行政院國家科學委員會專題研究計畫 成果報告

台灣與紐西蘭震災整備模式之跨文化比較
研究成果報告(精簡版)

計 畫 類 別 ：個別型
計 畫 編 號 ：NSC 98-2410-H-040-009-SSS
執 行 期 間 ：98 年 08 月 01 日至 99 年 09 月 30 日
執 行 單 位 ：中山醫學大學醫學社會暨社會工作學系（所）

計 畫 主 持 人：張麗珠
共 同 主 持 人：王价巨
計畫參與人員：碩士班研究生-兼任助理人員：許惠媛
大專生-兼任助理人員：范文亭

報 告 附 件 ：出席國際會議研究心得報告及發表論文

處 理 方 式 ：本計畫可公開查詢

中 華 民 國 100 年 01 月 01 日

行政院國家科學委員會補助專題研究計畫 ■ 成 果 報 告
□期中進度報告

台灣與紐西蘭震災整備模式之跨文化比較

計畫類別：■個別型計畫　□整合型計畫

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共同主持人： 王价巨

計畫參與人員：許惠媛 & 范文亭

成果報告類型(依經費核定清單規定繳交)：■精簡報告 □完整報告

本計畫除繳交成果報告外，另須繳交以下出國心得報告：

□赴國外出差或研習心得報告

□赴大陸地區出差或研習心得報告

■出席國際學術會議心得報告

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中 華 民 國 99 年 12 月 31 日

Introduction

Countries such as Taiwan and New Zealand have long histories of societal development in areas that expose populations to earthquake risk. A key component of a risk management strategy involves proactively encouraging community members' to prepare in ways that increase their capacity to cope with, adapt to and recover from the consequences of earthquake activity. Given that earthquakes strike without warning, the effectiveness of adaptive and coping efforts will be a function of the degree to which the necessary knowledge, resources and competencies are organized in advance and can be used promptly and effectively should the need arise.

If cross-cultural applicability can be demonstrated, it would provide opportunities for collaborative learning and provide access to a wider range of potential earthquake risk management options. Cross-cultural comparison, and the analysis of similarities and differences in predictors of earthquake preparedness is also of theoretical interest from the point of view of identifying the degree to which the processes that underpin how people respond to hazard threats are culturally equivalent. If it can be demonstrated that people, irrespective of their location or culture respond to earthquake threats in similar ways, this model will be available to assist disaster readiness and response planning irrespective of the location or population that is the focus of attention.

To examine this issue, it is essential to accommodate cultural (e.g., collectivist versus individualist) differences and their implications for the equivalence of constructs being examined (Brislin, 2000; Diener & Suh, 2000; Norenzayan & Heine, 2005; Poortinga, 1997). The social and psychological bases of beliefs and actions differ substantially across cultures. For example, in individualist cultures like New Zealand, people act consistently across situations in accordance with a self-concept that is relatively independent of social situation and in which achieving personal goals is a prominent objective. If collective action occurs, it reflects personal choice regarding levels of collaboration and cooperation rather than a cultural predisposition. In contrast, in collectivist cultures like Taiwan, actions are underpinned by culturally-embedded beliefs that are reflected in shared purpose and activity involving alignment with social norms, achieving collective goals, and engaging in activities related to future goals that emphasize social relations (Diener & Suh, 2000; Jang & LaMendola, 2006; Triandis, 1995). In light of these differences, the first question concerns whether grounds for expecting that construct or model equivalence exists in the first place (Brislin, 2000).

In western populations, the potential for the social context to influence on risk perception and people's risk management choices in cultures that are essentially individualistic in nature has been recognized. Faced with uncertainty, people turn to others who share their interests and values to help them reduce uncertainty and decide how to manage their risk (Earle, 2004; Lion et al., 2002; Paton, 2008). Family and members of the communities with whom people interact regularly are prominent sources of this assistance. There are thus grounds for anticipating that collaboration with other community members will influence risk management outcomes in members of individualist cultures. At the same time, individualist traits are being recognized for their potential to influence risk management choices in members of collectivist cultures (Bajek, Matsuda, & Okada, 2008; Child, 2008; Nakano, 2005; Tatsuki, 2000). Consequently, there are grounds for proceeding to examine the equivalence of models of hazard preparedness.

The model that was examined for cross cultural equivalence in this project (Paton, 2008) was developed to examine how person-, community- and societal-level factors interact to

predict whether or not people adopt measures capable of increasing their adaptive capacity or resilience to deal with earthquake hazard consequences. It thus provides a sound basis for comparing the relative contributions of personal and collective processes to earthquake preparedness.

Variables

The theoretical foundation for the model being examined (Paton, 2008) argues that behavioral intentions precede the adoption of actual behavior. Intention has proven to be a good indicator and actual behavior (Paton et al., 2005) and thus represents an appropriate focus for this analysis. The decision to use intentions as the dependent variable is also made to accommodate several other issues.

Intentions also represent a more appropriate means for conducting cross-cultural analyses and for comparing communities that differ in several respects. Intentions provide a common denominator for comparing communities that differ with regard hazard-community characteristics that can affect what people have done. Intentions are less susceptible to bias from these influences than is actual behavior. Intentions thus provide a more robust basis for comparison. The ***intentions*** measure comprises items that assess people's intention to acquire hazard knowledge, increase actual preparedness, and to work with other people/civic agencies to develop knowledge and capability.

