Reviewer's report

Title: One size doesn't fit all: Cross-sectional associations between neighborhood walkability, crime and physical activity depends on age and sex of residents

Version: 0 Date: 03 Oct 2016

Reviewer: Matt Graziose

Reviewer's report:

PUBH-D-16-01961

OVERALL

The manuscript is clearly written and of interest to those who are studying built environment effects on energy-balance related behaviors. The combination of objectively measured physical activity and objectively measured characteristics of the built environment is a strength for this manuscript. My comments below are intended to improve the clarity of the manuscript as well as better understand the results in the context of this field of research. I have minor concerns about the representativeness of the sample and future generalizability; although the authors did a good job providing some relevant contextual descriptions for the observed levels of MVPA and built environment characteristics.

ABSTRACT

Page 2, Lines 30-33: Suggest editing for parallel constructions: "...self-reported data on demographics and functional limitations; accelerometer-derived MVPA; objective measures of neighborhood; and walkability …"

INTRODUCTION

Page 4, Line 36: should include a comma instead of a colon

Page 5, Line 20: "influence" is repeated here

Page 6, Line 41: It would be beneficial to include more description of the two neighborhoods under study, District and Homewood. For example, what are the predominant sociodemographic characteristics of these neighborhoods? (Can use Census data here).
METHODS

Page 7, Line 25: The sample is a set of randomly selected households from these two neighborhoods. However, it is unclear from what population of households they are randomly selected. For clarity, can you describe if there is a central repository of households used for the selection?

Page 9, Line 44: Is the reliability reported here calculated for this specific sample or derived from the original development/validation study? It might be moved down to the last line of this paragraph to improve the clarity

Page 9, Line 50: How many trained data collectors collected walkability data? Were any formal inter-rater reliability statistics performed? Over what duration were these data collected?

Page 10, Lines 5-12: Later in the manuscript there is explanation of the scoring of the walkability scales; however, it might be moved here for further clarity.

Page 10, Line 20: How and when did participants report these individual level covariates?

Page 10, Line 46: I have a few questions regarding the sample that may not be fully explained in the current version of the manuscript. What was the baseline n recruited for this study? What was the response rate? (As related to the earlier comment about the population of households used for random selection). A flowchart would help the reader to fully interpret the analytic sample for this study.

Page 11, Line 15: if applicable, how were missing data treated?

Page 11, Line 30: The table footnotes describe mobility as a covariate, but it is not included in this in-text description.

RESULTS
Overall:

I am just curious to get a sense of the sprawl observed in this sample. For example, how much of the sample shares the same built environment. Is it possible to compute a mean area for each network buffer and a % of the overlap of street network buffers between participants. It may be easier to categorize area a unique or non-unique.

I am also curious to better understand if the samples derived from Homewood and District are significantly different at baseline in regards to the built environment features under study. Moreover, is there neighborhood-level clustering in the outcome variable, MVPA?
DISCUSSION

Overall:

I appreciate the provision of Pittsburgh-wide comparisons for crime and greenspace and national comparisons for walkability in order to understand the results. However, I am concerned about the lack of variability observed in both the outcome variable and exposure variables under study, especially given that participants are chosen from a sub-sample of a larger city, and the implications for future generalizability.

I am trying to better understand the implications of this research and its connections to existing theory on engaging in energy-balance related behaviors. Given that 28.5% of the sample have some physical limitations that prevents them from engaging in physical activity, is it possible that there are more proximal determinants of their decision to engage in PA than neighborhood built environment features (e.g. health beliefs)?

Given that less than half are engaging in any MVPA, is it possible to examine by PA domains, not just intensity, such as just walking for transportation in general. It is likely that these built environment features would influence decisions to walk for shopping, work, errands, etc.

Page 15, Line 20: missing the word "little" before greenspace? It might also be related to the quality of the greenspace - e.g. provision of rec facilities, cleanliness, etc.

Page 16, Line 10: Is 4 minutes/day chosen because it is the midpoint for the prediction?


Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Acceptable

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