



Supplement of

Unbalanced relationship between flood risk perception and flood preparedness from the perspective of response intention and socio-economic factors: a case study of Nanjing, China

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Socio-economic feature in respondents

Table S1

Profile of socio-economic feature in respondents.

Characteristic	Description	Frequency	Rate
Gender	Male	323	43.8
	Female	414	56.2
Age	≤18 years	10	1.4
	18-25 years	203	27.5
	26-30 years	92	12.5
	31-40 years	153	20.8
	41-50 years	107	14.5
	51-60 years	84	11.4
	≥60 years	88	11.9
District	Gulou	161	21.8
	Jianye	193	26.2
	Qixia	171	23.2
	Qinhuai	51	6.9
	Xuanwu	75	10.2
	Yuhuatai	86	11.7
	Elementary school	51	6.9
Education level	Middle school	120	16.3
	High school	145	19.7
	Undergraduate	336	45.6
	Postgraduate and above	85	11.5
	Less than 1 years	57	7.7
Living time	1-3 years	125	17.0
	3-5 years	88	11.9
	5-10 years	88	11.9
	More than 10 years	379	51.4

	Very poor	3	0.4
	Poor	13	1.8
Health condition	General	100	13.6
	Better	256	34.7
	Excellent	365	49.5
Life style	Smoking	139	18.9
	Not smoking	598	81.1
Exercise situation	Regularly exercising	451	61.2
	Not exercising	286	38.8

Table S2

Descriptive statistics of each indicator and variable.

Name	Min	Max	Mean	Standard Deviation
Flood risk perception	1	5	3.57	0.68
• Threat appraisal	1	5	4.10	0.61
• Coping appraisal	1	5	3.03	1.07
Flood preparedness	1	5	4.05	0.76
• Adaptive behavior	1	5	4.25	0.79
• Preventive behavior	1	5	3.85	0.87
Response intention	1	5	2.87	0.79
• Flood risk knowledge	1	5	2.73	1.25
• Government trust	1	5	2.94	0.50
• Flood risk worry	0	1	0.50	1.15
• Flood experience	0	1	0.45	0.25
• Flood disaster education	0	1	0.46	0.50
Gender	1	2	1.56	0.50
Age	1	7	4.01	1.74
District	1	6	2.92	1.63
Education level	1	5	3.39	1.10
Living time	1	5	3.82	1.41

Health condition	1	5	4.31	0.80
Life style	0	1	0.19	0.39
Exercise situation	0	1	0.61	0.49

Regression analysis of flood risk perception

Table S3

Regression analysis in the gender group.

Variable	Males		Females	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.815***	[0.409, 0.475]	0.841***	[0.430, 0.482]
Flood risk worry	0.087**	[0.047, 0.199]	0.043*	[0.001, 0.114]
Government trust	0.105**	[0.027, 0.098]	0.090***	[0.026, 0.081]
Flood disaster education	0.062*	[0.020, 0.317]	0.042	[-0.009, 0.232]
Flood experience	-0.015	[-0.097, 0.055]	0.027	[-0.022, 0.095]
R ²	0.768		0.812	
Adjusted R ²	0.764		0.81	
RMSE	0.340		0.289	
F	209.864***		352.248***	

*** P < 0.001, ** P < 0.01, * P < 0.05

Table S4

Regression analysis in the age group.

Variable	Elder		Non-elder (young and middle-aged)	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.828***	[0.374, 0.493]	0.823***	[0.425, 0.469]
Flood risk worry	0.128**	[0.032, 0.314]	0.059**	[0.032, 0.128]
Government trust	0.06	[-0.034, 0.102]	0.101***	[0.037, 0.083]
Flood disaster education	0.042	[-0.191, 0.411]	0.056**	[0.05, 0.249]
Flood experience	0.028	[-0.113, 0.189]	0.007	[-0.039, 0.059]
R ²	0.78		0.792	
Adjusted R ²	0.767		0.79	
RMSE	0.328		0.310	
F	58.303***		488.224***	

Table S5

Regression analysis in the education level group.

Variable	High education level		Low education level	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.817***	[0.438, 0.497]	0.831***	[0.393, 0.45]
Flood risk worry	0.041	[-0.002, 0.113]	0.109***	[0.076, 0.218]

Government trust	0.124***	[0.046, 0.107]	0.054	[-0.001, 0.061]
Flood disaster education	0.025	[-0.053, 0.186]	0.093***	[0.106, 0.403]
Flood experience	0.013	[-0.043, 0.079]	-0.008	[-0.084, 0.061]
R ²		0.807		0.778
Adjusted R ²		0.804		0.775
RMSE		0.299		0.320
F		346.002***		217.902***

Table S6

Regression analysis in the living time group.

Variable	Long living time		Short living time	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.829***	[0.402, 0.457]	0.734***	[0.323, 0.503]
Flood risk worry	0.051*	[0.002, 0.131]	0.111	[-0.025, 0.298]
Government trust	0.064*	[0.006, 0.064]	0.187**	[0.017, 0.198]
Flood disaster education	0.083**	[0.081, 0.346]	0.042	[-0.193, 0.372]
Flood experience	0.018	[-0.043, 0.089]	-0.012	[-0.179, 0.148]
R ²		0.767		0.801
Adjusted R ²		0.764		0.782
RMSE		0.318		0.285
F		245.078***		41.063***

Table S7

Regression analysis in the health condition group.

Variable	Good health condition		Bad health condition	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.821***	[0.421, 0.466]	0.824***	[0.241, 0.631]
Flood risk worry	0.059***	[0.031, 0.129]	0.228	[-0.157, 0.749]
Government trust	0.107***	[0.040, 0.088]	-0.099	[-0.402, 0.279]
Flood disaster education	0.046*	[0.023, 0.227]	0.373	[-0.349, 3.015]
Flood experience	0.017	[-0.027, 0.074]	0.082	[-0.469, 0.677]
R ²		0.788		0.801
Adjusted R ²		0.787		0.702
RMSE		0.312		0.355
F		458.429***		8.066***

Table S8

Regression analysis in the exercising situation group.

Variable	Regular exercising	Not exercising
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	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.833***	[0.428, 0.479]	0.817***	[0.428, 0.479]
Flood risk worry	0.076***	[0.044, 0.157]	0.056*	[0.044, 0.157]
Government trust	0.097***	[0.029, 0.083]	0.091***	[0.029, 0.083]
Flood disaster education	0.026	[-0.049, 0.182]	0.090***	[-0.049, 0.182]
Flood experience	0.024	[-0.027, 0.091]	-0.009	[-0.027, 0.091]
R ²		0.792		0.793
Adjusted R ²		0.789		0.79
RMSE		0.305		0.317
F		337.86***		214.957***

Table S9

Regression analysis in the life style group.

Variable	Smoking		Not smoking	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Flood risk knowledge	0.815***	[0.378, 0.468]	0.831***	[0.431, 0.477]
Flood risk worry	0.093*	[0.025, 0.244]	0.063***	[0.033, 0.133]
Government trust	0.118***	[0.021, 0.118]	0.086***	[0.026, 0.075]
Flood disaster education	0.111***	[0.096, 0.529]	0.041*	[0.005, 0.212]
Flood experience	-0.015	[-0.136, 0.091]	0.009	[-0.039, 0.063]
R ²		0.815		0.784
Adjusted R ²		0.808		0.782
RMSE		0.318		0.309
F		116.896***		429.389***

Regression analysis of flood preparedness

Table S10

Regression analysis in the risk perception group.

Variable	High risk perception		Low risk perception	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.171***	[0.123, 0.33]	0.309**	[0.222, 0.792]
Flood risk knowledge	0.169***	[0.053, 0.153]	0.039	[-0.229, 0.366]
Flood risk worry	0.118***	[0.058, 0.267]	-0.060	[-0.399, 0.181]
Government trust	0.198*	[0.071, 0.174]	0.126	[-0.031, 0.255]
Flood disaster education	0.079**	[0.003, 0.422]	0.060	[-0.415, 0.935]
Flood experience	-0.125**	[-0.276, -0.066]	0.051	[-0.206, 0.404]
R ²		0.166		0.119
Adjusted R ²		0.158		0.083
RMSE		0.629		0.865
F		18.984***		3.3***

Table S11

Regression analysis in the response intention group.

