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Situational Analysis from Two Studies Facilitating the Development of a Psycho- Cultural Rehabilitation Program for Children Affected by the 12 May 2008 Earthquake in Sichuan, China

Shuguang Wang
University of Newcastle

Daphne Keats
University of Newcastle

Melissa Gao
University of Newcastle

S. Zhang
Sichuan Academy of Social Sciences

Xian Gui Yang
Ethnic Affairs Office

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Shuguang Wang
University of Newcastle, Australia
China-Australia Centre for Cross-Cultural Studies, Sichuan University, China
Institute of Sociology, Sichuan Academy of Social Sciences, China

Daphne Keats
University of Newcastle, Australia

Melissa Gao
University of Newcastle, Australia
China-Australia Centre for Cross-Cultural Studies, Sichuan University,
Sichuan Academy of Social Sciences, China

Zhang, S
Sichuan Academy of Social Sciences, China

Yang, Xian Gui
Ethnic Affairs Office,
Wen Chuan & Mao Wen Qiang Autonomous Counties
Sichuan, China

Chai, S
Yian Men School, Wen Chuan Qiang Autonomous Counties
Sichuan, China

Abstract

The data presented are from two field studies: (1) a survey of 2234 current children's caregivers; and (2) interviews with 1200 children, evaluating the children's social, psychological and behavioural situation after the devastating Sichuan earthquake in the hard-hit Qiang ethnic community. Insights from the findings will be used to develop an evidence-based, culturally appropriate approach on the best use of cultural resources to facilitate the children's post-disaster rehabilitation. Evidence from the first study indicated that the disaster had a significant impact on the ethnic Qiang children and their families in regard to personal loss, physical injury, social relationships and psychological well-being. Evidence from the second study further indicated: (1) the need for a sustained response to the increasing vulnerability of these children; (2) a very limited effect from outside community visitors, whose one-off inconsistent, non-indigenous approaches and psychological counselling, drawing on the western, individualistic, approach to counseling and psychological/psychiatric therapies and non-Qiang approaches do not carry over into the children's everyday life in their own contexts; (3) that little is known about psycho-cultural factors as key resources for supporting an effective response to disaster for ethnic Qiang children; (4) the greatest need for a sustainable effect is therefore to build a culturally appropriate approach through making best use of cultural resources drawing on contributions of both volunteers and official workers from various disciplines and using the Qiang traditional ways to promote the children's psycho-cultural rehabilitation.

Stage 1. The Survey

Objectives

The objectives in Stage 1 were to collect baseline data to locate and identify the children, especially those in the three most difficult situations identified by the government, and to assess the extent of the impact of the earthquake on the children living with their families and in other current accommodation using a Survey

responded to by parents or other responsible adults.

Method

The sample for the survey was drawn from the Register of Children Returning to their home communities kept in the Administration Office of the Education Department and Ethnic Affairs at Wen Chuan and Mao Xian. The majority were found in the townships and surrounding districts of Wen Chuan and Mao Xian. The total number obtained depended on the resources available to locate the children. A target of 3,000 children aged from 3 to 14 years was the aim. The sample could not be randomly selected as the distribution of the children in terms of category of problems could not be established until the data came in. The total sample obtained for this analysis was 2,234.

Main Findings from the Survey

(1) The Children's Situation After the Earthquake.

As shown in Table 1, over 80% of the children in the study were taken to the temporary village homes arranged by the government or NGOs during the first one month after the earthquake. Following this first move, 50.49% of them were transferred to local tent/ temporary shelters, 34.10% were transferred to another province or other places, 27.53% were transferred to an outside community in Sichuan, and 20.19% remained in hospital. Only 2.19% stayed in their original home. Later on, most of these children (81.14%) were settled in temporary timber houses by the local government, some of them (13.79%) had moved back to their traditional village Qiang houses, but a few were still living in temporary group shelters (2.86%), tents (1.80%), and other places (0.50%). After 5 months, close to 80% of the children in this study have started to return to their original villages, 10.78% are back to a current residential area, but not to their original villages. Some children still stayed in townships (9.93%).

(2) Children's Attendance at School or Child Care Centre.