At the person-level, decision making commences with peoples' beliefs about the relationship between the hazard and the proposed protective measures. The construct of outcome expectancy is selected to examine this component of the process. Two outcome expectancy variables (Paton, 2008) are proposed. ***Negative outcome expectancy***, the belief that earthquake consequences are too catastrophic for personal action to make any difference to peoples' safety, predicts that people will not prepare. In contrast, if people believe that preparation can reduce risk and increase personal safety, they form ***positive outcome expectancy.*** If people have the necessary information and resources, positive outcome expectancy will predict preparing. If people need additional guidance to clarify the uncertainty associated with infrequent, complex earthquake hazards, they will look first to other community members and subsequently to civic agencies. Two variables, community participation and collective efficacy, are selected to examine community influences on people's risk management choices.

Faced with uncertainty, peoples' perception of risk and what they can do to manage their risk is influenced by information from others who share their interests and values (Earle, 2004; Lion et al., 2002; Paton, 2008; Paton & Bishop, 1996). Because participating in community activities provides access to information from people that share one's interests, values and expectations, information from this source can assist understanding one's circumstances and deciding what to do, a measure of ***community participation*** (Eng & Parker, 1994) is included in the model.

Collective efficacy, community members' ability to assess their capabilities and resource needs and formulate plans to use resources to confront challenging tasks (Bandura, 1997; Benight, 2004; Duncan et al., 2003; Zaccaro, Blair, Peterson & Zazanis, 1995), is identified as a means of assessing community members' ability to identify needs and formulate questions. It is assessed using a measure developed by Zaccaro et al., (1995). The process of identifying earthquake consequences and formulating plans to deal with these consequences can identify information and resource needs that cannot be met within existing community contexts. Consequently, whether or not people decide to prepare will be

influenced by the quality of the relationship between community members and expert sources.

Levels of risk acceptance and people's willingness to take responsibility for their own safety is increased, and decisions to take steps to actively manage their risk more likely, if people believe that their relationship with formal agencies is fair and empowering (e.g., agencies are perceived as trustworthy, as acting in the interest of community members) (Lion et al., 2002; Paton & Bishop, 1996). A measure developed by Speer and Peterson (2000) is used to assess ***empowerment***. When this relationship is not perceived as empowering, the consequence is a loss of trust in the agency (i.e., the source of information).

The importance of accommodating this issue in the model derives from the role that trust plays when people are called upon to deal with uncertainty (Earle & Cvetkovich, 1995; Siegrist & Cvetkovich, 2000). When planning how they might deal with earthquake hazards community members have to deal with considerable uncertainty. As uncertainty increases, so does the importance people attribute to their general ***trust*** beliefs about, and their past trust experiences with, the sources of information they turn to or have to rely on (Siegrist & Cvetkovich, 2000; Sjöberg, 1999). Thus, peoples' willingness to use information will be influenced by the degree to which they trust its source. It is the consistency between the needs and expectations generated by community members and the information and resources received from expert sources that help people construct more accurate estimates of risk, reduces uncertainty, and influences trust (Earle, 2004; Eng & Parker, 1994; Lion et al., 2002; Paton et al., 2006). A measure of trust taken from an earlier study of earthquake preparedness (Paton et al., 2005) is used here.

It is argued that trust will mediate the relationship between personal and social factors and intentions to prepare. The measure of intentions was derived from an earlier study of earthquake preparedness (Paton et al., 2005). It comprises items that assess people's intention to acquire hazard knowledge, increase actual preparedness, and to work with other people/civic agencies to develop knowledge and capability.

Hypotheses

The model proposes that people's decision to prepare reflects the outcome of a sequence of activities. The process commences with peoples' outcome expectancy beliefs. If people hold negative outcome expectancy beliefs, it is hypothesized that they will not prepare. If people hold positive outcome expectancy beliefs, they will either proceed to prepare, or, if lacking the information they require, proceed to work with others to articulate their needs and expectations. If these needs cannot be met within the community, it is hypothesized that whether people then prepare is a function of the degree to which community groups perceive themselves being empowered by these sources of information. This predicts levels of trust which, in turn, predicts intentions.

Sampling

Taking the conservative Taiwanese culture into consideration, a single-stage cluster sampling strategy was applied for the recruitment of participants. The population of Tung Shih was broken down into groups of cases, called clusters (Singleton & Straits, 1999). The clusters consist of four natural groupings: a.) schools, b.) religious groups, c.) civic agencies, and d.) community leaders. All levels of school principals, key persons at civic agencies and religious groups, as well as community leaders were contacted for the purpose of key informant recruitment.

For the questionnaire part, a total of 15 key informants from schools, religious groups, local communities, and civic agencies helped with questionnaire distribution and collection. More than 1,200 questionnaires were distributed and 1,023 were completed, including 295 from the community group, 263 from the civic agency group, 250 from the religious groups, and 215 from the school group (Table 1).

Table 1. Demographics of Questionnaire Respondents

	Community	**Agency**	**School**	**Religious Groups**	**All**
Male	96	58	80	56	290
Female	198	205	170	159	732
The average number of years lived in the area	36.81	32.19	27.05	34.09	32.67
Average household size	4.92	4.7	4.46	4.16	4.59
Average age	47.11	46.08	43.6	50.15	46.63

For the in-depth interview part, some 50 questionnaire respondents indicated their willingness to participate in the face-to-face interview to explain their answers in details. Twelve of them were interviewed by the PI (Table 2).

Table 2. Characteristics of the In-depth Interview Participant

Group	**ID**	**Gender**	**Age**	**Marital Status**	**Family Structure**	**Brief background of Participants**
Religious Groups	A01	F	46	single	Staying with mother	921 survivor, polio survivor
Religious Groups	A02	M	54	divorced	3-generation under one roof	921 survivor, Poor hand function due to illness
Civic Agency	A03	F	55	married	Nuclear family	921 survivor
School	A04	F	47	married	Nuclear family	
Civic Agency	A05	M	60	married	Nuclear family	921 survivor
Community	A06	M	55	married	Nuclear family	921 survivor
Community	A07	M	58	married	Stepfamily	921 survivor, lost wife and daughter to the disaster, severely injured
Community	A08	F	46	married	Nuclear family	921 survivor
Civic Agency	A09	M	52	married	Nuclear family	921 survivor
Religious Groups	A10	F	50	divorced	Single-mother with 2 grown sons	921 survivor, sight impairment, low-income
School	A11	M	55	married	Nuclear family	921 survivor
Religious Groups	A12	M	50+	married	Nuclear family	921 survivor, community leader

Data Collection

Because the initial survey is in English, the first step is to translate it into Chinese. For this, the procedure recommended for conducting cross cultural research by Brislin et al. (1973) and Brislin (1986) was used. First, the English version of the items was translated into Chinese by Prof. Wang who is an expert in risk management. Next, this version was translated back into English by Miss Chen who is an experienced English teacher. The original version and the version that has been translated back into English were compared, examined for meaning errors, and corrections made as required. Finally, the original and translated version were pre-tested by 2 retired junior high school teachers who were unfamiliar with the instrument to provide a final measure of equivalence between the English and Chinese versions.

The finalized Chinese survey was distributed to residents of Tung Shih. When completing the survey, 12 respondents were invited to be interviewed to gain a better understanding of the community processes and competencies that underpin people's decisions to prepare in ways that increase their earthquake resilience (Strauss & Corbin, 1998). Means-end chain theory was employed to guide the interview process. Data was elicited using the laddering methodology described by Pieters, Baumgartner, and Allen (1995) and Grunert and Grunert (1995). It elicited participants' reasons for wanting, or not wanting to practice disaster preparedness. It involved assessing levels of preparedness, and then inviting people to indicate their overall evaluation of hazard preparedness. The degree of positivity or negativity towards hazard preparation was then defined as either somewhat or strongly positive or negative.

Once this initial evaluation was elicited, participants were first asked to provide personal reasons for their expressed views on preparedness and its predictors. Interactive criteria recommended by Reynolds and Gutman (1988) were used in this regard. These reasons were mental constructions made within the context of community member's experiences, norms and expectations. Participants were then asked to justify the explanation in terms of its personal and community relevance and so on until the participant could give no further justification. This procedure was repeated for each of the remaining stated reasons elicited originally in defense of the participant's evaluations of hazard preparedness.

Data Analysis

Pearson product-moment correlation was conducted to examine intercorrelations between dependent variable, INTENTION, and independent variables, Negative Outcome Expectancy (NOE), Positive Outcome Expectancy (POE), Community Participation (CommPart), Collective Efficacy (COLL.EFF), Empowerment (EMP), and Trust (Table 3) in 4 groups (community, civic agency, religious group, and school). The results show that those variables are highly correlated.

A series of four-step hierarchical regression analyses were conducted to examine the contributions of predictor variables: 1.) NOE and POE, 2.) CommPart and COLL.EFF, 3) EMP, 4.) Trust to the INTENTION score (see Tables 4). AMOS 7 was also employed to test the model as a whole and assess how well the data fit the hypothesized model (Goodness-of-Fit) (see Figures 1-3).

Table 3. Intercorrelations Between INTENTION and Other Factors - All Cases

	1	2	3	4	5	6	7
1. NOE	-	-.249**	-.285**	-.149**	-.138**	-.115**	-.142**
2. POE		-	.302**	.128**	.158**	.171**	.157**
3. INTENTION			-	.348**	.278**	.200**	.334**
4. CommPart				-	.437**	.248**	.554**
5. COLL.EFF					-	.501**	.568**
6. EMP						-	.507**
7. Trust							-
Mean	2.04	4.00	2.13	2.30	2.71	2.57	2.46
SD	0.67	0.94	0.50	0.59	0.85	0.85	0.77

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 4. Summary of Hierarchical Regression Analysis for Variables Predicting INTENTION (N=1007).

Variables	B	SE B	β
Step 1			
NOE	- 0.16	0.02	- 0.22**
POE	0.13	0.02	0.25**
Step 2			
NOE	- 0.13	0.02	- 0.18**
POE	0.11	0.02	0.21**
CommPart	0.21	0.03	0.24**
COLL.EFF	0.07	0.02	0.12**
Step 3			
NOE	- 0.13	0.02	- 0.18**
POE	0.11	0.02	0.21**
CommPart	0.20	0.03	0.24**
COLL.EFF	0.06	0.02	0.10**
EMP	0.02	0.02	0.04
Step 4			
NOE	- 0.13	0.02	- 0.18**
POE	0.11	0.02	0.20**
CommPart	0.16	0.03	0.19**
COLL.EFF	0.04	0.02	0.06
EMP	0.00	0.02	0.00
Trust	0.09	0.03	0.13**

