

Response to anonymous referee #1

General remarks

This is a very interesting article, related to the topics of interest of the Journal. Overall, literature review and methodology are thorough, and there are only few issues regarding presentation, comprehension, structure, and use of language. I think it's worth accepting after addressing these issues.

We would like to thank you for your careful reading, helpful comments, and constructive suggestions, which has significantly improved the presentation of our manuscript. Meanwhile, we also thank the reviewer for giving the positive comments.

We have carefully considered all comments from referee #1 and revised our manuscript accordingly. The manuscript has also been double-checked, and the typos and grammar errors we found have been corrected. In the following section, we summarize our responses to each comment from referee #1. We believe that our responses have well addressed all concerns from referee #1. We hope our revised manuscript can be accepted for publication.

In our revisions, we paid specific attention to (1) title, (2) model hypotheses, and (3) results.

Significant remarks

First of all, the **title** can be improved as it is not accurate. In my opinion, the residents are not expected to prevent flooding, but to prepare against flood risk, to be able to cope with flooding...etc. I would suggest to chose another expression.

Response: Thank you for pointing out this problem in our manuscript. Based on your suggestions, we revised the title—《The determinants affecting the intention of urban residents to prepare against flood risk in China》.

The major issue concerns model hypotheses: In the illustrated model it appears that attitude is considered a mediator between trust and intention. Also, that PC and PL mediate the effects of trust on worry and intention. These are not reported as hypotheses, which makes reading of results confusing. In general, I would suggest to remove the words direct/indirect in hypotheses, and to refer to effects and specify the mediations. The subject of the paper is what affects preparedness intention, and which are the underlying mechanisms (here worry, risk perception and attitude). This need to be better expressed. Direct/indirect could be directly used in Results.

Response: Thank you for the above suggestion. We carefully cross-referenced the two parts of the **model hypotheses** and **results**. Based on your comments, we revised hypothesis 5, as follows:

H5a: Attitude mediates the effect of trust on preparedness intention.

H5b-H5c: Perceived likelihood and perceived consequence mediate the effects of trust on worry and preparedness intention.

H5d: Trust has a direct effect on preparedness intention.

Meanwhile, based on H5, we redescribed the Mediation effects analysis section, as follows:

Second, the results indicated that attitude mediated the effects of trust on preparedness intention ($H5a; \beta = 0.006, p < 0.05$). Perceived consequence mediated the effect of trust on worry ($\beta = -0.054, p < 0.001$) and preparedness intention ($\beta = -0.023, p < 0.001$). Meanwhile, perceived likelihood mediated the effect of trust on preparedness intention ($\beta = 0.010, p < 0.01$). However, the analysis rejected the mediating effect of perceived likelihood on worry ($\beta = 0.003, ns$), suggesting that $H5b$ was rejected while $H5c$ was supported.

Third, the output indicated that the total effect of trust on intention was not significant ($\beta = 0.004, ns$). Meanwhile, there was no support for a direct effect of trust on preparedness intention ($H5d; \beta = 0.038, ns$). Rather, the total indirect effect was significant ($\beta = -0.034, p < 0.001$) — that is, the significant effects of negative attitude, perceived likelihood, perceived consequence and worry on intention fully mediated the effect of trust on preparedness intention. However, the effects of perceived likelihood, perceived consequence, worry, and attitude acted in opposite directions, thus leading to an insignificant total effect of trust on intention.

Results: A lot of information provided here belong to Methods. I suggest the methodological approach to be analysed in the previous section, while ‘Results’ to present only the SEM results and reliability/validity/significance results, not the theoretical background. This makes it difficult to follow results and understand the effects.

Response: Thank you for the above suggestion. As suggested by the reviewer, we have improved the structure and organization of the manuscript. We have revised the **Research method** and **Results section**.

- (1) The descriptions of reliability and validity at the begin of subsection 4.3 have been added into section 3.4.
- (2) The descriptions of structural model at the end of subsection 4.4 have been added into section 3.4.

L289: I thought PMT was the basis for the proposed model. Why are the authors referring to a PMT model, which has not been previously illustrated as a stand alone model analysed within this paper? This is confusing, as the reader does not recognize which part of the Fig1 model is the PMT. In Methods, there was not any reference to analysis and comparison of 2 models. Please be clear on these issues.

Response: We thank the reviewer for pointing out this issue. Following your suggestion, we described the basic framework of the PMT model in **Fig. S1**. The reason why we have calculated the R^2 , Q^2 and GoF values for PMT in Table 4 is to compare the explanatory power of PMT and the proposed framework. By comparing the PMT with the framework proposed in this paper, we find that the framework in this paper has strong explanatory power. Meanwhile, we have cited related literature about the comparison in the proper place of the revised manuscript.

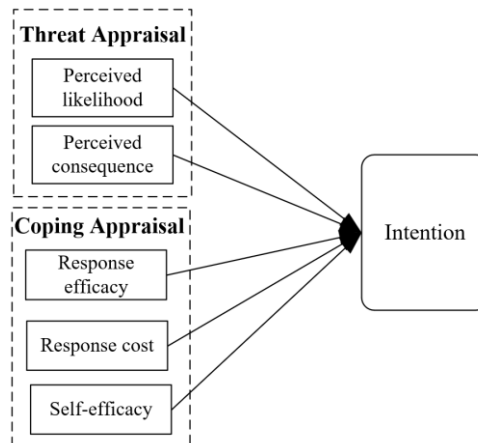


Fig. S1. Basic framework of PMT model.

Specific remarks

References are ok, except Holub et al., 2012 (L32) that does not seem relevant.

Response: We thank the reviewer for pointing out this issue. Following your suggestion, we deleted this reference.

L50: Please consider being more specific: ‘communication’ of what, and/or with who?

Response: Thank you for your comment. In the revised manuscript, we have modified this sentence as follows:
Understanding these key factors will help governments design further policy measures to improve communication with residents and flood risk management.

L54: Section XX?

Response: Thank you for pointing out this problem in our manuscript. In the revised manuscript, we have modified this sentence as follows:

In Section 6, we conclude this research and introduce the limitation.

L112: Please correct 'have' to 'has'

L202: Please merge the two sentences.

L207: Please consider rephrasing, as 'hypothesis test the survey data' does not sound correct.

L225: Please don't start a sentence with 'And'. This is the case also in other parts of the paper.

L241: Replace comma with full stop.

L247: Please use small letter for p (value).

L275: Please rephrase to produce complete sentences. VIF was lower than 1.7. The critical value is 3.3 (not less, the critical value is one, and the acceptable ones lie below this).

L284: Please don't use \times within the flow of the written speech. These are usually used in parentheses, eg for p-value. Replace with lower/less/more/higher than.

L287: it is probably better to use the word threshold than categories and rephrase. Actually, as I understand there are four levels defined by three thresholds. I assume that below 0.1 it is unacceptable.

L321-323. These 2 sentences, should be somehow merged. 'Because' is a conjunction.

L349: Please correct: consequence 'from, due to...', not 'to'.

L355: Please merge the sentences, don't cut them in the middle with full stop (! this is a recurrent issue throughout the article).

L356: Please replace the word 'poor' with a more suitable one, eg negative.

L368-369: Again, merge the sentences.

L388: Another social context factor to consider is the protection of public flood protection measures: Please rephrase, it is not understandable.

L405-407: This needs to be rephrased. Especially 'how to do' and 'extreme floods exceeding standards'.

L407-408: Please rephrase and merge (again the same issue with full stop in the middle of nowhere.)

L416-417: Please rephrase. The sentences sound awkward, they need correction.

Response: We are very sorry for the mistakes in this manuscript and inconvenience they caused in your reading. The manuscript has been thoroughly revised and edited, so we hope it can meet the journal's standard. Thanks so much for your useful comments.

L134: Please consider using a singular form: a direct effect.

Response: Thank you for the above suggestion. In the revised manuscript, we have modified this sentence.

Table 1: a) in Oper.def. of Self-efficacy: please consider changing the wording 'Personal...your ability' to e.g. 'perceived personal ability...' to be consistent with wording used in the rest of the definitions. B) in definition of Trust: Please correct as: trust in the government's...

Response: Thank you for the above suggestion. In the revised manuscript, we have modified these sentences.

L208-211: Please consider rephrasing. It is difficult to read these sentences. Also, too many 'and', even in the beginning of a sentence. SEM could be better introduced.

Response: Thank you for the above suggestion. In the revised manuscript, we have modified these sentences as follows:

This study used structural equation modelling (SEM) method to analyze the survey data. It is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs. This method is preferred by the researcher because it estimates the multiple as well as interrelated dependence in a single analysis and represents such relationships in the form of causal models, path diagrams, etc. Currently, this method is widely used in the social sciences.

L224: This explication about women needs clarification. What was the title and introduction of the questionnaire, and how they affected the attraction of female respondents. Otherwise, this difference is commonly statistically expected (based on population statistics).

Response: Thank you for pointing out this problem in our manuscript. This view was revised according to the comments of reviewer. Meanwhile, we added the complete questionnaire in Supplement.

L230: I would suggest to add in parenthesis income in USA dollars or Euros.

Response: Thank you for the above suggestion. In the revised manuscript, we have added USA dollar revenue in parenthesis.

Table S2: Please consider adding notes for what CR and AVE signify.

Response: Thank you for the above suggestion. In the revised manuscript, we have added notes for CR and AVE.

Table 4: Add note to explain the initials. Why do you report R² for each construct, and not the overall R² of the model? The same question applies for the preceding text.

Response: Thank you for the above suggestion. In the revised manuscript, we have added notes to explain the initials. Here, R² represents the value of the explanation of the degree of variation of the dependent variable by the independent variable, which is between 0 and 1. A larger R² value represents a higher explanatory power. Also, only endogenous latent variables have R² values. For example, in the proposed model, the R² of IN was 0.372, indicating that the explanatory power of perceived likelihood, perceived consequence, response efficacy, self-efficacy, response cost, attitude, social norm, trust as well as worry on the variance of IN was 37.2%; the R² of W was 0.145, which meant that perceived likelihood and perceived consequence explained 14.5% of the variation in W; the R² of PC was 0.019, indicating that the explanatory power of trust on the variance of PC was 1.9%; the R² of PL was 0.018, indicating that the explanatory power of trust on the variance of PL was 1.8%; the R² of AT was 0.010, indicating that the explanatory power of trust on the variation of AT was 1%.

L331-L334: Very confusing. Attitude here is considered a mediator?? This was not reported in the model introduction or among hypotheses. This is an issue that needs to be addressed properly.

L334-335: what do you mean? Which effects were insignificant? The point is that worry and attitude mediated trust.

Response: Thank you for pointing out this problem in our manuscript. In the manuscript, we modified H5 and subsection 4.4.2.

L338: As I suggested previously, in my opinion wording here is inaccurate. Residents are not expected to prevent flooding but prepare against flood risk.

Response: Thank you for pointing out this problem in our manuscript. Based on your suggestions, we have modified this sentence.

L409: Please rephrase (what will be delayed??)

Response: Thank you for pointing out this problem in our manuscript. Based on your suggestions, we have modified these sentences.

If people do not perceive preparedness actions as absolutely necessary, they may delay implementing flood protection measures (e.g., not going to purchase flood protection products or delaying things like reinforcing their houses) or move to public flood protection measures.