Variable	High response intention		Low response intention	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.216***	[0.14, 0.386]	0.211***	[0.149, 0.395]
Flood risk knowledge	0.217***	[0.067, 0.195]	0.082	[-0.011, 0.133]
Flood risk worry	0.069	[-0.057, 0.257]	0.097	[-0.011, 0.346]
Government trust	0.193***	[0.055, 0.192]	0.172**	[0.052, 0.201]
Flood disaster education	0.106*	[0.008, 0.532]	0.067	[-0.104, 0.571]
Flood experience	-0.112*	[-0.332, -0.001]	-0.006	[-0.214, 0.189]
R ²		0.249		0.120
Adjusted R ²		0.234		0.107
RMSE		0.563		0.764
F		16.906***		9.172***

Table S12

Regression analysis in the gender group.

Variable	Males	Females
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	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.263***	[0.208, 0.472]	0.154***	[0.066, 0.29]
Flood risk knowledge	0.192**	[0.055, 0.196]	0.090	[-0.007, 0.104]
Flood risk worry	0.028	[-0.117, 0.214]	0.089	[-0.005, 0.241]
Government trust	0.240***	[0.094, 0.251]	0.141**	[0.023, 0.144]
Flood disaster education	0.044	[-0.176, 0.466]	0.123*	[0.069, 0.587]
Flood experience	-0.060	[-0.264, 0.063]	-0.075	[-0.225, 0.025]
R ²		0.272		0.135
Adjusted R ²		0.258		0.122
RMSE		0.727		0.618
F		19.665***		10.569***

Table S13

Regression analysis in the age group.

Variable	Elder		Non-elder (young and middle-aged)	
	Standardized coefficient	95% CI	Standardi zed coefficien t	95% CI
Threat appraisal	0.237*	[0.037, 0.489]	0.217***	[0.037, 0.489]
Flood risk knowledge	0.206	[-0.002, 0.239]	0.136**	[-0.002, 0.239]
Flood risk worry	-0.062	[-0.391, 0.207]	0.083*	[-0.391, 0.207]
Government trust	0.319**	[0.060, 0.339]	0.155***	[0.06, 0.339]
Flood disaster education	-0.081	[-0.848, 0.379]	0.096*	[-0.848, 0.379]
Flood experience	-0.050	[-0.381, 0.234]	-0.086*	[-0.381, 0.234]
R ²		0.252		0.186
Adjusted R ²		0.197		0.178
0.666		0.685		0.666
F		4.56***		24.446***

Table S14

Regression analysis in the education level group.

Variable	High education level	Low education level
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	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.276***	[0.232, 0.480]	0.180***	[0.087, 0.338]
Flood risk knowledge	0.065	[-0.026, 0.108]	0.226***	[0.067, 0.189]
Flood risk worry	0.088*	[0.001, 0.264]	0.036	[-0.102, 0.211]
Government trust	0.152**	[0.032, 0.177]	0.205***	[0.061, 0.196]
Flood disaster education	0.085	[-0.017, 0.528]	0.049	[-0.174, 0.474]
Flood experience	-0.102*	[-0.298, -0.02]	-0.011	[-0.172, 0.139]
R ²		0.199		0.191
Adjusted R ²		0.187		0.176
0.679		0.684		0.679
F		17.144***		12.194***

Table S15

Regression analysis in the living time group.