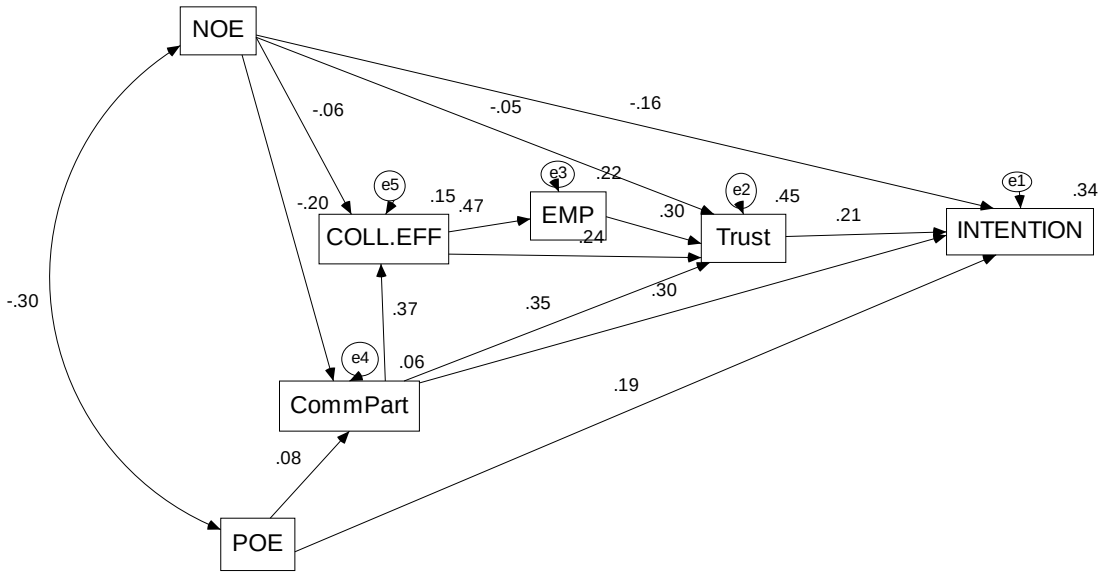
Note. Adjusted R^2= 0.14 for Step 1; Adjusted R^2= 0.23 for Step 2; Adjusted R^2= 0.23 for Step 3; Adjusted R^2= 0.23 for Step 4.

* Significant at 5% level.

** Significant at 1% level.

Figure 1.

Taiwan Earthquake Scenario (Religious Group)

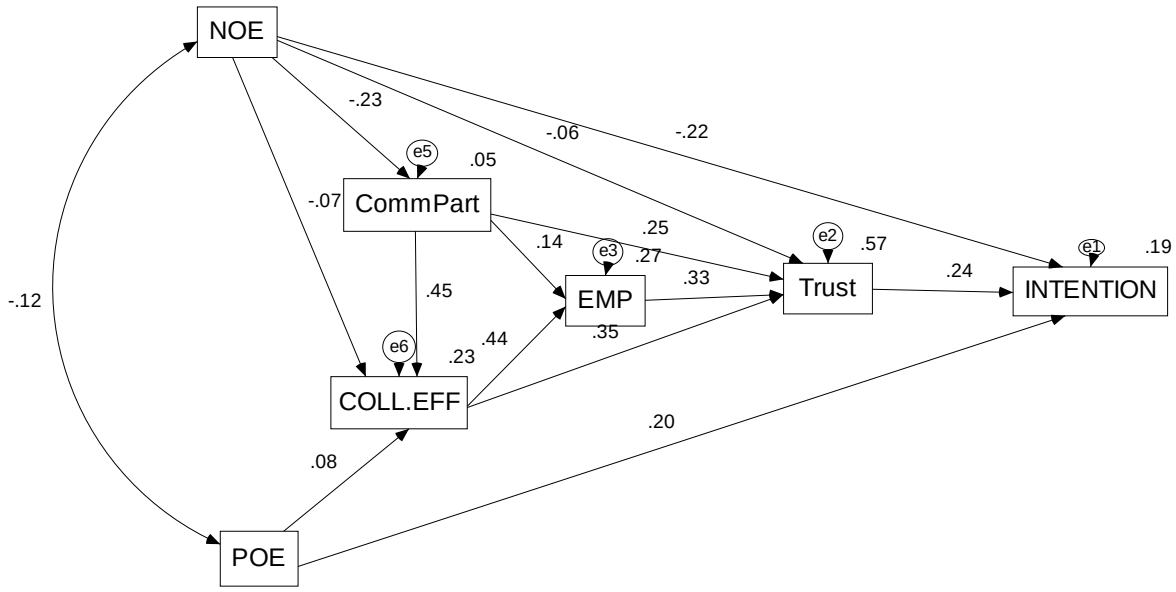


CMIN/DF=1.121 <2, NFI= .977>.90, CFI= .997>.90, RMSEA= .024<.05, PCLOSE= .665> .05

χ^2 =7.849, DF=7, P= .346> .05, thus this is a very good fit model (吳明隆, 2007).

Figure 2.

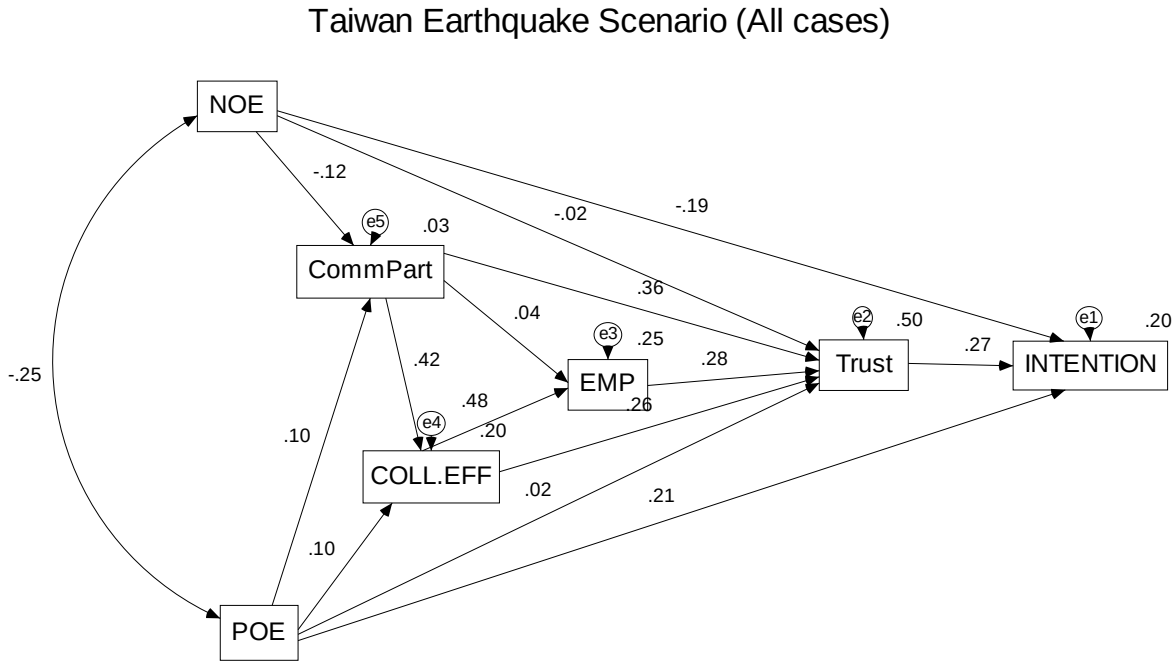
Taiwan Earthquake Scenario (Agency)



