

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
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Comment on nhess-2021-318

Sarah Trimble (Referee)

Referee comment on "Characteristics and beach safety knowledge of beachgoers on unpatrolled surf beaches in Australia" by Lea Uebelhoer et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-318-RC2>, 2022

GENERAL COMMENTS

The introduction to this paper is thorough and clearly supports the two aims described. The paper is the first to address this subject, specifically, and provides needed insight within this body of literature. The methods are scientifically valid and thorough. All figures are necessary, with some minor edits or clarifications required.

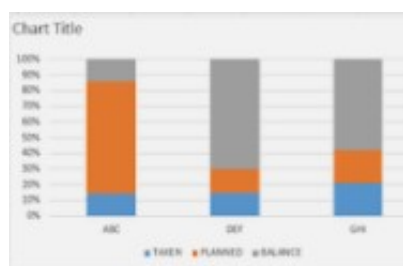
I recommend accepting the paper, after minor technical corrections and the improvement of one aspect: the only hiccup I found in the paper is in regards to the statistics used to show relationships (or lack thereof) between variables. First, the methods section 2.4 needs to be expanded to clarify (a) what is revealed by each statistical test and (b) therefore when each was used. At present, this section is merely a list. It needs to be expanded ever so slightly to that readers less familiar with these statistics than the authors can confidently understand the results. Second, although the authors mention chi-square testing, they did not report it in several places where it is necessary. For example, within the paragraph beginning on line 301 is a description of the differences in each beach population's self-reported swimming ability. However, these values are within 10% of each other and when populations are this small ($n = 104, 59, \text{ and } 296$) those differences may be explainable by random chance. A simple chi-square analysis between these answers can reveal whether the differences are significant, and either outcome would be worth reporting. It is important for the discussion to note whether the populations at each beach did have relatively the same swimming ability, or if more (or less) competent swimmers are more likely to visit one of the beaches. Similar edits are needed to lines 301-307, and 330-339.

Specific comments are described in more detail below, and minor technical corrections to grammar and figures are included in the uploaded, commented PDF. Once addressed, I recommend this paper for publication in NHESS.

SPECIFIC COMMENTS

To my knowledge, all citations were appropriate. No major works were overlooked, and no inappropriate self-citation occurs. In addition to improvements required to the statistics (described above), here are a few more comments that need to be addressed, in the order in which they appear in the paper:

1) An easy-to-create bar chart would greatly aid in understanding the results reported in the paragraph beginning on line 228. At present, it is difficult to keep track of which subgroups are being described and compared, and a graphic would be a simpler way to differentiate these than adding excess explanatory text. Suggested addition: two "100% stacked" column charts showing the responses to "importance of lifeguards" (y-axis) where plot 1 shows distributions within swimming ability (x axis), and plot 2 is distribution within swimming frequency (x axis). Colors within each bar show popularity of each answer ('not important at all' through 'very important') as indicated by color within the bar. Example:



2) The paragraph beginning on line 253 needs correction. The third sentence states that "A significant difference" was found, but the statistics that follow appear to be similar, not different. All levels of self-reported swimming ability are described as having a similar proportion of respondents report that they do not perceive hazards. I do not know if it is a result of typos, or if increased explanation is needed. Either way, please address.

3) The final column of Table 1 should reflect column "Total (n)" divided by 459, not 561. Because responses could be given more than one code, the total n=561 has no scientific meaning, but the proportion of respondents (459) who included a given response code is meaningful. Recalculate the final column, and leave empty the two rightmost cells in the

bottom row.

4) It is important to acknowledge the biases known to exist in this type of survey, such as conformity bias, agreement bias, and prestige bias. For example, with prestige bias, it is known that a respondent is more likely to give an answer that they believe the in-person surveyor will hold in higher regard. This can be accomplished with a few additional sentences somewhere within the paper. For example, in the paragraph beginning on line 311, where it is reported that people self-reported they were confident in their ability to swim were also confident in their ability to spot a rip. This result is currently presented as evidence that stronger swimmers are better at spotting rip, but without a swim test, it could just as easily be interpreted as "confident people are confident." If the authors feel it is more appropriate to address in the discussion than in results, a similar addition could be added around lines 345-350.

5) In multiple places, it is necessary to cite known associations between gender and risk perception. The best location is lines 430-436. This will give the results in this paper important context. There is a large body of literature showing that females are more risk-averse than males in nearly all contexts and across all ages. Suggested citations: Gustafsson 1998, Savage 1993, DeJoy 1992.

TECHNICAL CORRECTIONS

See commented PDF, attached.

Please also note the supplement to this comment:

<https://nhess.copernicus.org/preprints/nhess-2021-318/nhess-2021-318-RC2-supplement.pdf>