

1 *Supplement of*

2 **The determinants affecting the intention of urban**
3 **residents to prevent flooding in China**

4 **Tiantian Wang et al.**

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8 **Table S1**
Flood-risk precautionary behavior scale.

Constructs	Item	Description of question	Response scale (1-5)
Intention (IN)	IN1	Reinforcement of houses or construction of water retaining walls.	“very reluctant to”-“very glad to”
	IN2	Prepare sandbags, life jackets and other emergency supplies.	
	IN3	Participate in emergency drills or learn about flooding.	
	IN4	Purchasing flood insurance.	
	IN5	Move your house to a safe area away from flooding.	
Perceived likelihood (PL)	PL1	The number of occurrences of very heavy rainfall has increased in 5 years.	“absolutely no”-“absolutely have”
	PL2	Spending to withstand damage caused by heavy rainfall has increased.	
Perceived consequence (PC)	PC1	How likely do you think flooding is to cause damage to infrastructure (telecommunications, electrification and transportation, etc.) in your area?	“small”-“very high”
	PC2	How likely do you think you are to be a victim (property damage or injury) in a flood?	
	PC3	How dangerous do you think the flood is to your life?	
Response efficacy (RE)	RE1	Prepare sandbags, life jackets and other emergency supplies.	“not effective at all”-“very effective”
	RE2	Participate in emergency drills or learn about flooding.	
	RE3	Reinforcement of houses or construction of water retaining walls.	
	RE4	Purchasing flood insurance.	
	RE5	Move your house to a safe area away from flooding.	
Self-efficacy (SE)	SE1	I think I have the ability to take the above flood protection measures.	“strongly disagree”-“strongly agree”
	SE2	When a flood occurs, I think I will be able to keep my property safe.	
	SE3	When the flood occurs, I think I have the ability to keep my life safe.	
	SE4	When the flood occurs, I think I have the ability to help others out of danger.	
	AT1	I don't think we can reduce the loss in the flood no matter what measures we take (fatalism).	
Attitude (AT)	AT2	I think flood prevention is a matter for the authorities and has less to do with individuals.	“strongly disagree”-“strongly agree”
	AT3	I think individuals have the responsibility to protect their families from floods.	

Trust (TR)	TR1	I am confident that the flood defenses are maintained well.	
	TR2	I have confidence in the technological skills of flood risk managers.	
	TR3	I rely heavily on the local flood control facilities.	
Response cost (RC)	RC1	Prepare sandbags, life jackets and other emergency supplies.	
	RC2	Participate in emergency drills or learn about flooding.	
	RC3	Reinforcement of houses or construction of water retaining walls.	“Very low-cost”-“very expensive”
	RC4	Purchasing flood insurance.	
	RC5	Move your house to a safe area away from flooding.	
Social norm (SN)	SN1	How much influence does your family have on your implementation of flood prevention measures?	
	SN2	How much influence do your neighbors or friends have on your implementation of flood protection measures?	“Very small”-“Very high”
	SN3	What is the impact of government policies on your implementation of flood prevention measures?	
	W1	Infrastructure is interrupted or destroyed in the area where you live.	
	W2	Serious damage to your personal belongings.	
	W3	Destruction partial / total of your residence.	“quite don’t worry”- “very worry”
Worry (W)	W4	Injuries to individuals or family members.	
	W5	Death of an individual or family member.	

9 Note: The items of red were deleted according to factor loading below 0.5.

10 **Table S2**

11 Results of validation factor analysis.

Construct	Item	Factor loading	Cronbach's alpha	CR	AVE
IN	IN1	0.721	0.746	0.841	0.570
	IN2	0.839			
	IN3	0.716			
	IN4	0.736			
PL	PL1	1.000	1.000	1.000	1.000
PC	PC1	0.809	0.778	0.871	0.693
	PC2	0.861			
	PC3	0.825			
RE	RE1	0.886	0.720	0.839	0.722
	RE2	0.813			
SE	SE1	0.810	0.819	0.878	0.643
	SE2	0.831			
	SE3	0.784			
	SE4	0.781			
RC	RC1	0.921	0.782	0.858	0.752
	RC2	0.811			
AT	AT1	0.728	0.746	0.717	0.594
	AT2	0.921			
W	W1	0.792	0.850	0.899	0.690
	W2	0.865			
	W3	0.825			
	W4	0.838			
SN	SN1	0.854	0.732	0.849	0.653
	SN2	0.820			
	SN3	0.747			
TR	TR1	0.918	0.769	0.896	0.811
	TR2	0.883			

12 Note: IN: Intention; PL: Perceived likelihood; PC: Perceived consequence; RE: Response efficacy; SE:

13 Self-efficacy; RC: Response cost; AT: Attitude; W: Worry; SN: Social norm; TR: Trust.

14 **Table S3**

15 The result of Fornell-Larcker criterion.

Construct	IN	PL	PC	RE	SE	RC	AT	W	SN	TR
IN	0.754									
PL	0.208	1								
PC	0.302	0.522	0.832							
RE	0.469	0.03	0.134	0.753						
SE	0.278	0.019	-0.098	0.201	0.802					
RC	0.107	0.128	0.081	-0.017	0.15	0.738				
AT	-0.132	0.07	-0.023	-0.168	0.078	0.243	0.773			
W	0.312	0.181	0.38	0.221	-0.054	0.097	-0.087	0.825		
SN	0.301	0.159	0.21	0.25	0.195	0.084	-0.021	0.212	0.808	
TR	0.103	-0.134	-0.139	0.132	0.19	0.033	-0.067	-0.055	0.169	0.9

16 Note: The number on the diagonal is the square root of the latent variable AVE, and the number below the diagonal is the correlation coefficient between the latent variables.