Variable	Long living time		Short living time	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.204***	[0.133, 0.372]	0.352*	[0.067, 0.904]
Flood risk knowledge	0.180***	[0.048, 0.167]	-0.059	[-0.278, 0.195]
Flood risk worry	0.076	[-0.027, 0.254]	-0.113	[-0.616, 0.265]
Government trust	0.169***	[0.043, 0.168]	-0.017	[-0.269, 0.244]
Flood disaster education	0.102*	[0.014, 0.593]	0.031	[-0.656, 0.822]
Flood experience	-0.005	[-0.15, 0.136]	-0.209	[-0.764, 0.09]
R ²		0.184		0.161
Adjusted R ²		0.171		0.061
RMSE		0.686		0.743
F		14.018***		1.602***

Table S16

Regression analysis in the health condition group.

Variable	Bad health condition		Good health condition	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI

Threat appraisal	0.602	[-0.069, 1.852]	0.172***	[0.115, 0.305]
Flood risk knowledge	0.292	[-0.274, 0.782]	0.127**	[0.027, 0.123]
Flood risk worry	-0.125	[-1.613, 1.078]	0.105***	[0.047, 0.263]
Government trust	0.394	[-0.521, 1.333]	0.192***	[0.072, 0.179]
Flood disaster education	-0.246	[-6.565, 3.671]	0.078*	[0.007, 0.451]
Flood experience	0.016	[-1.52, 1.589]	-0.091*	[-0.245, -0.025]
R ²		0.531		0.170
Adjusted R ²		0.219		0.161
RMSE		0.947		0.676
F		1.7***		20.897***

Table S17

Regression analysis in the exercising situation group.

Variable	Regular exercising		Not exercising	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.208	[0.149, 0.38]	0.207***	[0.113, 0.388]
Flood risk knowledge	0.137*	[0.026, 0.145]	0.147**	[0.015, 0.153]
Flood risk worry	0.045	[-0.062, 0.201]	0.108	[0.002, 0.319]
Government trust	0.218**	[0.081, 0.207]	0.116***	[-0.003, 0.157]
Flood disaster education	0.026	[-0.186, 0.343]	0.147	[0.108, 0.783]
Flood experience	-0.048	[-0.209, 0.06]	-0.113*	[-0.329, -0.008]
R ²		0.175		0.214
Adjusted R ²		0.164		0.198
RMSE		0.698		0.664
F		15.75***		12.692***

Table S18

Regression analysis in the life style group.

Variable	Smoking		Not smoking	
	Standardized coefficient	95% CI	Standardized coefficient	95% CI
Threat appraisal	0.159***	[-0.014, 0.427]	0.229***	[0.186, 0.379]

Flood risk knowledge	0.210**	[0.021, 0.232]	0.119*	[0.022, 0.122]
Flood risk worry	0.103	[-0.09, 0.438]	0.064*	[-0.016, 0.204]
Government trust	0.238***	[0.042, 0.281]	0.161	[0.051, 0.16]
Flood disaster education	0.076	[-0.278, 0.777]	0.076*	[-0.003, 0.449]
Flood experience	-0.072	[-0.391, 0.146]	-0.078*	[-0.227, -0.004]
R ²		0.246		0.171
Adjusted R ²		0.211		0.163
RMSE		0.749		0.672
F		7.165***		20.374***

Analysis results of influence path

Table S19

Regression results of path analysis (health condition – flood preparedness).

Variable	M: Response intention						Y: Flood preparedness					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Threat appraisal	0.3969	0.0455	8.7262	0.0000	0.3076	0.4862	0.3128	0.0449	6.9724	0.0000	0.2247	0.4009
M: Response intention	—	—	—	—	—	—	0.1737	0.0344	5.0540	0.0000	0.1062	0.2412
W: Health condition	—	—	—	—	—	—	0.0873	0.0325	2.6833	0.0075	0.0234	0.1512
X×W	—	—	—	—	—	—	- 0.1090	0.0501	-2.1774	0.0298	- 0.2074	- 0.0107
Intercept	2.8680	0.0277	103.6208	0.0000	2.8137	2.9223	3.5593	0.1020	34.9055	0.0000	3.3591	3.7595
R ²	0.0939						0.1458					
F	76.1473						31.2232					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Health condition	Effect	se	t	p	LLCI	ULCI
M-SD	-.8010	.4002	.0612	6.5424	.0000	.2801	.5202
0	.0000	.3128	.0449	6.9724	.0000	.2247	.4009
M+SD	.6879	.2378	.0557	4.2727	.0000	.1285	.3471

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0689	.0158	.0402	.1031

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0913	.0202	.0546	.1345

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0556	.0123	.0330	.0816

Note: independent variable (X), dependent variable (Y), mediator variable (M),

moderator variable (W).

