Reviewer's report

Title: Clustering patterns of physical activity, sedentary and dietary behavior among European adolescents: The HELENA study

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Reviewer: Ssu-Yuan Chen

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1. In the HELENA study, 3528 adolescents were recruited. However, only 2084 cases were analyzed in the current work. In the article entitled as “Adolescent’s physical activity levels and relatives’ physical activity engagement and encouragement: the HELENA study” published in “Eur J Public Health 2010, epub”, it says that 3007 subjects had valid IPAQ data. Further explanations are welcome. In addition, comparisons of the demographic characteristics between current study subjects and excluded subjects are suggested.

2. Figure 1 demonstrates the five defined clusters in the current work. It is not easy to catch on to what it means at a glance in its present state. It might help if the parameters in X-axis change to DQI-A, MVPA, SEDENTARISM in sequence.

3. The current work showed that some clusters (such as cluster 1, 4, and 3) had no systematic negative association between time spent in MVPA and sedentary activities. In the article entitled as “Sedentary patterns and media availability in European adolescents: The HELENA study” published in “Prev Med. 2010 Jul;51(1):50-5”, it demonstrates that males spent more hours on TV viewing, playing computer games and console games while females spent more time studying and surfing for non-study reasons. More discussions about findings of sedentary pattern and their effects on current cluster analysis findings are welcome.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.