

Review of: "The Moderating Effects of Urban Design on Willingness to Walk in a Tropical City"

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Potential competing interests: No potential competing interests to declare.

Review

The topic is indeed relevant. But there are shortcomings in the research method, missing information and flaws in the structure of the paper. I strongly recommend the author to revise it and to submit it in a new submission.

Abstract

I think that important information is missing in the abstract.

If measurements were taken during the walk, this needs to be informed.

Please explain this in more detail:

"Restoration in WTW was observed at certain points on the itinerary across participants, while total voluntary walked distance equalled that of an indoor, air-conditioned walk at the same location."

In what sense, restoration? Thermal restoration?

In what sense the outdoor walk equalled that of an indoor walk? In terms of distance, time length? Please clarify. [I see later this is not even in the method]

Introduction

"environmental variables are isolated" in what sense, isolated?

"allows us to isolate the environmental variables linked to the behaviours." Isolate? It seems to me the idea is to seek for causality between both in a longitudinal approach... Consider rephrasing.

It would be informative to describe the "distance-decay model" in more depth

This sentence does not read well, please revise:

"If all of the above ambient factors are seen to have impact on WTW, it may be that in the course of the walk that there are restorative episodes followed by more walking and a cumulatively longer walk, in spite of the tropical environment" 'all of the above' needs a better description / 'that there' I think 'that' is too much here / the sentence overall is confusing. This follows the concept of a thermal capacitor, which was also introduced by R. de Dear and colleagues quite recently.

Method

It would be useful to show the questionnaire items and the way the row of responses is presented to the individuals.

Please describe how the questionnaire was administered - was that done verbally (to the research assistant) or by directly filling out a form? Please clarify.

In the Introduction there is a clear message that climate affects walkability and WTW, but there is no proper description of

local climate, period of analysis, climate exposure during the walks and so on. The environmental information is fully missing in the Method.

Results

I see that a significant number of participants dropped out in the middle of the walk - I guess that interrupting the walk was a viable option in the experimental design, is that correct? Please describe the recruitment call text in this respect.

I see that restoration is a key aspect analysed here. Please define it more adequately in your study and how restoration was gauged by the questionnaire. It does not seem that physiological measurements were undertaken in the method.

Figure 3 is difficult to understand without really knowing how those results were obtained. [The graphs are very simple/simplistic in your paper - mean values do not inform much, box plots would be much more preferable in this case] "Highest score was given walkway width, while vegetation levels and wind were the lowest. They were significantly lower than the comfort scores for shade and sun. Moreover, sun was given the same comfort rating as shade overall." Again, please show the questionnaire items and possible responses. Are the scores related to satisfaction? In this case, does it mean the vegetation and wind are seen as unimportant or unsatisfying/uncomfortable aspects? The scores are not clear! Sun and shade responses are perhaps intended to evaluate comfort. What does the statement say, then? That sun-lit and shaded areas are evaluated as providing the same comfort level? Under which exposure conditions? Very unclear. It gets more confusing when the text finalises with "Since the scale was a perceived comfort scale, higher values indicate higher comfort when considering a particular variable." So it is a comfort scale after all...

Table 2: It seems quite peculiar that shade is not considered to be a relevant aspect in participants' responses as we know that in tropical areas providing shade is the most relevant parameter for climate-responsive urban design. The phrasing and the way how the questionnaire needs to be detailed as well the climate exposure during the walks!

Discussion

"We conducted a parallel study on the indoor, air-conditioned route at Orchard Road that is closely aligned with the outdoor environment immediately above and has approximately the same overall distance (Zacharias & Wang, 2020)." This comparison would need to be presented in this paper in detail. I doubt, however, that the route would be comparable at all, as the outdoor features are not identical to the indoor features of the walk, exposure is different in various aspects, not only thermal. Anyway, if this is part of the method, then it should be part of the respective text. Please bring this parallel study to the text, describe it thoroughly and make sure that both are actually comparable.

Finally, in Conclusions, the author states that "Participants generally agreed on the comfort effects of temperature and direct tropical sunlight but these assessments are unrelated to the simultaneously measured temperature and humidity." ??? There is no description of equipment, thermal monitoring and so on in the method. Information missing here?