Natural Hazards
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Supplement of

Brief communication: Effective earthquake early warning systems: appropriate messaging and public awareness roles

Meng Zhang et al.

Correspondence to: Ya Tang (tangya@scu.edu.cn)

Supplementary information I: Questionnaire on public's perception of the broadcast siren during the Changning Earthquake

Question type		English & Chinese Questions 中英采访问题
Demographics 人口统计特征	Q1	*What's your gender？* 请问您的性别是＿＿＿
	Q2	*When were you born?* 请问您的出生年份是＿＿＿
	Q3	*What is your education level?* 请问您的受教育程度是＿＿
	Q4	*What is your occupation?* 请问您所从事的职业是＿＿
Knowledge on earthquakes and their risks 地震科普和教育	Q5	*Prior to this survey, did you receive training or were you educated about earthquakes and their risks (e.g., school, company, and community)?* 您是否在学校、单位或社区接受过应对地震的科普教育？
	Q6	*Prior to this survey, did you actively learn earthquake knowledge (e.g., risk, preparedness, and protective actions during shaking)?* 您是否主动学习过应对地震的科普/专业知识？
Responses to the Changning Earthquake 对长宁地震的反应	Q7	*Did you hear the countdown of the broadcast siren on June 17, 2019? (Yes, please jump to Q9)* 6 月 17 日您是否在成都听到地震的"大喇叭"倒计时预警？
	Q8	*If you did not hear the siren, please find the 10 s broadcast by scanning the QR code below. How did you feel when you hear the broadcast siren?* 若您没有于 6 月 17 日听到了广播，请扫描二维码获取 10 秒预警音频。设想您是第一次听到"大喇叭"预警，您的反应是？
	Q9	*Where were you at warning time?* 您当时所在的位置：＿＿＿＿＿（请尽可能详细）
	Q10	*How did you feel when you hear the broadcast siren?* 您听到广播的第一反应是？
Reasons for the responses 不同反应的原因	Q11	*How did you know the broadcast siren indicating the coming of an earthquake?* 您通过广播知道将要发生地震的原因是？

Supplementary information II

Table S1. Differences of responses and knowledge of the EEWS by location, gender, age, educational level and occupation (%)

	Location [a]		Gender [a]		Age [a]					Educational level [a]				Occupation [a]				
	Chengdu	Others	Male	Female	≤18	19-30	31-40	41-60	>60	Primary & below	High school	Undergraduate	Graduate	Students, educational employees, academics	Governmental organizations	Emergency institutions & companies	Private business & farmers	Other
Response [b]																		
Understood but did not know how to react	6.1	12.4	6.8	7.1	0.0	4.4	7.7	11.4	7.0	7.1	4.3	6.3	9.9	9.7	3.2	4.1	8.6	4.2
Understood & knew how to react	28.6	26.5	38.6	24.2	40	30.9	22.4	32.1	38.6	39.3	31.9	28.7	24.2	27.4	40.5	31.0	25.1	25.2
Not understood & confused	23.1	21.2	23.2	22.7	0.0	17.6	24.2	27.3	22.9	25.0	34.8	21.0	23.1	20.4	27.6	19.3	22.6	25.9
Not understood & scared	20.7	21.2	11.8	24.4	20.0	26.0	24.2	14.5	4.3	7.1	11.6	23	20.3	25.8	13.0	26.2	19.3	20.1
Not understood but felt nothing terrible would happen	13.7	13.3	12.7	14.0	20.0	11.3	15.0	14.5	11.4	7.1	8.7	13.6	16.5	8.6	9.2	12.8	17.4	17.9
Others	7.8	5.3	6.8	7.6	20	9.8	6.4	4.2	11.4	14.3	8.7	7.3	6.0	8.1	6.5	6.6	6.9	6.7
Awareness [c]																		
Respondents had actively/proactively obtained education [d]																		
No	32	37.2	31.8	33.1	0	19.1	36.8	41.8	34.3	57.1	24.6	22	18.7	19.7	21.6	15.2	25.4	32
Yes	68	62.8	68.2	66.9	100	80.9	63.2	58.2	65.7	42.9	75.4	78	81.3	80.3	78.4	84.8	74.6	68
Respondents had received training [e]																		
No	21.5	30.1	21.8	23.1	20.0	27.5	20.9	20.6	22.9	57.1	40.6	30.5	31.9	27.8	21.6	22.4	35.6	21.5
Yes	78.5	69.9	78.2	76.9	80.0	72.5	79.1	79.4	77.1	42.9	59.4	69.5	68.1	72.2	78.4	77.6	64.4	78.5

[a] Percentages (%) are given within location, gender, ager, educational level, and occupation.

[b] Location: $\chi^2 = 6.566$, df=5, $p=0.255$; gender: $\chi^2 = 23.859$, df=5, $p<0.001$; age: $\chi^2 = 43.327$, df=20, $p=0.002$; educational level: $\chi^2 = 49.108$, df=15, $p<0.001$; occupation: $\chi^2 = 85.205$, df=20, $p<0.001$

[c] Knowledge on how to response by asking whether respondents had received training and/or actively/proactively obtained education

[d] Location: $\chi^2 = 1.186$, df=1, $p=0.276$; gender: $\chi^2 = 0.116$, df=1, $p=0.734$; age: $\chi^2 = 28.333$, df=4, $p<0.001$; educational level: $\chi^2 = 46.303$, df=4, $p<0.001$; occupation: $\chi^2 = 14.243$, df=3, $p=0.003$

[e] Location: $\chi^2 = 4.086$, df=1, $p=0.043$; gender: $\chi^2 = 0.145$, df=1, $p=0.703$; age: $\chi^2 = 3.685$, df=4, $p=0.45$; educational level: $\chi^2 = 25.480$, df=3, $p<0.001$; occupation: $\chi^2 = 19.283$, df=4, $p=0.001$