CMIN/DF=1.1433 <2, NFI= .978>.90, CFI= .993>.90, RMSEA= .041<.05, PCLOSE= .551> .05

χ^2 =10.029, DF=7, P= .187> .05, thus this is a very good fit model (吳明隆, 2007).

Figure 3.



CMIN/DF=9.458 >2, NFI= .965> .90, CFI= .968> .90, RMSEA= .091< .10, PCLOSE= .001< .05

χ^2 =56.746, DF=6, P= .000< .05, thus this is an okay fit model (吳明隆, 2007).

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出席國際學術會議心得報告

計畫編號	NSC 98-2410-H-040 -009 –SSS
計畫名稱	Developing a model of earthquake preparedness: A comparative study of Taiwan and New Zealand
出國人員姓名 服務機關及職稱	張麗珠 中山醫學大學醫學社會暨社會工作學系助理教授
會議時間地點	98 年 11 月 11-13 日在 Auckland, New Zealand.
會議名稱	The 20th Asia Pacific Social Work Conference 2009
發表論文題目	The 921 Earthquake: A study of factors influencing disaster recovery

I. Reflection Report:

The 20th Asia Pacific Social Work Conference 2009 was a 3-day international conference. It consisted of workshops, research reports, and posters. Its topics covered social work education and common social concerns in the Asia-Pacific region such as social exclusion, population dislocation, social work education, indigenous issues, population dislocation, psychological first aid and psychosocial support in disasters. It had a good mixed of participants coming from Australia, Canada, China, Hong Kong, Japan, New Zealand, the Philippines, Singapore, Taiwan, Thailand, USA, and more. Some of them were from academia settings. Others were practicing in the field of social service agencies as well as medical sectors. Participants shared their knowledge and experience with each other and all were strengthened in the process.

II. Abstract

THE 921 EARTHQUAKE: A STUDY OF FACTORS INFLUENCING DISASTER RECOVERY

This study examined factors influencing disaster recovery after The 921 Earthquake. The catastrophe, with a magnitude of 7.6 on the Richter scale, was responsible for 2,415 deaths, 11,306 injuries, and making more than 110,000 people homeless. The target population of this study were residents of Tung Shih, Taiwan, where experienced the highest death toll at the township level. The researcher applied a snowball sampling strategy to select 'information-rich' participants for study in depth. In order to hear various opinions, the researcher purposively interviewed people from different SES. A total of 15 participants participated in interviews that explored 3 research questions: 1) what factors have influenced your disaster recovery? 2) what are your coping strategies? and 3) what are your suggestions on promoting disaster recovery? Qualitative data analysis software, ATLAS.ti 5.5 was utilized for content analysis. Research findings indicate that spirituality, Hakka spirit, preparedness, and social support network are key factors that have positive and direct impacts on disaster recovery. Hakka spirit is a lifestyle, a set of beliefs, and the essence of a unique culture that has been developed over time. It consists of frugality, diligence, self-reliance, responsibilities, and persistence. Experience of natural disasters and post-disaster life events are found to be influential both in positive and negative ways. The findings affirm the importance of using relevant, field-based cultural knowledge when constructing social work interventions. Social workers may check survivors' social support networks, and help them create one if they need.

Keywords: disaster recovery, spirituality, Hakka spirit, preparedness, social support networks

III. PowerPoint Presentation

The 921 Earthquake: A study of factors influencing disaster recovery

Li-ju Jang, PhD

Department of Medical Sociology & Social Work
Chung Shan Medical University

Support for this work was provided by Grant NSC 96-2625-Z-040-001 from the National Science Council, Taiwan.

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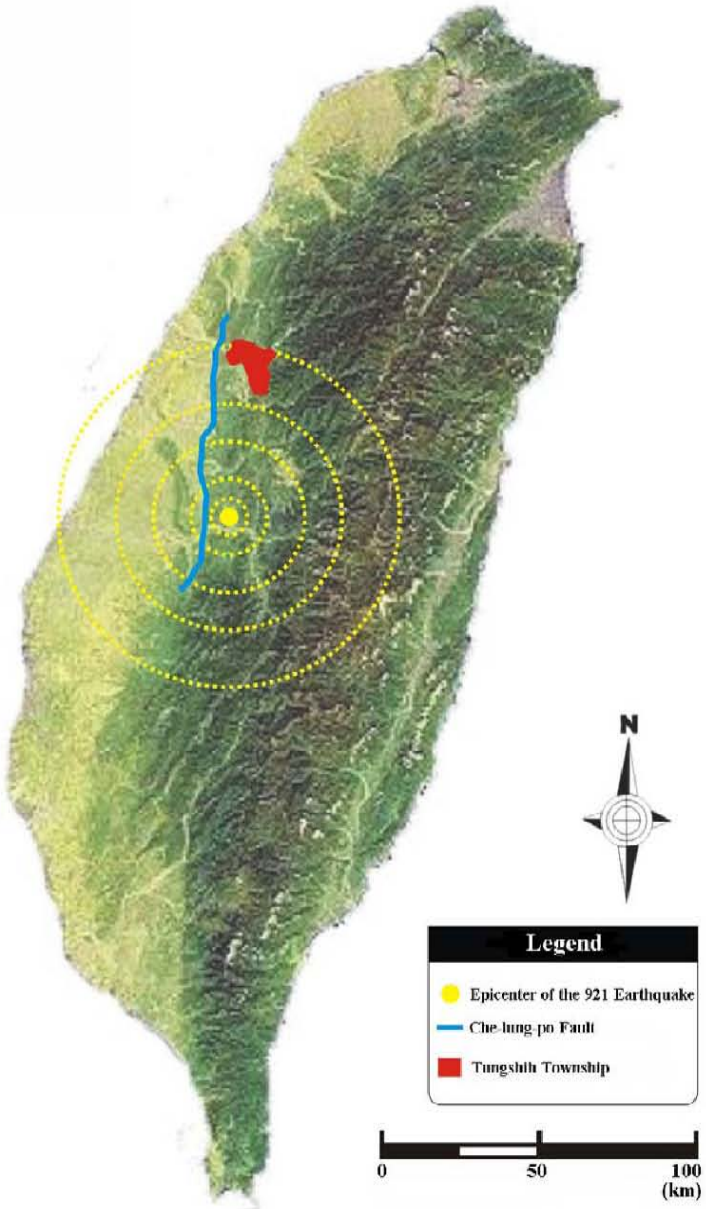
The 921 Earthquake

- Also known as Chi-chi Earthquake
- Occurred on September 21, 1999
- Measured 7.6 on the Richter scale
- Was responsible for 2,415 deaths, 11,306 injuries, and making more than 110,000 people homeless.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Legend
Epicenter of the 921 Earthquake
Che-lung-pu Fault
Tungshih Township
0
50
100
(km)

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Tung Shih, Taiwan

- At the township level, Tung Shih suffered the highest death toll with 358.
- Its population is about 50,000.
- Over 50% of the population are Hakkas.
- Most of the residents are orchardists.

Sampling

- Using a snowball sampling strategy to select 'information-rich' participants for study in depth.
- criteria for selecting participants:

  (a) 30 years or older

  (b) survivors of the 921 Earthquake

  (c) residents of Tung Shih

Sampling

- To hear various voices, people from different SES were interviewed.
- 15 participants were interviewed.

Characteristics of Participants

ID	TW01	TW02	TW03	TW04	TW05
Gender	F	M	F	F	F
Age	30s	40s	50s	40s	60s
Background	3-generation under one roof	wife with mental health concerns	part-time religious worker	domestic violence survivor	volunteer
Education	junior college	elementary	college	junior high	college
Occupation	pre-school teacher	Blue-collar worker	elementary school teacher	housewife	retired teacher
ID	TW06	TW07	TW08	TW09	TW10
Gender	M	F	F	M	F
Age	50s	40s	60s	60s	40s
Background	4-dimentional religious worker	volunteer	survivor of the 921 EQ & 7-2 Flood, Buddhist	survivor of the 921, widower	single mom, lost her husband to the 921
Education	college	Associate degree	elementary	elementary	senior high
Occupation	retired teacher	self-employed	housewife	farmer	seasonal worker
ID	TW11	TW12	TW13	TW14	TW15
Gender	F	F	F	M	F
Age	50s	60s	40s	70s	40s
Background	participated in the 921 relief work	volunteer	Hakka cultural preservation worker	survivor of the 921, living alone, Buddhist	survivor of 921, single mom
Education	junior college	junior college	college	elementary	junior high
occupation	nurse	retired	elementary school teacher	recycling	blue-collar worker

Data Collection

- Audio-taped all the interviews
- Post-interview contacts were made for the purposes of clarification and verification.
- Because the Taiwanese people are cautious of signing names on official documents, participants were verbally informed about the purpose of this study and what their rights were.

Data Collection

The following data were collected

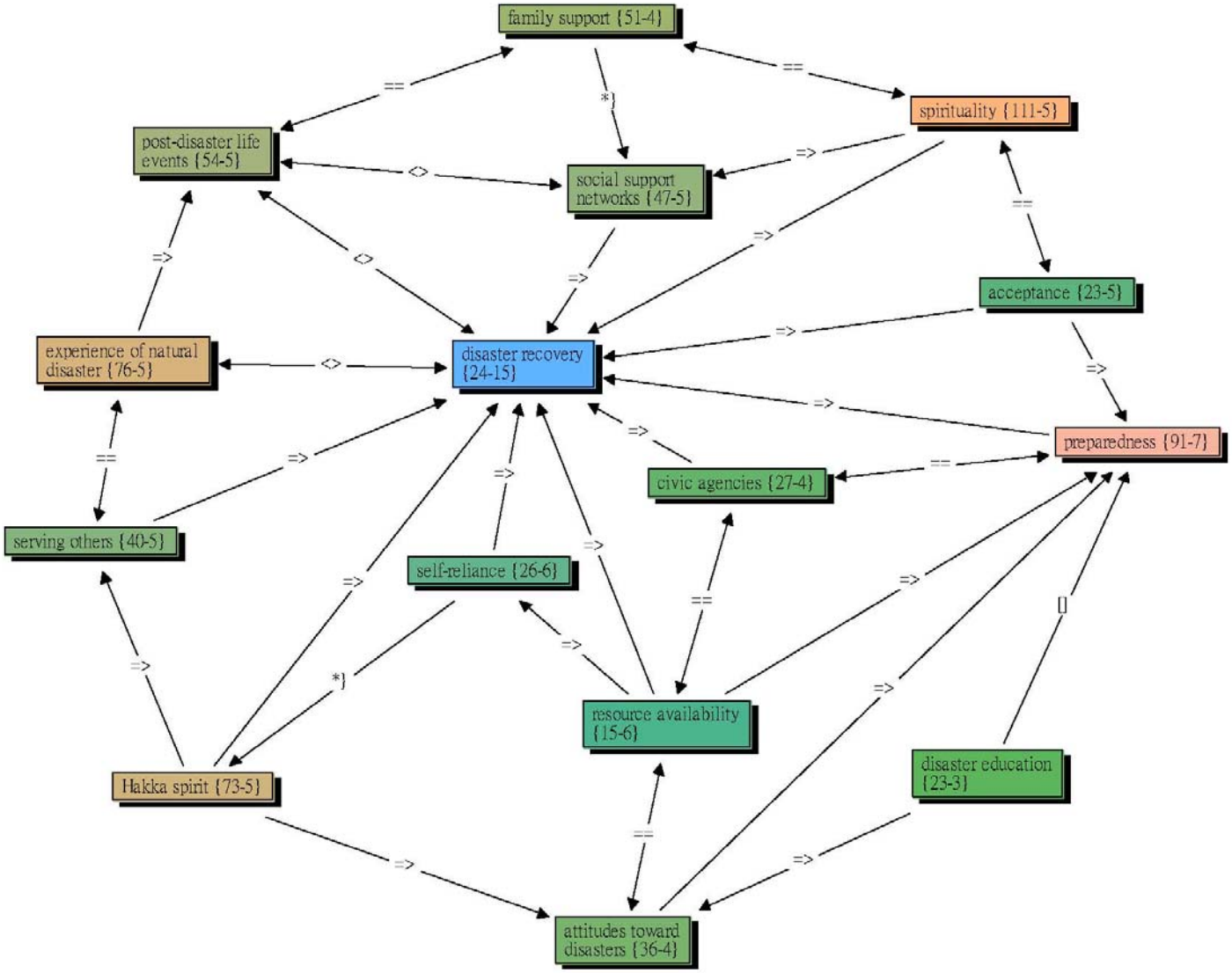
1) What factors have influenced your disaster recovery?

2) What are your coping strategies?

3) What would be your suggestions for disaster response workers?

Data Analysis

- ATLAS.ti 5.5, was employed for textual analysis.
- Models were used for mapping relationships among themes.



Note: => is cause of, == is associated with, [] is part of, *} is property of, <> contradicts

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Lessons Learned

The following factors have direct and positive impacts on disaster recovery:

Acceptance

Civic Agencies

Hakka spirit

Preparedness

resource availability

self-reliance

serving others

spirituality

social support networks

Lessons Learned

Factors have direct but negative impacts on disaster recovery:

1. Post-disaster life events
2. experience of natural disaster

Lessons Learned

Preparedness and resource availability are associated with civic agencies.

Resource availability has a direct and positive impact on self-reliance.

Post-disaster life events may weaken social support networks.

Lessons Learned

Self-reliance is an important property of Hakka spirit, and Hakka spirit has a positive and direct impact on attitudes toward disasters.

Disaster education is part of preparedness, and has a direct and positive impact on attitudes toward disasters.

Acceptance

- Survivors accept the established fact and are willing to face challenges.
- View disasters as part of life experience - - normalization.
- Strive to co-exist with natural disasters.

Acceptance

- "Each natural disaster is like an examination from gods. They have set up times for examinations. Whether I pass the exam or not, life goes on" (TW 08).
- "The fact is that the disaster already occurred. I cannot change the fact, so I choose to accept it" (TW 14).
- "The best way to deal with disaster is to accept the fact and move on with my life" (TW15).

Experience of Natural Disaster

- Current disaster experience often challenges people's preparedness and disaster recovery.
- Past experiences may encourage people to start a disaster mitigation plan.

Definition of Hakka Spirit

- The spirit of ***sturdy neck*** which means to hold on firmly despite extreme adversity, or to keep on doing something without regard to one's own strength.
- Consists of characteristics such as frugality, diligence, self-reliance, responsibility, and persistence.

Hakka Spirit

- ***Hakka spirit*** is not reserved for the Hakka people only. It is the spirit shared by all residents of Tung Shih regardless of their ethnicity.
- Non-Hakka participants have adapted ***Hakka spirit*** to a certain extent.

Hakka Spirit

- "People in Tung Shih are quite determined. They are very hardworking people" (TW 01).
- "… The Hakka people refuse to concede defeat" (TW 07).
- "I rely on the strong determined will to pass through terrible ordeals. It's not easy. I lost most of my properties to the 921 Earthquake. I would not be able to make it without strong determined will." (TW 10)

Preparedness

- People cannot stop disaster from happening, but they can do something to reduce the damages may cause by disaster.
- "I have learned to fasten furniture to walls or beams. If I had done that before the 921 Earthquake, I would not have suffered such a great loss" (TW 13).

Preparedness

- "I think I am more prepared than before. Now I know how to protect my family, reduce the damage, and where to ask for help" (TW 07).

Preparedness

A couple of participants hold negative outcome expectancy against preparedness. Witnessing how destructive a disaster could be makes them believe that disaster consequences are too catastrophic for personal action to make any difference to peoples' safety.

Resource Availability

- Resource availability have positive impacts on self-reliance as well as disaster recovery.
- "In order to quickly recover from the disaster, survivors need to find out what and where available resources are " (TW 13).

Resource Availability

"… I often pay attention to available community resources. When the challenge is beyond my control, I make good use of the community resources" (TW 11).

Self-reliance

- Job security and good health conditions are essential to self-reliance. Job security ensures financial stability and reasonable living quality. Good health conditions provide strengths required to enjoy life as well as cope with challenges.

