Reviewer’s report

Title: Health promotion in primary and secondary schools in Denmark: Time trends and associations with schools’ and students’ characteristics

Version: 2 Date: 26 September 2014

Reviewer: Heidi Klakk

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Reviewers report:

Title: Health Promotion in primary and secondary schools in Denmark: Time trends and associations with schools’ and students’ characteristics

Version 1, Date: September 23, 2014

This is a cross sectional study aiming at elucidating time trends in the type and number of health promotion activities in Danish primary and secondary schools and to investigate the characteristics (of schools?) associated with participation in these activities. The survey is based on data from questionnaires filled out by students and headmasters at two time points, thus giving the opportunity to look at associations and time trends. The study is part of the WHO-coordinated Health Behavior in School-aged Children (HBSC) study, which is conducted every fourth year among 11-, 13-, and 15-year-old children.

The methods are described, and strength and limitations of this method is clearly stated. As the method is given as part of the HBSC survey it is unclear, why which questions and cut points for analysis were chosen.

Clarification to the background, research question, methods and perspective will enhance the enthusiasm for the manuscript.

Attention to the following will strengthen the manuscript.

Major Compulsory Revisions

1) In the abstract and the introduction (last paragraph) it is not clear how to interpret the many versus few health promoting activities. Please state weather this number is per year or any different time span. Likewise it would clarify the second aim in the abstract to mention characteristics of schools and not just characteristics (at the end of first paragraph in the background section in the abstract)

2) In the introduction (fourth paragraph) the authors imply the relevance of their study to public health practice and research. It would improve the usefulness of the manuscript if this important issue were addressed in the end of the discussion in form of perspectives.

3) In the material and methods section:
a) Participation in health promoting activities: it is unclear, why the response option “alcohol and/or drug abuse” was not available in 2010 and what effect that might have had on the results.

b) Participation in health promoting activities (last paragraph): Please state whether dichotomizing the variable into few/many by the median is theoretically or clinically motivated as it is crucial for the main outcome – and discuss how it would have affected the main result if you had chosen differently.

c) Facilities for health promotion: It is questionable whether the question “access to foods” (2006) is comparable to the question “access to healthy food” (2010). What is the authors opinion on that?

d) Affluence: After trichotomizing this variable, the “not at all affluent” is put in twice? Makes it difficult to distinguish between category 1 and 3 – please, clarify how to interpret the outcome.

e) Leisure-time physical activity: please, clarify how the cut point of less or more than 4 times a week for this variable was motivated.

Minor Essential Revisions

4) In the material and methods section:
   a) Study design and population: results of participation rate and response rate might be more suitable for the start of the result section.
   b) Social climate (2010): the statement in parenthesis “(none of the participants used the last two response options)” is better suited for the result section.

5) Discussion (fourth paragraph): the authors speculate, that the lack of association between students health behavior and schools health promotion, might be explained by that the fact, that participation in health promotion activities have improved the health behavior of students. Would it not be possible for the authors to verify that by looking in to the data of student’s health behavior in 2006 compared to 2010?

6) Table 1 and 2: Headings for tables are too long… I would prefer a simple and clear heading like “Differences between Danish HBSC schools in 2006 and 2010” and the rest of the text as notes UNDER the table. The same goes for table 2: “Differences between schools that participate in few vs. many health promotion activities” and the rest of the text as notes UNDER the table.

7) In the discussion (second paragraph) the authors write “We have no comparison for the remaining types of health promotion” - how is that, when the study is part of the European HBSC?

8) Discussion (last paragraph): “School headmasters’ responses to questions about their school’s participation in health promotion may be subject to a wide variety of individual interpretation” This is a very important weakness of the questionnaire to address. The validity of the main question is strongly dependent on the quality of data for this main exposure. It could be interesting with the authors view on how this part of the method could be improved in further
surveys.

Discretionary Revisions

"Minor issues not for publication"

9) I am a little confused what reference style is used. The first reference mentioned in the introduction has number 4? How come that is not number 1, which does not occur until the end of the discussion? Also I think that reference number 21 is not referred to in the text? Please check the correctness of your reference use.

10) Introduction, second paragraph (line 65): I believe the word “of” is lacking between “frequency” and “different”

11) Discussion, first line: a “0” is missing in 2006.

Level of interest: An article of limited interest

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