Reviewer's report

Title: Evidence-based development of school-based and family-involved prevention of overweight across Europe: The ENERGY-project's design and conceptual framework.

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Reviewer: Benoit SALANAVE

Reviewer's report:

This paper is of limited scientific interest because it just describes objectives, conceptual framework and methodologies of the European ENERGY project which is still in progress. However, information on this current project should be useful for the global knowledge on relevant interventions in the area of childhood obesity. Moreover, the paper is very well written, very clear and very well structured.

Major compulsory revisions

1) I'm surprised that the ENERGY project has decided to study children aged 10-12. The authors just say that this period is a transition between childhood and adolescence. It is probably much more important to plan interventions as soon as possible after the adiposity rebound. The European Childhood Obesity Group recommends to study children aged 7-9 (Lehingue Y. The European Childhood Obesity Group (ECOG) project: the European collaborative study on the prevalence of obesity in children. Am J Clin Nutr 1999; 70:166S-8S). Authors must at least give arguments for their choice to target older children.


3) In "WP9 §", "The intervention will be implemented at five schools in each country and five other schools will serve as controls" does it mean five other control schools in each of the five countries? or does it mean five control schools overall? This needs to be clarify.

4) In "Original research - 5th §", it will be useful to give more details on the standardized stepwise approach for the recruitment of schools, children and
parents. Are samples randomly selected and how? How many schools per country? How many children per school? How ensuring comparable samples in all countries?

5) In "Original research - 8th §", it will be useful to detail power calculations. On which hypothesis are they based? What is a relevant detected change, +/- 5% or +/- 10%?

6) In "Discussion - 3rd §", the authors consider comparisons in EBRB between European countries but they doesn't seem to envisage the fact that EBRB (or their determinants) could be different between country. In this case, is it relevant to test the same intervention in each country? Has the project planned to test different interventions considering specific EBRB in each country? How will the results be interpreted if EBRB differ between countries?

Minor essential revisions

7) In "The planning model - Insert Figure 1", insert the word basic in "A basic model ..."

8) In "The planning model - 2nd §" and in "WP3", replace indentified and indentify by identified, identify

9) In reference 14, replace "rated" by "related" in "energy balance-rated behaviors"

Discretionary revisions

10) I'm surprised that sitting time was not listed as risk behavior in "The planning model - Step 2 - 2nd §" and in figure 2.

11) In "The planning model - step 3 - 3rd §", "The economic environment refers to the costs related to healthy and unhealthy behaviors, such as the costs of soft drinks or fruit and vegetables at school ... " I don't understand why it is mentionned "at school"?

12) There is no explanation on the participating countries. Were they volunteers? Have the other European countries refused to participate? Why are some countries involved in a WP and not in an other one?

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**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