Self-reliance

- "It's my responsibility to get on my feet again" (TW 01).
- "There is no free lunch. If I want to reap, I have to sow first. I cannot sit there do nothing, but wait for services from the government or non-profit organizations. I need to be self-reliant" (TW 05).

Self-reliance

- "No matter what happens, the key is to be self-reliant" (TW10).
- "I cannot change the government's policy or other people. But, I can do something for myself" (TW 15).

Serving Others

- helps survivors to have a better understanding of the meaning and values of life.
- helps survivors themselves as well as others to grow.
- "… Learn to cherish what I have. Be grateful for being able to serve others. That's a type of happiness" (TW 05).
- "Caring for others helps me find hope in this world and makes me feel good about myself" (TW 01).

Serving Others

- "I often visit people in need. I listen to their stories. … I think I am doing something to make this world better" (TW 07).
- "I always purchase some local produce when I visit disaster affected areas. I like to help those small business owners. By doing so, I may bring hope to their business" (TW 13).

Social Support Networks

- Supports from family, clan members as well as neighbors are essential to the local people.
- "… residents in the neighborhood helped each others, worked together to pass through that period of time. People in the neighborhood showed their loving care for each other, listened to each other…" (TW 05).

Social Support Networks

- "Tung Shih is a closed hillside township. Most of the local people are somehow related to each other. It's like what people often refer to as 'yam-vines.' They are connected somehow someway" (TW 03).
- "The mutual support group has created new social support networks for its members … group members provide psychological and emotional support for each other. … to comfort. …or find a way to help …" (TW 13).

Spirituality

- Counsel with gods: the Taiwanese people often use poe divination to denote gods' will.
- Encourages people to work on personal merits and practice moral culture.
- Brings comfort to survivors.

Spirituality

- Offers explanations of death, life, loss, as well as natural disasters.
- Helps people to be more optimism and see positive side of things -- find hope for their future.
- Helps survivors identify inner strengths and find meanings in their sufferings.

Spirituality

- " … Feeling being supported by a higher Being is important, especially when encounters challenges" (TW 03).
- Religious belief has a great impact on my attitudes toward disasters. It helps me to have a better understanding of its meaning" (TW 01).
- "I really appreciate the assistance of Gods. I really believe that there is an invisible yet existing force" (TW 03).

Discussions & Suggestions

- Participants from the low-income category tend to focus on their daily struggles. Because their resources are so limited that they have no extra means for disaster preparedness.
- It is often the case that people in remote areas are uninformed about available resources, or lack transportation to relief centers.

Discussions & Suggestions

- Disaster survivors are less likely to come to service providers, instead, service providers need to reach out to them. Outreach service is a more effective service delivery model for disaster survivors than others.
- Coordinating relief efforts with the local government and/or other non-profit organizations may ensure that services reach to people in need.

Discussions & Suggestions

- Disaster education is an essential part of disaster preparedness. It aims at increasing public awareness of what can happen and at enhancing readiness to act according to the proposed disaster management plan.

Summary

- Understanding culture in the helping process should be reinforced.
- A support group offers opportunities for survivors to share their mutual concerns and coping mechanisms with each other. Check survivors' social support networks, and help them create one if they need.

Summary

- In order to provide survivors valuable information and link available resources for them, disaster response workers need to know survivors' needs, available resources, their culture, and the government's policies as well as their attitudes toward re-construction projects.

Summary

- Let the local residents do the work – construct their community as a disaster resistant community.

國科會補助計畫衍生研發成果推廣資料表

日期:2010/12/17

國科會補助計畫	計畫名稱：台灣與紐西蘭震災整備模式之跨文化比較
	計畫主持人：張麗珠
	計畫編號：98-2410-H-040-009-SSS　　學門領域：社會工作

無研發成果推廣資料

98 年度專題研究計畫研究成果彙整表

計畫主持人：張麗珠	計畫編號：98-2410-H-040-009-SSS
計畫名稱：台灣與紐西蘭震災整備模式之跨文化比較	

成果項目			量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）
			實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比		
國內	論文著作	期刊論文	0	1	0%	篇	資料已蒐集並完成分析，成果發表的部份仍在進行中。
		研究報告/技術報告	1	1	100%		
		研討會論文	1	1	100%		
		專書	0	0	0%		
	專利	申請中件數	0	0	0%	件	
		已獲得件數	0	0	0%		
	技術移轉	件數	0	0	0%	件	
		權利金	0	0	0%	千元	
	參與計畫人力（本國籍）	碩士生	1	1	100%	人次	請問這欄與封面的資料有何差異，這個研究聘用 2 位學生當兼任助理，不知道如何評值實際貢獻。
		博士生	0	0	0%		
		博士後研究員	0	0	0%		
		專任助理	0	0	0%		
國外	論文著作	期刊論文	0	1	0%	篇	資料已蒐集並完成分析，成果發表的部份仍在進行中。
		研究報告/技術報告	0	0	0%		
		研討會論文	1	1	100%		
		專書	0	0	0%	章/本	
	專利	申請中件數	0	0	0%	件	
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		博士生	0	0	0%		
		博士後研究員	0	0	0%		

		專任助理	0	0	0%		
其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)		重要國際合作					

	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

■達成目標

□未達成目標（請說明，以 100 字為限）

□實驗失敗

□因故實驗中斷

■其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文：□已發表 □未發表之文稿 ■撰寫中 □無

專利：□已獲得 □申請中 ■無

技轉：□已技轉 □洽談中 ■無

其他：(以 100 字為限)

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）(以 500 字為限)

The identification of models with cross-cultural applicability would provide a cost-effective resource for countries and communities in developing countries to benefit from this research. If cross-cultural applicability can be demonstrated, it would provide opportunities for collaborative learning and provide access to a wider range of potential earthquake risk management options.