Reviewer's report

Title: Association of objectively measured physical activity with body components in European adolescents. The HELENA cross-sectional study

Version: 1 Date: 3 April 2013

Reviewer: Lisa Phillips

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Discretionary revisions

Abstract:
1. Line 2: could read cross-sectional study in a school setting rather than at school setting
2. Line 7: Accelerometry not acelerometry
3. Line 7: Could remove ‘Hence’ and start sentence with Indices
4. Line 11: ‘Whilst’, may be better than ‘however’
5. Line 19: the use of ‘directly’ as a description of the relationships may confuse readers, as it suggests that other relationships may not be direct, but rather partial or mediated, perhaps chance this to ‘positively’ as inverse relationships are still direct, but in a negative manner. This occurs throughout the script

Introduction:
6. Paragraph 2, Line 11: May read better as ‘The relationship between’
7. Paragraph 4: This paragraph would benefit from being reworded, as you begin by discussing SES but quickly move on to another focus, and back to SES, while all important information, it could read better. Also, replacing ‘and’ with a comma on line 45 ‘socioeconomic status, the effect of PA’

Methods:
8. Paragraph 5, Line 51: ‘multi-centre and cross-sectional’ could be ‘multi-centre, cross-sectional’
9. Paragraph 10, last line: change and the level of significance to ‘), level of significance...’
10. Paragraph 7, Line 94: ‘which has been shown to be a valid..’ may read better
11. Paragraph 7, Line 100: include space between females and =

Results:
12. Paragraph 10, remove comma between ‘both indices’
13. Paragraph 12 line 159: (both p#) should this be (both p<).
14. Paragraph 12, Line 168: remove ‘of’ from ‘change of main results’
15. Paragraph 12, Line 171: no need to repeat (model II)
17. Paragraph 14, line 187: Remove ‘Thereby’ and begin sentence with ‘When’

Discussion:
18. Paragraph 16, line 93: remove ‘(using accelerometry)’
19. Paragraph 17, line 209: may read well without the ‘on the other hand’ opening.
20. Paragraph 17, line 210: reword ‘slightly studied’
21. Paragraph 18, line 224: remove ‘y’ from warranty
22. Paragraph 17, line 227: remove ‘the’ prior to body composition
23. Paragraph 18, Line 233: Would benefit from rethinking the order in which this sentence is presented. For example, ‘while some kinds of PA, usually considered vigorous, can be more favourable…’
24. Acknowledgements: Include a space between enthusiasm and the brackets.

Minor essential revisions

Abstract:
25. Conclusion: move brackets to start after ‘confounders’ and before ‘including’ so it reads, after adjusting for several cofounders (including indices of fat mass….

Introduction:
26. Paragraph 1, Line 1: remove ‘the’ from ‘beneficial role of the PA’
27. Paragraph 1, Line 7: might read better as ‘but also by increasing muscle mass, which has…’
28. Paragraph 1, Line 8-10: The last sentence of this paragraph needs to be reworded, something along the lines of ‘Therefore gaining a better understanding…. is of interest’ at the minute it does not make sense.
29. Paragraph 2, Line 24: Do you mean ‘any of the previous studies’ or did you mean to say ‘none of the previous studies’
30. Paragraph 3, Line 28: change to ‘components, such as…’
31. Paragraph 3, Line 33: the sentence ‘but they did not found any significant…’ needs to be reworded, perhaps to ‘they did not find’ or to ‘they found no significant…’
32. Paragraph 3, Line 35: ‘when weight losses are aimed’ needs to be re-written to something like ‘when the aim was weight loss’
33. Paragraph 4, line 39: ‘On the other hand’ suggests an alternative to something you have written previously, it would be better for the reader if this was altered to ‘additionally’ or something similar, as you are adding a point rather than providing an alternative.
34. Paragraph 4, line 39: Remove ‘found’
35. Paragraph 4, line 41: Remove ‘of’, so sentence reads ‘despite the existing literature’
36. Paragraph 4, Line 45: Effect or relationship?

Methods:

37. Subheading Ethics statement: remove 'subheading'

38. Paragraph 6, Line 64: it is not clear whether the Edinburgh 2000 was a revision of the Helsinki 1964 or the other way around, this need clarifying or removing.

39. Paragraph 6, line 78: Did you also obtain child assent?

40. Paragraph 7, Line 81 & 82: Remove ‘type’ from the brackets detailing the measurement equipment and include manufacturer information.

41. Paragraph 7, Line 87: include type of tape within the brackets e.g. (seca 200; Seca, Hamburg, Germany)

42. Paragraph 8, Line 104: Check manufacturer details

43. Paragraph 8, line 109: You have chosen a low wear time criteria, did you specific which days the ActiGraph needed to be worn? Or which 8 hours should be included?

44. Paragraph 8; Line 114: 500 – 1,999. You presently have a decimal point instead of a comma

45. Paragraph 8. You have used very high cut-points to determine activity intensities, have these been validated for use in adolescents? Also are these specific for this monitor placement?

46. Paragraph 9 lines 127 – 135; this section would benefit from being re-written, as it is confusing for the reader to determine the how the responses and FAS score is calculated. e.g. change line 129 to , a numerical value was given to each ..., which increased as answers indicated higher affluence.

47. Paragraph 10: Results presented in tables does not need to be reiterated in the text, but those that have not been presented should be kept.

48. Table 2: Note which model was controlled for either in the title or in the notes at the bottom

49. Table 2 & 3; may be better if all significant values were reported as p < rather than those < 0.05 having the actual p reported.

50. Table 2 &3; can you align columns by decimal point

Discussion:

51. Paragraph 15: the use of ‘directly’ as a description of the relationships may confuse readers, as it suggests that other relationships may not be direct, but rather partial or mediated, perhaps chance this to ‘positively’ as inverse relationships are still direct, but in a negative manner.

52. Paragraph 16, line 92: Do NHANES specific what they mean by ‘lower PA levels’ is this defined as MVPA o just PA in general, as you go on to say that BMI was neg assoc. with PA in your study. The way this is worded is confusing as you state that your results concur but then use ‘where as’ which would indicate
that they show differing results.

53. Paragraph 16, line 200: ‘these authors found positive and negative relationships ...’ which were positive and which were negative? Also, you mention Belanger and that your results partially concur, but you haven’t specified that it is the Belanger study you were discussing previously, it reads as thought you are moving onto discuss a different study.

54. Paragraph 16, line 203: ‘highlight that any’, do you mean ‘that none’

55. Paragraph 16, line 204: include a comma after FFMBIA and remove ‘to’ in the sentence ‘cases could affect to these kind’

56. Paragraph 16, line 205: Remove ‘then’ and start the sentence ‘In addition to’

57. Paragraph 16 – 17, check spacing between paragraphs

58. Paragraph 17, Line 217: remove ‘observed that’

59. Paragraph 17, line 229: May read better as ‘No studies simultaneously address the relationship of PA ...’

60. Paragraph 18, Line 231: Would benefit from rewording, something along the lines of ‘Several complementary mechanisms potentially underlie these independent associations’

61. Paragraph 18, line 236: Reference needed for metabolic requirements

62. Paragraph 19: Do you consider any of your accelerometer data reduction methods to be limitations?

63. Paragraph 20, line 268: Remove the word ‘can’

64. Paragraph 20, Line 269: should read ‘independent’ rather than ‘independently’

List of abbreviations:

65. MI, should be FMI

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

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