Natural Hazards
and Earth System
Sciences
Discussions

Interactive comment on "Exploring the change of Risk Perception and Adaptation Behavior among Varied Social Character Before and After Earthquake Disaster – A Case Study in Taiwan" by Tzu-Ling Chen et al.

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The piece of the change of risk perception and adaptation behavior between pre and post-earthquake disaster proposes an interesting comparative discussion. The manuscript has a clear scope but some sections could be improved. In addition, there are some other literature exploring similar topics (listed below) and should be included in the discussion. Indeed, risk perception and adaptive actions might be varied according to different social characters. The presentation of result is radical different from previous studies in ANOVA. Traditional table could reveal various value and sig-

nificance. Authors should provide more information of such different expression to let reader catch such outcome. As a whole, the dataset is interesting and meaningful for most studies indeed could only examine pre- or post- earthquake only.

Ans: Thanks for your general and specific comments, and they have great help on improving the research. First of all, thanks for providing related references for this article, and the revised version will then include certain works. It seems that the current presentation of the results might confuse readers, and the revised version will take the comments into account to improve such confusion.

In the following I would like to separate my comments into general and specific.

1.Although risk perception and adaptation behavior are the key issue, it seems that disaster experience is the key factor authors discussed in this article. The overall logic in introduction is blurred right now, and such vague might further the results interpretation. How to reconnect the research question and the findings might be important for this study.

Ans: Thanks for the comment. The study attempts to discuss the change of risk perception and adaptation behavior among varied social character among pre- and post-earthquake disaster. The research question is not clear enough in the current version, and the revised version will improve such statement in both "Introduction" and "Conclusion." The clear research question might help to reconnect the motivation and the findings.

2.The expression for the results need more information. It is easy for readers to catch the results from table such as the value of the variable and the p-value. Although in Figure 3 to 7 there is a red line for p-value of 0.05, the figures are still blurred. What does the arrow mean? In order to increase readability, certain information might be necessary to provide.

Ans: Thanks for the comment. The arrow in Figure 3 to 7 indicates the change of the

disaster perception and adaptive behaviors. The current presentation is confusing, and the revised version will present the findings based upon tradition ANOVA to clarify the results.

3.Line 35. Current reference applied to risk perception and adaptation behavior is rather too old. In fact, there are more recent literature exploring similar issues or topics. Although some of the literature are important such as Lindell, Becker, Sjöberg and so on, it is important to update such discussion. Motivations to prepare after the 2013 Cook Strait Earthquake, N.Z Perceptions and reactions to tornado warning polygons: Would a gradient polygon be useful? Assessment of households' responses to the tsunami threat: A comparative study of Japan and New Zealand Perceptions, behavioral expectations, and implementation timing for response actions in a hurricane emergency Port stakeholder perceptions of Sandy impacts: a case study of Red Hook, New York Conflicts in adaptation: case studies from Nepal and the Maldives The role of prior experience in informing and motivating earthquake preparedness

Ans: Thanks for the comment. The revised version will take the suggested references into consideration and improve the statement.

4.Line 51. The research question might need more specific and elaborated in the last paragraph of Introduction section. Although the title is rather clear, there is no statement regarding the research question. Therefore, this part could be improved.

Ans: Thanks for the comment. The revised version will add up the research questions in both introduction and conclusion to improve the overall logic in the study.

5.Line 85. In the article, the survey data is the main dataset. "All survey sampling methods relied on simple random sampling." How can you tell the representative of the sampling data? What is the ratio between sampling amount and the study area?

Ans: Thanks for the comment. Regarding the representative of the sampling data, Table 1 will contain data for the distributions of gender, age, education, occupation,

and homeownership for both the study area and the sampling so readers can assess the extent of sample bias.

6.Figure 2 is important for this study. However, it is unclear which result is applied post hoc or not. This should be discussed systematically either in the research design or in the results.

Ans: Thanks for the comment. The revised version will improve Figure 2 and the application of post hoc in the results.

7.Line 135. The separation of the result is based upon social character. Again, due to there is no specific research question, it is hard for readers to understand why separate in current sub-categories. In addition, I think pre- and post- is the main concern, and this should be clarified.

Ans: Thanks for the comment. Indeed, the main concerns are social character and pre- and post-. Therefore, the revised version will state clearly regarding the research question and to make it become more consistency through the whole study.

8.Line 191. Figure 8 to 10 are not providing enough information for the readers, so I suggest these figure could be deleted.

Ans: Thanks for the comment. Originally, the purpose of Figure 8 to 10 is for future disaster management by taking into social character into account. However, the Figures indeed might not provide enough information for now, and the revised version will then delete them.