

Peer Review File

Article information: <http://dx.doi.org/10.21037/pm-20-91>

Comment 1:

Were questions used in this questionnaire validated in previous study? Or were used questions for assessing physical activity taken from another questionnaire, which was validated? If yes, what is the name of the original questionnaire? Is the reliability of those questions known? Could you provide exact formulation of used questions? Or could you provide the whole questionnaire as a support material to the manuscript? Additionally, please explain the whole process of data processing from the questionnaire. