Author's response to reviews

Title: The associations of perceived neighborhood disorder and physical activity with obesity among African American adolescents

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Author's response to reviews: see over
March 18, 2013

Omar Khan, MD
Editor
Medical Director
BMC Public Health

RE: MS ID# 3109271398087128

Dear Dr. Khan,

Thank you for providing additional reviews of our manuscript entitled “The associations of perceived neighborhood disorder and physical activity with obesity status among African American adolescents” We appreciate the time taken and helpful comments from the reviewers to strengthen the manuscript. We have made the suggested revisions and have addressed the editorial and reviewer comments below:

Editor’s Comment

1. I have one concern in relation to the cutoffs selected to classify PA. Are these cutoffs based on previous studies? If yes, please include the reference. However, my concern is that they are very high (moderate PA until 7METS). This is why if you analyse table 1 you can see only 1-2 min of vigorous PA.
   - We thank the editor for raising this concern surrounding the cutoffs for physical activity among the adolescent participants in the study. We followed the methods of Trost and colleagues [1] which suggests that higher METs cut offs should be used for children and adolescents to account for their higher resting energy expenditure. These cut off values were also used in the National Health and Nutrition Examination...
Survey accelerometry protocol to identify physical activity patterns among children and adolescents [2].

- We modified the physical activity section to include this information as follows: “We used these criteria for METs to account for the higher resting energy expenditure of adolescents [1].”

2. In addition, as you selected the epoch of 60 seconds, you miss a lot of information about vigorous PA, as it has been published (Nilsson et al, Ped Exerc Sci, 2002). This should be stated in the limitations as well.

- We thank the editor for highlighting this important issue. We reviewed the work of Nilsson and colleagues and other research insights into this particular topic. We modified our limitations section accordingly to acknowledge the epoch length as a potential limitation as follows: Additionally, research suggests that since children engage in very short bouts of sporadic vigorous physical activity, the 60 second epoch length of the accelerometry may underestimate the amount of moderate-to-vigorous physical activity patterns of the adolescents [3].

3. Also, please make the following formatting changes during revision of your manuscript. Ensuring that the manuscript meets the journal’s manuscript structure will help to speed the production process if your manuscript is accepted for publication.

- Thank you, we downloaded the Journal Template and reformatted the manuscript accordingly.

4. We advise you to seek the assistance of a fluent English speaking colleague, or to have a professional editing service correct your language. Please ensure that particular attention is paid to the abstract.

- We have revised and edited the text of the manuscript and the abstract to correct language errors.
Reviewer’s report

Title: The associations of perceived neighborhood disorder and physical activity with body mass among African American adolescents

Version: 5 Date: 13 February 2013
Reviewer: Joellen Wilbur

Reviewer’s report:
The authors have clearly answered many of the items raised in the critique.
A few problems still remain
Major compulsory revisions

1. Page 3 bottom: The authors state that “some studies find an association between the built environment and obesity and others do not. Also some studies indicate that low-SES neighborhoods are associated with obesity whereas others do not”. Then they state, “However, in general findings from the literature on neighborhoods and health underscore that neighborhood contexts are associate with participation in physical activity and obesity.” This seems in conflict with the earlier statement.
   • Thank you for highlighting this issue and the conflict between these statements. We revised the manuscript to provide more clarity to the text and also deleted the last sentence to resolve the conflict.

2. Page 5: Methods: The age of the adolescents belongs in eligibility criteria. Also, recruitment area belongs under recruitment.
   • We moved the age of the adolescents to the eligibility criteria and we moved the recruitment area from the methods section to the recruitment section.

3. Page 6: A distinction was not made between the active and passive strategies and how they differ.
• We thank the reviewer for this comment and realize that we did not clearly delineate between the two strategies. We revised this section to provide a clear distinction between the active and passive recruitment strategies. The revised section is stated as follows: To recruit study participants, we used passive recruitment methods, where participants identified themselves as potential participants, and active recruitment methods, where our research team identified and targeted potential participants [4]. The passive recruitment strategies included posted flyers (with the contact information of the project coordinator provided on the flyer) at local recreational centers, churches, community centers, newspaper advertisements posted on the University website, and word-of-mouth advertising by previous study participants. Active recruitment for this study included staff initiated phone contacts with adolescents who participated in the phase 1 qualitative portion of this study and targeted recruitment of adolescents from one afterschool program at a community center, where three adolescents expressed interest in participating. For this study, passive recruitment via word-of-mouth was the most effective recruitment strategy.

