Reviewer’s report

Title: Association of Car Ownership and Physical Activity across the Spectrum of Human Development: Modeling the Epidemiologic Transition Study (METS)

Version: 2

Date: 3 September 2014

Reviewer: Kelsey Dancause

Reviewer’s report:

The manuscript “Association of Car Ownership and Physical Activity across the Spectrum of Human Development: Modeling the Epidemiologic Transition Study (METS)” reports associations between socioeconomic markers and objectively measured moderate to vigorous physical activity (MVPA) from five sites differing widely in level of economic development. The results show (surprisingly) similar levels of MPVA across sites among participants who owned cars. Controlling for other socioeconomic characteristics, car ownership was a predictor of MVPA, with lower levels of MVPA among car owners across sites. The study is well designed and the analyses are well conducted. The manuscript will be of interest to researchers in public health, epidemiology, and economic development, and contributes to our understandings of the predictors of changing health patterns during epidemiologic transition.

Minor Essential Revisions:

1. I have only one main suggestion to increase the relevance of the study for researchers working in other sites. Whereas the results from the U.S. are discussed in terms of the environment (an inner suburb with little public transportation), we have very little information about the infrastructure, environment, and lifestyle in the other study areas. This might be particularly important for providing context for the only slight relationship between car ownership and MVPA in South Africa (peri-urban; 5.6 fewer minutes MVPA for car owners) and for the exception observed in Jamaica (urban) in Table 4, Model 1. Describing the environments and how they relate to the results would help to increase the generalizability or applicability of the findings.

Other Minor Essential Revisions

2. The Abstract says Jamaica had the lowest MVPA levels. Isn’t it actually the U.S.?

3. For consistency, PA should be changed to MVPA in the Results and Conclusions of the Abstract. Check throughout the manuscript to be sure that, when referring to the measure used in the study, the text reads MVPA rather than PA.

4. Page 8 line 7: What do you mean by “dimensions of control”?

5. Page 9 line 2: Change “indicator” to “indicators”
6. Page 9, Results, Demographics; Table 1; and Table 2: Please report p-values for differences among study sites.

7. Page 10 line 10: “Seychelles and the Jamaica were intermediate.” First: “the Jamaica”? Typo? Second: Jamaica is very similar to the U.S. Seems it makes more sense to write: The highest activity of moderate or higher intensity was recorded in South Africa (37.6 min/day; SD=31.1) and Ghana (35.3min/day; SD=23.1), while the lowest was in the US (24.3 min/day; SD=29.8) and Jamaica (24.6 min/day; SD=20.7); Seychelles was intermediate.

8. Page 11 line 13: You write Model 4. Do you mean Table 4, Model 1?

9. Table 3: Significant p-value for years of education, Jamaica, 0.0143 lacks asterisk

10. Table 3, Footnote 2: Please define MI

11. Table 3, Household Income: It’s unclear to me why the data are dichotomized based on $1825/year for all sites, considering the huge range of PPP per year per household across the countries (from 886 to 11,652). Why not report country-specific tertiles or quartiles? Or, if I’ve misunderstood and there is a reason for using $1825, please clarify.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests