

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1  
<https://doi.org/10.5194/nhess-2021-177-RC1>, 2021  
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## **Comment on nhess-2021-177**

Anonymous Referee #1

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Referee comment on "Multiple hazards and risk perceptions over time: the availability heuristic in Italy and Sweden under COVID-19" by Giuliano Di Baldassarre et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-177-RC1>, 2021

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### **Summary**

This paper examines public perceptions of multiple hazards in Italy and Sweden with survey data from two waves. The data were collected under different phases of the COVID-19 pandemic, corresponding to low (August 2020) and high (November 2020) levels of infection rates. The results are in line with the availability heuristic. Interestingly, respondents in both countries are highly concerned about climate change.

### **Review**

The topic of the paper is interesting, important and timely. The data and code are open access, which facilitates reproducibility. The motivation is clear, and the figures are of high quality. I think the data allows for a slightly more thorough analysis, and I have some minor concerns, which are listed below.

### **Specific comments**

(a) The graphical analysis is interesting and of high quality. Nevertheless, I think that the paper would improve if the authors would examine the data in more detail, for example by a regression analysis. This would allow the authors to analyze the research question while controlling for several variables, such as demographics. Such an analysis could also help to identify which proportion of the variation in risk perceptions can be attributed to different variables, such as objective risks, experience (i.e., availability heuristic) and demographic variables.

(b) The detailed spatial data may allow the authors to examine the difference between objective risks and risk perceptions (risk misperceptions). Which respondents live close to high-risk areas (e.g., high infection levels, or high-risk mountain or potential flooding areas) and does that correspond to the reported risk perceptions?

(c) The authors could discuss the findings about climate change a bit further. What disasters were respondents thinking about when answering the question about climate change risks? Is it possible that any overlap exists between 'climate change risks' and 'weather risks'? Would that influence the conclusions of the paper?

(d) Finally, the paper would improve if the authors would discuss consecutive and multi risks. How independent are these risks, and would high risk perception (or worry) for one hazard increase risk perception for another? Some people will have high estimates of the health impacts of epidemics, while others are more concerned about job security in the economic crisis following an epidemic.

### **Technical corrections**

- The methodology section could clarify whether the surveys are longitudinal (i.e., re-surveying the same sample) or cross-sectional (drawing a new sample from the sample population).
- Page 7, line 202: Weber (Weber, 2010) stated -> Weber (2010) stated
- Page 7, line 203: Direct citation, please add page number
- Page 8, references: adding some indentation would increase readability, journal names seem to be missing.
- Page 11, line 325-327: seems like these references are duplicates.
- Page 13-14: Figures 2 and 3: is it possible to align terminology across figures? E.g., add 'weather' to Figure 3? If weather related events were not studied in the surveys, remove weather from Figure 2 or discuss this in a figure note.