Reviewer's report

Title: Association between physical activities and school records in Korean adolescent students

Version: 3 Date: 18 November 2011

Reviewer: Nancy Brener

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Major revisions

1) Both reviewers pointed out that the term “school record” is not clearly defined. While the authors responded that the survey did not measure school conduct, attendance, and achievement, only “school record,” this does not clarify the meaning of the term. Because this variable is the focus of the paper, without an understanding as to what is meant by “school record,” the value of this analysis is severely limited.

2) Both reviewers noted that the author did not describe the body of literature that shows the relationship between student achievement and physical activity. While the author added a generic sentence citing the suggested references, this information has not been sufficiently incorporated into the Background. Notably, the author states that “only a few studies have examined the epidemiological evidence that indicates whether there is an association between PA and the school records of students.” This is not really true—there is a body of literature about this association and references the reviewers provided are merely examples of these types of studies.

3) The author does not appear to have understood my previous comment on the Discussion. When I suggested that other aspects of PA, such as attention and alertness, might explain the association between PA and school records, I was not suggesting that these should have been included as variables in the study. Rather, I was suggesting that they might be explored in the Discussion as possible explanations for the results, just as the author does currently with brain and memory function. I do not think it is necessary to include the lack of information about attention and alertness in the limitations, but it should appear elsewhere in the Discussion.

4) The Conclusion still simply repeats the findings. The author has not added any substantive implications. It would be more useful to readers if the author explained how schools, health care providers, etc. should ACT UPON the information learned in this study.

Minor revisions

1) I still think the Results in the Abstract are much too detailed and that the direction of the “school records” variable still is not clear.

2) The author provides a lengthy response to my question about how the
students could be confident that their surveys could not be linked to their names when the teacher was the person assigning the identification numbers. The response attempts to establish the legitimacy of the survey, but does not really answer my question.

3) Now that I understand that “unknown” responses to the questions on the parents’ education level were included in the analysis, I am not sure I agree with that approach given the fairly large percentage of students who chose that option. Was it entered as an ordinal variable? If so, the author is effectively saying that “unknown” is a “lower” response than “middle school or lower,” an assumption that is dubious at best.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests