

This paper tackles a very valuable and interesting topic: the relevance of psychological factors to precautionary behaviour. I applaud the authors' decision to publish of negative results but have serious reservations about the range of literature used, the research design and the interpretation of the statistics. Furthermore, much improvement is needed in clarity and logical coherence.

1. The clarity of the argument is often poor and the logic sometimes flawed/missing
 - E.g. P3.29: "This suggests that..." Why does it? Surely there are other, alternative explanations? E.g. the social norms/networks mentioned earlier on the same page.

What is the evidence/theory to suggest that psych factors might vary between flood types? Given that this is the main hypothesis of the paper, it requires careful justification.

2. The paper is not easy to read/understand E.g. (but there are numerous other instances):
 - What is meant by "within the individual bounds of possibility" p2? This needs to be more precisely expressed
 - P3 "In general" is too vague.
 - Long sentences – e.g.11.29

3. Methods

- The methodology for classifying flash flood strength is opaque and potentially flawed. Was this done for individual homes or for entire areas? The former would be appropriate, but I can't see how it would be possible using online searches and press reports. The latter would be insufficiently fine-grained, because the intensity of impact often varies dramatically between homes in the same street/area. The authors need to justify their reliance on crude estimates of physical damage for an analysis that looks at psych impacts. Are they assuming a close correlation between the two? If so, they should present citations supporting this.
- Justification needed for the exclusion of moderate strength floods.
- The authors need to justify including 'fatalistic thoughts' in a group named 'avoidance' p7
- Is it justifiable to include information-gathering in the same category of response as physical adaptation? Some reflection is needed on this issue and the key concept of precautionary behaviour needs to be defined accordingly.
- It would be helpful to include a power analysis.
- It would be good to clearly label the research as 'secondary analysis', rather than leaving it to the reader to deduce this.
- The authors should discuss the implications of the three years that separate the two surveys.
- 6.25: "The indicators are combined according to literature..." Requires more explanation.
- The descriptions of the statistical methods, process and results need to be more accessible to readers not expert in stats or the particular methods used
- References needed for the justification for using Bayesian methods (p4)
- The Bayesian approach 'offers advantages'. The authors need to be specific about what these are. P4
- Clearer and more precise language is needed. E.g. 'the specific variable applicability' – what does this (and the rest of the sentence) mean?

- The surveys were 'equally designed'. This needs to be clearer – were they identical or were there differences?
 - It makes no sense to speak of 'an equal distribution of age and gender'. 'Balanced'?
 - It would be helpful to have more information about the samples. E.g. response rates; social class/occupation; household types; extent of flood damage – and/or some comparison of the German population to highlight ways in which the samples are/are not representative.
4. The scene-setting needs to be done more carefully and the drafting of the hypotheses improved
- More careful use of terminology needed; and some terms need defining.
 - i. E.g. "flood protection" is more commonly used to mean property-level measures, but is not used in this way on p2. Perhaps "flood risk management" is a more appropriate term.
 - ii. On p2 "private precautionary measures" is used before it has been defined.
 - iii. P2: the terms 'structural' and 'non-structural' need defining
 - 7.3: I think this should read "perceived cost of a protective measure..."
 - H1:
 - i. 'riverine' refers to the river bank; the term more commonly/accurately used for flooding from rivers is 'fluvial'
 - ii. some fluvial flooding is flashy, so the dichotomy presented is a false one. Are the authors talking about pluvial flashy floods only?
 - iii. what does it mean to say that flash floods are 'more dynamic'? This needs explication.
 - iv. is it an overgeneralisation to say that flashy floods are 'a bigger threat to life'? Where is the evidence for this assertion?
 - v. what is the provenance of this hypothesis: e.g. in theory or the literature?
 - H2: like H1, this hypothesis requires anchoring in the literature. It also requires nuancing; after all, some negative psych impacts prompt greater likelihood of precaution.
 - H3:
 - i. This is too vague. The reader needs to know which psych indicators are meant, and which psych characteristics
 - ii. Some explanation needed of the distinction between 'indicator' and 'characteristic' (and, later, 'manifestations')
 - How is similarity defined when grouping 'similar psych manifestations' p4?
 - Lines 24-32 (p4):
 - i. What is meant by 'an indicator'?
 - ii. How can an indicator 'estimate' something? (Did the authors mean 'predict'?)
 - iii. What is meant by a 'precaution level'?
 - iv. The authors need to justify their assumption that a better understanding of psych factors can inform 'targeted info campaigns'. It seems a little simplistic to think that information will make much difference. Plus, how would target groups be identified given that there's no easy way of identifying people with different psych characteristics.

5. The paper would benefit from some critique of Precaution Motivation Theory and a more sophisticated justification of its selection over other theories.
6. The paper needs to draw on literature from outside Germany. E.g. there is much on this topic from the UK. If the situation in Germany is so unique as to make other literature non-salient (p3), this needs to be explained.
7. Findings
 - I do not believe it's appropriate to report as 'findings' correlations that are non-significant e.g. 11.4.
 - Interpretations of statistical findings should be less speculative i.e. justified from theory/the literature. Presently, much of the interpretation appears no more than supposition. E.g. p11
 - Interpretations of statistical findings are best reported separately from the findings themselves.
 - Explanation required of some key terms: 'flood adapted use', 'better interior fitting' and 'damage ratio of buildings' (p8); 'coherence' (p9)
 - Figure 2 appears to add little and is hard to understand. I suggest that it be removed or more carefully explained.
 - Fig 3 – the x-axis requires more explanation
 - 'JSD' requires spelling out p12 etc
 - Discussion of the hypotheses:
 - H1: it needs to be made clearer how the suggested 'focus on threat perception' is justified by the findings. At present, the logical argument is weak/hazy.
 - H2: the text is v hard to understand.
8. Conclusion
 - The aim seems incorrectly described (16.11). Wasn't it the connection to precautionary behaviour that was explored, not that to motivation? (See H3)
 - It would help if the key findings were foregrounded so that they were easier to pick out.
 - The authors should avoid making assumptions of causal direction (17.5). It's possible that preparedness influences frequency of remembering, rather than visa-versa (see Harries, 2008: "Feeling secure or being secure").