17 IN: Intention; PL: Perceived likelihood; PC: Perceived consequence; RE: Response efficacy; SE: Self-efficacy; RC: Response cost; AT: Attitude; W: Worry; SN: Social norm;

18 TR: Trust.

19 **Table S4**

20 The result of HTMT.

Construct	IN	PL	PC	RE	SE	RC	AT	W	SN	TR
IN										
PL	0.238									
PC	0.393	0.595								
RE	0.679	0.06	0.187							
SE	0.343	0.026	0.131	0.277						
RC	0.205	0.172	0.116	0.142	0.232					
AT	0.149	0.12	0.097	0.253	0.09	0.521				
W	0.385	0.194	0.458	0.295	0.096	0.149	0.149			
SN	0.407	0.185	0.277	0.372	0.245	0.17	0.121	0.264		
TR	0.144	0.148	0.177	0.2	0.233	0.062	0.068	0.069	0.229	

21 Note: IN: Intention; PL: Perceived likelihood; PC: Perceived consequence; RE: Response efficacy; SE: Self-efficacy; RC: Response cost; AT: Attitude; W: Worry; SN: Social
 22 norm; TR: Trust.

23 **Table S5**

24 Results of structural model.

	Hypothesis	Path coefficient	T-statistic value	P-value
H1a:	PL → IN	0.072	3.151**	0.002
H1b:	PC → IN	0.167	6.369***	0.000
H1c:	PL → W → IN	-0.003	0.960 ^{ns}	0.337
H1d:	PC → W → IN	0.057	5.325***	0.000
H2a:	RE → IN	0.329	11.721***	0.000
H2b:	SE → IN	0.209	9.182***	0.000
H2c:	RC → IN	0.059	2.759**	0.006
H3:	AT → IN	-0.091	4.026***	0.000
H4:	SN → IN	0.088	4.221***	0.000
H5a:	TR → AT	-0.067	2.542*	0.011
H5b:	TR → PL	-0.134	5.263***	0.000
H5c:	TR → PC	-0.139	5.713***	0.000
H5d:	TR → IN	0.038	1.878 ^{ns}	0.061

25 Note: *** p < 0.001, ** p < 0.01, * p < 0.05, ^{ns} p > 0.05. IN: Intention; PL: Perceived likelihood; PC:
 26 Perceived consequence; RE: Response efficacy; SE: Self-efficacy; RC: Response cost; AT: Attitude; W:
 27 Worry; SN: Social norm; TR: Trust.

Table S6

29 Direct, indirect and total effects of antecedents to intention.

Path	Total effects (c + a * b)	Direct effects (c)	Indirect path	Indirect effects (a*b)
AT → IN	-0.091***	-0.091***		
PC → IN	0.224***	0.167***	PC → W → IN	0.057***
PC → W	0.393***	0.393***		
PL → IN	0.068**	0.072**	PL → W → IN	-0.003 ^{ns}
PL → W	-0.024 ^{ns}	-0.024 ^{ns}		
RC → IN	0.059**	0.059**		
RE → IN	0.329***	0.329***		
SE → IN	0.209***	0.209***		
SN → IN	0.088***	0.088***		
TR → AT	-0.067*	-0.067*		
TR → IN	0.004 ^{ns}	0.038 ^{ns}	TR → PL → IN	-0.010**
			TR → PL → W → IN	0.000 ^{ns}
			TR → PC → IN	-0.023***
			TR → PC → W → IN	-0.008***
			TR → AT → IN	0.006*
TR → PC	-0.139***	-0.139***		
TR → PL	-0.134***	-0.134***		
W → IN	0.144***	0.144***		

30 Note: *** p < 0.001, ** p < 0.01, * p < 0.05, ^{ns} p > 0.05. IN: Intention; PL: Perceived likelihood; PC: Perceived consequence; RE: Response efficacy; SE: Self-efficacy; RC:

31 Response cost; AT: Attitude; W: Worry; SN: Social norm; TR: Trust.

Table S7

Means, standard deviations and correlations between all constructs.

Construct	M	SD	IN	PL	PC	RE	SE	RC	AT	W	SN	TR
IN	3.77	1.12	1									
PL	2.72	1.11	0.208	1								
PC	3.33	1.20	0.302	0.522	1							
RE	4.09	0.84	0.469	0.03	0.134	1						
SE	3.27	1.02	0.278	0.019	-0.098	0.201	1					
RC	2.72	0.98	0.107	0.128	0.081	-0.017	0.15	1				
AT	2.13	1.08	-0.132	0.07	-0.023	-0.168	0.078	0.243	1			
W	3.92	1.15	0.312	0.181	0.38	0.221	-0.054	0.097	-0.087	1		
SN	3.58	1.02	0.301	0.159	0.21	0.25	0.195	0.084	-0.021	0.212	1	
TR	3.59	0.88	0.103	-0.134	-0.139	0.132	0.19	0.033	-0.067	-0.055	0.169	1

Note: IN: Intention; PL: Perceived likelihood; PC: Perceived consequence; RE: Response efficacy; SE: Self-efficacy; RC: Response cost; AT: Attitude; W: Worry; SN: Social norm; TR: Trust.