Table S20

Regression results of path analysis (education level – flood preparedness).

Variable	M: Response intention						Y: Flood preparedness					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Threat appraisal	0.3969	0.0455	8.7262	0.0000	0.3076	0.4862	0.3342	0.0446	7.4883	0.0000	0.2466	0.4218
M: Response intention	—	—	—	—	—	—	0.1776	0.0346	5.1382	0.0000	0.1097	0.2455
W: Education level	—	—	—	—	—	—	0.0587	0.0238	2.4703	0.0137	0.0121	0.1054
X×W	—	—	—	—	—	—	0.1119	0.0388	2.8852	0.0040	0.0358	0.1880
Intercept	2.8680	0.0277	103.6208	0.0000	2.8137	2.9223	3.5442	0.1025	34.5865	0.0000	3.3430	3.7453
R ²	0.0939						0.1459					
F	76.1473						31.2649					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Education level	Effect	se	t	p	LLCI	ULCI
M-SD	-1.1000	.2111	.0595	3.5472	.0004	.0943	.3279
0	.0000	.3342	.0446	7.4883	.0000	.2466	.4218
M+SD	1.1000	.4573	.0639	7.1570	.0000	.3318	.5827

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0705	.0162	.0413	.1048

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0933	.0207	.0554	.1367

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0568	.0126	.0338	.0828

Table S21

Regression results of path analysis (gender – threat appraisal– flood appraisal).

Variable	M: Response intention						Y: Flood preparedness					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Threat appraisal	0.3969	0.0455	8.7262	0.0000	0.3076	0.4862	0.3051	0.0445	6.8628	0.0000	0.2178	0.3924
M: Response intention	—	—	—	—	—	—	0.1786	0.034	5.2488	0.0000	0.1118	0.2454
W: Gender	—	—	—	—	—	—	0.2376	0.0515	4.6156	0.0000	0.1365	0.3386
X×W	—	—	—	—	—	—	- 0.2146	0.0839	-2.5569	0.0108	- 0.3794	- 0.0498
Intercept	2.868	0.0277	103.6208	0.0000	2.8137	2.9223	3.5399	0.1009	35.0902	0.0000	3.3418	3.7379
R ²	0.0939						0.1628					
F	76.1473						35.5789					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Gender	Effect	se	t	p	LLCI	ULCI
M-SD	-.5617	.4257	.0605	7.0385	.0000	.3069	.5444
M+SD	.4383	.2111	.0613	3.4451	.0006	.0908	.3313

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0709	.0161	.0409	.1052

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0939	.0205	.0552	.1365

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0572	.0125	.0335	.0831

Table S22

Regression results of path analysis (gender – coping appraisal – flood appraisal).

Variable	M: Response intention						Y: Flood preparedness					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Coping appraisal	0.447	0.0217	20.5714	0.0000	0.4043	0.4897	0.1318	0.0308	4.2835	0.0000	0.0714	0.1922
M: Response intention	—	—	—	—	—	—	0.1471	0.0415	3.5446	0.0004	0.0656	0.2286
W: Gender	—	—	—	—	—	—	0.2612	0.0525	4.9764	0.0000	0.1582	0.3642
X×W	—	—	—	—	—	—	0.1539	0.0491	-3.1354	0.0018	0.2502	0.0575
Intercept	2.868	0.0232	123.8185	0.0000	2.8225	2.9135	3.6249	0.1219	29.7248	0.0000	3.3855	3.8643
R ²	0.3654						0.1314					
F	423.1826						27.6881					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Gender	Effect	se	t	p	LLCI	ULCI
M-SD	-.5617	.2182	.0396	5.5135	.0000	.1405	.2959
M+SD	.4383	.0644	.0390	1.6519	.0990	-.0121	.1409

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0658	.0184	.0305	.1017

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0871	.0242	.0404	.1346

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0929	.0259	.0430	.1440

Table S23

Regression results of path analysis (health condition – preventive behavior).

Variable	M: Response intention						Y: Preventive behavior					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
0.0000	0.3969	0.0455	8.7262	0.0000	0.3076	0.4862	0.3455	0.0512	6.7474	0.0000	0.245	0.4461
M:												
Response intention	—	—	—	—	—	—	0.2144	0.0392	5.4659	0.0000	0.1374	0.2914
W: Health condition	—	—	—	—	—	—	0.1251	0.0371	3.3679	0.0008	0.0522	0.198
X×W	—	—	—	—	—	—	0.1464	0.0572	-2.5604	0.0107	0.2586	0.0341
0.0000	2.868	0.0277	103.6208	0.0000	2.8137	2.9223	3.2423	0.1164	27.8567	0.0000	3.0138	3.4708
R ²			0.0939						0.1558			
F			76.1473						33.7706			
p			p<0.001						p<0.001			

Moderating effect of W on X and Y:

	Health condition	Effect	se	t	p	LLCI	ULCI
M-SD	-.8010	.4628	.0698	6.6286	.0000	.3257	.5998
0	.0000	.3455	.0512	6.7474	.0000	.2450	.4461
M+SD	.6879	.2448	.0635	3.8542	.0001	.1201	.3696

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0851	.0179	.0523	.1216

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0981	.0199	.0609	.1375

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0598	.0121	.0369	.0837

Table S24

Regression results of path analysis (education level – preventive behavior).

Variable	M: Response intention						Y: Preventive behavior					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Threat appraisal	0.3969	0.0455	8.7262	0.0000	0.3076	0.4862	0.3727	0.0511	7.2866	0.0000	0.2723	0.4731
M: Response intention	—	—	—	—	—	—	0.2209	0.0396	5.575	0.0000	0.1431	0.2986
W: Education level	—	—	—	—	—	—	0.0761	0.0272	2.7947	0.0053	0.0226	0.1296
X×W	—	—	—	—	—	—	0.1159	0.0445	2.607	0.0093	0.0286	0.2032
Intercept	2.868	0.0277	103.6208	0.0000	2.8137	2.9223	3.2177	0.1174	27.396	0.0000	2.9871	3.4482
R ²	0.0939						0.1489					
F	76.1473						32.0234					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Education level	Effect	se	t	p	LLCI	ULCI
M-SD	-1.1000	.2452	.0682	3.5954	.0003	.1113	.3791
0	.0000	.3727	.0511	7.2866	.0000	.2723	.4731
M+SD	1.1000	.5002	.0732	6.8304	.0000	.3564	.6440

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0877	.0184	.0539	.1263

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.1011	.0205	.0633	.1434

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0615	.0125	.0383	.0872

Table S25

Regression results of path analysis (gender – threat appraisal – adaptive behavior).

Variable	M: Response intention						Y: Adaptive behavior					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Threat appraisal	0.3969	0.0455	8.7262	0.0000	0.3076	0.4862	0.2671	0.0482	5.5477	0.0000	0.1726	0.3617
M: Response intention	—	—	—	—	—	—	0.1374	0.0369	3.7269	0.0002	0.0650	0.2097
W: Gender	—	—	—	—	—	—	0.1994	0.0557	3.5772	0.0004	0.0900	0.3089
X×W	—	—	—	—	—	—	0.2241	0.0909	-2.4654	0.0139	0.4026	0.0457
Intercept	2.8680	0.0277	103.6208	0.0000	2.8137	2.9223	3.8608	0.1093	35.3346	0.0000	3.6463	4.0753
R ²	0.0939						0.1072					
F	76.1473						21.9689					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Gender	Effect	se	t	p	LLCI	ULCI
M-SD	-.5617	.3931	.0655	6.0004	.0000	.2645	.5217
M+SD	.4383	.1689	.0664	2.5456	.0111	.0386	.2992

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0545	.0160	.0249	.0888

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0688	.0198	.0320	.1113

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.0419	.0120	.0195	.0676

Table S26

Regression results of path analysis (gender – coping appraisal – preventive behavior).