Before the earthquake over 84% of these children were attending school or a child care centre. Teachers or year/class supervisors mostly came from a majority Han background (77.35%), but there were also some ethnic Qiang teachers (21.57%) as shown in Table 2.However, since the earthquake, more than 91% have not attended any school or child care centre. Amongst the teachers almost all are Han (91.94%) and there are far fewer Qiang (5.81%) teachers who have started to become involved in the care of children who are attending school or child care centres.

Table 1 *Children's situation after the earthquake in disaster areas of Wen Chuan and Mao Xian, China (Oct.08 – Jun 09)*

Children' situation reported by current caregivers in the study	**Wen Chuan** *n* = 1276 (%)	**Mao Xian** *n* = 958 (%)	**Total Sample** *n* = 2234 (%)
Q17: How many places did the child go to after the earthquake			
Stayed in original home	21 (1.64)	28 (2.92)	49 (2.19)
Hospital	291 (22.80)	160 (16.70)	451 (20.19)
Local tent/ temporary shelter	811 (63.36)	317 (33.08)	1128 (50.49)
Temporary village home arranged by government or NGOs	1008 (79.00)	798 (83.33)	1806 (80.84)
Transferred to outside community in Sichuan	465 (36.29)	150 (15.65)	615 (27.53)
Transferred to another province	219 (17.16)	154 (16.07)	373 (16.70)
Other places	142 (11.12)	250 (26.09)	396 (17.73)
X^2 = 21.41 *df* = 6 *p* = 0.27			
Q18: Type of child's current accommodation	1276	958	2234
Traditional village Qiang house	152 (11.91)	156 (16.28)	308 (13.79)
Tent	27 (2.11)	13 (1.36)	40 (1.80)
Temporary group shelter	42 (3.30)	22 (2.30)	64 (2.86)
Temporary timber house	1049 (82.21)	762 (79.54)	1811 (81.14)
Other	6 (0.47)	5 (0.52)	11 (0.50)
X^2 = 19.45 *df* = 4 *p* = 0.09			
Q19: Current residential area			
Original village	995 (77.98)	776 (81.00)	1771 (79.27)
Village but not original village	145 (11.36)	96 (10.02)	241 (10.78)
Small town	69 (5.40)	65 (6.78)	134 (6.00)
Large town	67 (5.25)	21 (2.19)	88 (3.94)
X^2 = 7.22 *df* = 3 *p* = 1.043			

(3) Level of How the Child was Affected by the Earthquake

As is shown in Table 3, more than 42% of caregivers in this sample reported that their children were strongly affected by the earthquake, with the rest being those children who were affected generally (29.32%), slightly (14.06%), and not significantly (9.89%). Comparatively, children in the Qiang villages of Wen Chuan were reported as more strongly affected compared with the children from Mao Xian ($p = 0.004$).

(4) Situations of Children Affected by the Earthquake.

4.1 Physical injury. Table 4 presents data on the situation of children affected by the earthquake. More than half of the caregivers (1157) indicated that their children fortunately have received no injuries in the disaster. However, over 48% of the caregivers described their children as being physically affected by the earthquake, including 23.99% of children having experienced minor physical injury, general physical injury (15.80%), and severe disablement (8.41%). Comparatively, the situation was much worse for the children coming from near the epicenter of the earthquake in the Wen Chuan district than for the children in Mao Xian ($p = .024$).

Table 2 *Children's attendance at a school or child care centre in disaster areas of Wen Chuan and Mao Xian, China (Oct.08 – Jun 09)*

Messages reported by current caregiver	Wen Chuan *n* = 1276 (%)	Mao Xian *n* = 958 (%)	Total Sample *n* = 2234 (%)
Q20: Was the child attending a school or child care centre before the earthquake?			
No	181 (14.18)	168 (17.53)	349 (15.62)
Yes	1095 (85.82)	789 (82.36)	1884 (84.33)
Teacher (year/class supervisor):			
Han	1035 (81.11)	693 (72.33)	1728 (77.35)
Qiang	233 (18.26)	249 (26.00)	482 (21.57)
Other	8 (0.62)	16 (1.67)	24 (1.07)
c^2 = 6.874 *df* = 2 *p* = 0.633			
Q21: Has the child attended school or child care centre since the earthquake? (Nov.-Dec. 08)			
No	1149 (90.04)	894 (93.33)	2043 (91.45)
Yes	127 (9.95)	64 (6.68)	191 (8.55)
Teacher (year/class supervisor):			
Han	1179 (90.05)	875 (91.33)	2054 (91.94)
Qiang	83 (6.50)	47 (4.91)	130 (5.81)
Other	14 (1.09)	36 (3.76)	50 (2.23)
X^2 = 4.092 *df* = 2 *p* = 0.420			