4. Results: Table 1. It doesn’t seem appropriate to put the neighborhood disorder scale in table 1 in both the row and column. It is being compared with itself. The authors might just describe it before they look at it against age, sex and other variables in table 1.

• We created a new Table to highlight the means for the full neighborhood disorder scale and related subscales.

5. Results: Table 1. Providing the mean minutes for sedentary, light etc. of PA does more seem very meaningful. I expected to see the percentage of children in
each of these categories similar to how obesity was handled.

- Thank you, we also thought that including minutes spent in these types of activities would provide a better context for physical activity behaviors.

6. Results table 1: Consider collapsing incomes into smaller groups. The same with high school. There are very few people in some of the categories.

- Thank you for this suggestion about collapsing income, we did collapse the income categories into smaller groups as follows: ≤ $30,000; $30,001 - $60,000; $60,001+
- We appreciate the suggestion about collapsing the education values. We considered the suggestion and we understand the rationale for collapsing the categories but felt that collapsing the high school categories would contrast too much with the significant body of social science and public health research that suggests an education gradient in health behaviors and outcomes. As such, we thought that the best approach was to keep the discrete categories.

7. Page 14: There is mention of using both percentile BMI and obesity status.

- This was an oversight in editing by the authors and we have now ensured that all references to percentile BMI are removed from the revised manuscript.

8. Also, the second paragraph is introducing results in the discussion section (findings related to sedentary behavior, types of activity the children participated in and the use of physical activity logs. If this is done introduce the log in the methods section and note how it was used.

We thank you for this suggestion. We did provide relevant information for the physical activity logs in the Physical Activity measurement section as follows:

**Subjective assessment:** Adolescents recorded their daily physical activity for two weekdays and one weekend day using the validated 3-Day Physical Activity Recall log (PDPAR) (Weston et al., 1997; Pate et al., 2003). Each log was divided into 30 minute
blocks and the adolescents recorded their main activity for each block. Adolescents provided open-ended responses and trained staff coded the logs using established methodology to categorize the responses to the 71 activities included in the 3DPAR protocols (Pate et al., 2003). The staff then calculated the average time spent on each activity. For the current study, the 3DPAR were used to identify the types of physical activity that adolescents engaged in while wearing accelerometers.

Reviewer's report

Title: The associations of perceived neighborhood disorder and physical activity with body mass among African American adolescents

Version: 5 Date: 5 February 2013
Reviewer: Augusto Cesar de Moraes

Reviewer's report:

Minor Essential Revisions

The manuscript improved considerably, and I have only two suggestions to the authors:

1) To describe in more detail what the results mean of figure 1; because there are three distinct results, and the authors point out only one. I believe that a description of the other results is also interesting;

- We thank the reviewer for this suggestion. We have reviewed the results section, and believe that we describe the three results most pertinent to this study and the conceptual framework which include 1) the unmediated association of neighborhood disorder on obesity while controlling for relevant covariates (Page 14 discussion of Figure 1, Panel A); 2) The association of physical activity with obesity while controlling for relevant covariates (Page 14 discussion of Figure 1, Panel B) and 3) The potential mediating effects of physical activity on the relationship between perceived neighborhood disorder and obesity while controlling for relevant covariates. We did not directly address the relationship of the covariates with obesity as we are primarily interested in testing of the conceptual model.

2) lack the authors stress the importance and which future studies can be
developed from these results. It highlighted the limitations, but the authors should highlight the strengths of this study as well.

• We thank the reviewer for this suggestion and we created a separate paragraph in the Discussion section to describe the strengths of this study and suggestions for future studies and interventions. The modified text is worded as follows: Despite the study limitations, this research has significant strengths and contributes to the neighborhood and health literature by incorporating a theoretical model to examine the mechanisms through which perceived neighborhood disorder may affect obesity risk among African American adolescents, a population who experiences higher prevalence of obesity. Further, the inclusion of traditional measures of body mass index coupled with objective measures to assess physical activity, strengthen the current study findings and suggest that perceived neighborhood disorder and the low levels of physical activity observed among adolescents may contribute to obesity. Future intervention efforts to reduce obesity among African American adolescents should be developed to address strategies to increase physical activity and to modify features of the perceived neighborhood environment contexts that are directly associated with obesity.

REFERENCES