Variable	M: Response intention						Y: Preventive behavior					
	β	SE	t	p	LLCI	ULCI	β	SE	t	p	LLCI	ULCI
X: Coping appraisal	0.4470	0.0217	20.5714	0.0000	0.4043	0.4897	0.0950	0.0356	2.6698	0.0078	0.0252	0.1649
M: Response intention	—	—	—	—	—	—	0.2270	0.0480	4.7266	0.0000	0.1327	0.3213
W: Gender	—	—	—	—	—	—	0.2967	0.0607	4.8851	0.0000	0.1774	0.4159
X×W	—	—	—	—	—	—	0.1306	0.0568	-2.2997	0.0217	0.2420	0.0191
Intercept	2.8680	0.0232	123.8185	0.0000	2.8225	2.9135	3.1939	0.1411	22.6373	0.0000	2.9169	3.4709
R ²	0.3654						0.1181					
F	423.1826						24.4996					
p	p<0.001						p<0.001					

Moderating effect of W on X and Y:

	Gender	Effect	se	t	p	LLCI	ULCI
M-SD	-.5617	.1684	.0458	3.6770	.0003	.0785	.2583
M+SD	.4383	.0378	.0451	.8389	.4018	-.0507	.1263

Indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.1015	.0211	.0612	.1433

Partially standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.1170	.0239	.0709	.1645

Completely standardized indirect effect(s) of X on Y:

Variable	Effect	BootSE	BootLLCI	BootULCI
Response intention	.1248	.0256	.0756	.1755

Flood Risk Perception Questionnaire

Questionnaire Number:

Home Address:

Survey Date: Year Month Day

Investigator Name:

Hello! Global warming has become an important topic of concern to people in the world today. To understand the public risk perception of flood disasters, research team of Jiangsu University is conducting a public welfare survey. The information collected by this survey is used for scientific research purposes only and we will keep the survey data strictly confidential. Thank you very much for support and help!

1. Flood risk perception

1.1 Threat appraisal

1. Do you care about floods and their impacts?

1	2	3	4	5
least	less	generally	more	most

2. Do you understand the causes of flooding?

1	2	3	4	5
least	less	generally	more	most

3. How much do you think floods will affect you?

1	2	3	4	5
least	less	generally	more	most

4. Do you think floods will cause damage to urban infrastructure after occurrence?

☐ Yes ☐ No

5. Do you think the occurrence of floods is seasonal?

☐ Yes ☐ No

1.2 Coping appraisal

1. Do you agree that there are a number of measures that humanity can take to mitigate the effects of floods?

1	2	3	4	5
least	less	generally	more	most

2. How well do you know about evacuation routes within a 3 km radius of your home address?

1 2 3 4 5

least less generally more most

3. How well you know how often floods occur within a 3 km radius of your home address?

1 2 3 4 5

least less generally more most

4. How well you know about the intensity of a flood disaster within a 3 km radius of your home address?

1 2 3 4 5

least less generally more most

5. How well you know about the flood-prone areas within a 3 km radius of your home address?

1 2 3 4 5

least less generally more most

6. How well do you know about the disaster losses of flood disasters within a 3 km radius of your home address?

1 2 3 4 5

least less generally more most

2. Flood preparedness

2.1 Adaptive behavior

The following are some specific response behaviors during flood events. 1-5 is least to most. Please draw on the corresponding option (check √)。

Number	Question	1	2	3	4	5
1	Reduce going out during floods					
2	Pay attention to flood information					
3	Extra stock with some food and drinking water					
4	Disinfect your accommodation					
5	Learn about your local government's flood control plan					

6	When the disaster is serious, turn off the gas valve and the power switch					
7	Avoid power facilities such as high-voltage power lines					
8	Seek medical attention in time if you are unwell					

(2) Preventive behavior

The following are some specific response behaviors during flood events. 1-5 is least to most, and please draw on the corresponding option (check √).