Table 3 *Level of how the child was affected by the earthquake in Wen Chuan and Mao Xian*

Messages reported by current caregiver	**Wen Chuan** *n* = 1276 (%)	**Mao Xian** *n* = 958 (%)	**Total Sample** *n* = 2234 (%)
Q22: In general, how much was the child affected by the earthquake?			
Not significantly affected	96 (7.52)	125 (13.04)	221 (9.89)
Slightly	163 (12.77)	151 (15.76)	314 (14.06)
Generally	350 (27.43)	305 (31.84)	655 (29.32)
Strongly	639 (50.07)	307 (32.05)	946 (42.35)
Not sure/ Don't know	28 (2.19)	70 (7.31)	98 (4.38)
X^2 = 27.07 *df* = 4 *p* = 0.004			

4.2 Family and Social Relationships Affected. As shown in Table 4, the children suffered from the devastating breakdown of many social relationships. Many had lost their home (78.55%), their school (75.47%), their friend/s (42.97%), had been moved to unfamiliar areas (42.61%), had lost relatives (37.51%), had lost their mother (14.86%), father (8.37%), brother/s (10.03%) or sister/s (7.47%). No significant difference was observed between the two counties. Additionally, data indicated that about 41% of the sample had family members who did not survive the earthquake. Over 30% of the respondents indicated that the child under discussion had one or two family members who did not survive, but there were 17.02% who had lost three, 10% who had lost four, 5.8% who had lost five, and 5.04% who had lost six or more family members.

Table 4 *Children affected by the earthquake in Wen Chuan and Mao Xian*

Messages reported by current caregiver	Wen Chuan *n* = 1276 (%)	Mao Xian *n* = 958 (%)	Total Sample *n* = 2234 (%)
Did any of the following things happen with your child?			
1) Physical injury			
Minor physical injury	298 (23.35)	238 (24.84)	536 (23.99)
General physical injury	245 (19.20)	108 (11.27)	353 (15.80)
Severely disabled by the earthquake	122 (9.61)	66 (6.89)	188 (8.41)
No physical injury	611 (47.88)	546 (56.99)	1157 (51.79)
X^2 = 12.433 *df* = 3 *p* = 0.021			
2) Family and social relationship affected [a]			
Lost father	116 (9.10)	71 (7.41)	187 (8.37)
Lost mother	214 (16.77)	118 (12.32)	332 (14.86)
Lost adoptive father	3 (0.23)		3 (0.13)
Lost adoptive mother	6 (0.47)	3 (0.31)	9 (0.40)
Lost step father	1 (0.07)		1 (0.04)
Lost step mother	4 (0.31)	1 (0.10)	5 (0.22)
Lost foster father – related	1 (0.07)		1 (0.04)
Lost foster mother – related	3 (0.23)		3 (0.13)
Lost sister/s	110 (8.62)	57 (5.95)	167 (7.47)
Lost brother/s	148 (11.59)	76 (7.93)	224 (10.03)
Lost grandfather	76 (5.96)	29 (3.03)	105 (4.70)
Lost grandmother	79 (6.19)	33 (3.44)	112 (5.01)
Lost relatives	504 (39.49)	334 (34.86)	838 (37.51)
Lost friend/s[b]	618 (48.43)	342 (35.99)	960 (42.97)
Lost home	1171 (91.77)	584 (60.96)	1755 (78.55)
Lost school	1139 (89.26)	547 (57.98)	1686 (75.47)
Moved to unfamiliar areas	664 (52.04)	288 (30.06)	952 (42.61)
3) Psychological impact			
Still frightened	1136 (89.02)	795 (82.99)	1931 (86.44)
Still sad	893 (70.01)	632 (65.97)	1525 (68.26)
Is down in spirits	1060 (83.07)	747 (77.98)	1807 (80.88)
Doesn't talk about it	512 (40.12)	356 (37.16)	868 (38.85)
Has dreams about the earthquake	433 (33.93)	277 (28.91)	710 (30.29)
Won't eat	310 (24.29)	170 (17.74)	480 (21.48)
Won't go into big buildings	102 (7.99)	57 (5.95)	159 (7.12)
Other [c]	81 (6.35)	38 (3.96)	119 (5.32)
X^2 = 23.27 *df* = 7 *p* = .958			

[a] Most cases in the data were from some major Qiang villages around Wei Zhou township without covering more villages in Ying Xiu which was a core area of the massive earthquake on 12 May 2008 of Sichuan , China.
[b] Including did not survive the earthquake, still missing, and transferred to other places.
[c] Including unhappy, lost interest with school, out-door activities, etc.

