that distress, while children with little or no distress only need to use a small number of strategies
- Hypothesis for negative relationship between posttraumatic distress and coping efficacy was not supported
- May indicate that children with lower levels of distress do not need to find highly effective strategies to cope with their reactions to the disaster
- Patterns of frequency and efficacy for this study were in line with previous research (e.g. Spirito et al., 1988; Jeney-Gammon et al., 1993)
- Future research could examine the relationship between coping and other factors that influence posttraumatic distress, such as exposure and attributions