Number	Question	1	2	3	4	5
1	Regularly check the drainage system in your home					
2	Develop household flood response plans					
3	Emergency supplies such as first aid kits are available					
4	Listen to the weather forecast every day and follow flood warning messages					
5	Conduct flood hazard avoidance exercises					
6	Wash your hands frequently and pay attention to personal hygiene					
7	Place valuables in a place that will not be flooded					
8	Purchase flood disaster insurance					

3. Response intention

3.1 Flood experience

1. Have you experienced flooding in the last five years?

☐ Yes ☐ no?

3.2 Flood disaster education

1. If you have received the following forms of flood disaster education, please draw √ on the corresponding options, and you can select more than one:

Classroom education	Promotional posters	Television program	Broadcast	Network information
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3.3 Flood risk worry

Here are a few questions that investigate your mood in the face of floods, and then indicate the extent of the question after each question, based on how you actually feel about the flood disaster.

1. Are you worried about floods?

☐ Yes ☐ No

If yes, then choose what you will do because of worry

- ☐ Learn the knowledge of flood avoidance
- ☐ Purchase flood disaster insurance
- ☐ Conduct flood disaster avoidance exercises
- ☐ Formulate household flood response plans
- ☐ Prepare emergency supplies such as first aid kits
- ☐ Pay attention to flood early warning information
- ☐ Learn about your local government's flood control plan

3.4 Flood risk knowledge

Here is some knowledge related to local flood disasters, and please indicate how well you know about local flood disasters. 1-5 is least to most. Please draw √ on the corresponding option.

Number	Question	1	2	3	4	5
1	How well do you know how often floods occur in your city?					
2	How well do you know the intensity of flooding in your city?					
3	How well do you know about the flood-prone areas of your city?					
4	How well do you know about the disaster losses of flood disasters in your city?					
5	How well do you know about disaster policies proposed by the government of your city?					

3.5 Government trust

1. Do you understand the government's early warning mechanism for flood disasters?

1 2 3 4 5
least less generally more most

2. Do you know the government's emergency response to floods?

1 2 3 4 5
least less generally more most

3. Do you know about the government's campaign to prevent floods?

1 2 3 4 5
least less generally more most

4. Do you know how to contact the government flood response department?

1 2 3 4 5
least less generally more most

5. Do you think the government's response to floods has been swift?

1 2 3 4 5
least less generally more most

4. Basic information of respondents

1. Gender: ☐Male ☐Female

2. Age: _____ years old

3. Height: _____ cm, weight: _____ kg

5. Your highest level of education:

☐ Elementary school

☐ Junior high

☐ High school

☐ Undergraduate

☐ Postgraduate and above

7. You have lived in the city for _____ years.

8. What do you think of your health?

1 2 3 4 5
Very poor Poor General Good Excellent

9. Have you been diagnosed with the following health conditions by the hospital?

(Multiple selections are available).

☐Hepatitis ☐Cholera ☐Dysentery ☐High Cholesterol

☐Coronary Heart Disease ☐Angina ☐Myocardial Infarction

☐Chronic Bronchitis ☐Asthma ☐Other Respiratory Diseases

☐I have never been diagnosed with these problems

10. Do you smoke?

☐Yes ☐No

11. Do you have a habit of exercising regularly?

☐Yes ☐No

The comparison of socio-economic features

In our survey, women accounted for 56.2% and men accounted for 43.8%. The number of people with a bachelor's degree or above accounted for 58.1% of the total number of the survey respondents, and the rest were high school education or below, accounting for 41.9%. The age groups were: 26 to 40 years old (33.3%), 41 to 60 years old (25.9%), and 9 people over 60 years old (11.9%). The flood control knowledge survey¹ issued by Nanjing Municipal People's Government included the social and economic distribution of citizens in recent years, which was consistent with these socio-economic features of survey respondents in our study.

¹ More information was shown in this website.

https://www.nanjing.gov.cn/hdjl/zjdc/wscd/dcbg/202310/t20231012_4030100.html