4.3 Psychological Impact. Data in the survey further shows in Table 4 that children were still frightened (86.44%) since the earthquake. These children continued to be down in spirits (80.88%), were still sad (68.26%), did not talk about it (38.85%), won't eat (21.48%), won't go into a big building (7.12%) and other (5.32%) included being unhappy, loss of interest in school work and outdoor activities. No significant difference was found between the two counties.

5) Child Care Effects on these Caregivers

As shown in the data in Table 5, 17.50% of these caregivers reported that their child care was not significantly affected . However, over 77% of them child care was affected by the disaster: slightly (30.79%), generally (28.47%), and strongly (18.04%).

Table 5 *Effects on child care for caregivers in Wen Chuan and Mao Xian*

Messages reported by current caregiver	Wen Chuan *n* = 1276 (%)	Mao Xian *n* = 958 (%)	Total sample *n* = 2234 (%)
Q24: For child care, how were you affected?			
Not significantly affected	209 (16.37)	182 (18.99)	391 (17.50)
Slightly	389 (30.49)	299 (31.21)	688 (30.79)
Generally	392 (30.72)	244 (25.47)	636 (28.47)
Strongly	246 (19.27)	157 (16.39)	403 (18.04)
Not sure/ Don't know	40 (3.13)	76 (7.09)	116 (5.19)
X^2 = 7.49 *df* = 4 *p* = .446			

Stage 2. The Interviews with the Children

Objectives

The objectives in Stage 2 were to develop and implement an individual interviewing program to explore (a) the psychological, social and behavioural impact of the earthquake upon the children, and (b) the traditional Qiang response to dealing with disaster, using interviews with individual children to provide insights from which to develop and carry out a culturally appropriate rehabilitation program.

Method

The interview sample was drawn from the responses to the survey, and comprised 1200 children in three age groups of 3-5 years, 6-12 years and 13-14 years, with 100 in each age group in each of 4 categories: (a) children with no parents; (b) children who have a family member but one who cannot give support to the child; (c) children who have been physically disabled by the earthquake; (d) children who are apparently not seriously affected and are in the care of parents or close relatives. To allow for possible attrition, 110 children were selected for each age group in each category.

An interview schedule was prepared based on the content of the survey with additional items to explore how the child felt about what had occurred, knowledge of the Qiang culture and cultural identity, and explanation of the cause of the earthquake. These items were accompanied by space for children to provide drawings as they gave the response. The schedule was prepared in both English and Chinese. A pilot study was conducted to check these items in the interview schedule.

A training program was developed to train the interviewers. Selection was made on the criteria of having at least middle school education and fluency in both standard Chinese and the Qiang language. A set of Guidelines for Interviewers was prepared and practice sessions were used to improve techniques of asking the questions and recording the responses. All the interviewers are young men and women with a Qiang ethnic background. Techniques were provided according the age group, for example using puppets for younger groups. The interviews were conducted in the preferred language Qiang or Chinese with local style. All responses were

coded in Chinese for the analysis.

Selected Findings from the Interviews

(1) Understanding Reasons for the Cause of the Earthquake

The analysis of the interview responses is ongoing. Two items of interest have been selected to illustrate children's thinking and emotional response.

Table 7 *Causal explanations for the earthquake in different age groups*

(Q26, N=1200)	4 category groups n (%)				
Age Groups	A (CLP)[a]	B (CFDS)[b]	C(CPDE)[c]	D(CNSA)[d]	**Total**
1. Scientific message	(n=47)	(n=54)	(n=82)	(n=117)	300
3-5 years	6 (12.76)	8 (14.81)	13 (15.85)	19 (16.24)	46
6-12 years	11 (23.40)	14 (25.92)	21(25.61)	28 (23.93)	74
13-14 years	30 (63.83)	32 (59.26)	48 (58.54)	70 (59.83)	180
X^2 = 16.233 *df* = 6 *p* = 0.012					
2. Mainly scientific + some respect for traditional interpretation					
	(n=59)	(n=70)	(n=71)	(n=100)	300
3-5 years	11 (18.64)	11 (15.71)	17 (23.94)	37 (37.00)	76
6-12 years	15 (25.42)	20 (28.57)	25 (35.21)	42 (42.00)	102
13-14 years	33 (55.93)	39 (55.71)	29 (40.84)	21(21.00)	122
X^2 = 14.920 *df* = 6 *p* = 0.006					
3. Mainly traditional interpretation + some doubt					
	(n=93)	(n=83)	(n=72)	(n=52)	300
3-5 years	39 (41.94)	36 (43.37)	33 (45.83)	24 (46.15)	132
6-12 years	33 (35.84)	28 (33.73)	23 (31.94)	20 (38.45)	104
13-14 years	21 (22.56)	19 (22.89)	16 (22.22)	8 (15.38)	64
X^2 = 16.036 *df* = 6 *p* = 0.003					
4. Traditional interpretation unquestioned, no other interpretation					
	(n=101)	(n=93)	(n=75)	(n=31)	300
3-5 years	44 (43.56)	45 (48.38)	37 (49.33)	20 (48.78)	146
6-12 years	41 (40.59)	38 (40.86)	31 (41.33)	10 (36.59)	120
13-14 years	16 (15.84)	10 (10.75)	7 (9.33)	1 (14.63)	34
X^2 = 19.730 *df* = 6 *p* = 0.000					

a Responses were collected from Q26 on what do you think caused the earthquake?

[1] CLP: Children who lost father or mother, or parents

[2] CFDS: Children who have a family member but one who cannot or has difficulty in giving support to the child

[3] CPDE: Children who have been physically disabled by the earthquake

[4] CNSA : Children who are apparently not seriously affected and are in the care of parents or close relatives

As data in Table 7 show, older children were more likely than younger children to give the scientific explanations for the earthquake. Age, together with different education levels is a key determinant of children's understanding of the cause of the earthquake as "scientific message", "mainly scientific + some respect for traditional", "mainly traditional + some doubt"; and "traditional unquestioned no other interpretation". However, data in table 7 also show that children in the groups which suffered seriously from the earthquake were more likely to give traditional reasons. Information from children's drawings further showed that location of their villages is also an important variable for children's interpretation. Children living in remote mountainous areas

were more likely to make the traditional interpretation than children living in the townships.

(2) Drawing Pictures to Express Children's Understanding of the Earthquake

The children were asked what happened to them when the earthquake struck. The children were provided with paper and coloured textas to draw a picture whilst telling what happened. Data from the interviews further shows, in Table 8, that over 84% of these children in their drawing pictures with different themes show their appeal to pay attention their emotional support, with the rest being cultural representation (71.10%); help & rescue (59.31%); interpersonal relationship (55.05%); and events (22.29%). Data in Table 8 are drawn from children in Wen Chaun and Mao Xian ages from 9-13 years.

Table 8 *Drawings from children to describe their experience of the earthquake*

Themes on children's expression to disaster in their drawing (*n*=376) n (%)	Focus topics [a]				
	Emotion & Trauma	Cultural representation	Events	Interpersonal Relationships	Help & rescue
Emotional expression frightened and sad for disaster *n* =127 (33.77)	127	96	22	106	82
Natural description *n* = 69 (18.35)	44	31	68	21	47
Scientific explanation *n* = 43 (11.43)	12	5	30		4
Help & rescue *n* = 38 (10.11)	47	36	17	26	38
Cultural interpretation: legend, metaphor, representation, symbol etc. *n* = 99 (26.33)	86	99	22	54	52
Total:	316 (84.04)	267(71.10)	159(22.29)	207(55.05)	223(59.31)
Rank:	1	2	5	4	3

[a]The numbers could overlap in all categories as more than one topic could be presented in a theme.

Summary

Data in the Survey was first researched to assess the extent of the impact of the earthquake on the children in the families and other current accommodation, and the general situation of children's physical injury, social relationships, and psychological impact of the earthquake. Data in this study alone can be used to provide valuable information for local community and government services. Analysis of the interview data is continuing with further work on interpretation of the children's drawings also relating these findings to the role of village versus urban environment in attributions of casualty. It should be noted that it was in the remote mountain villages that the worst damage occurred.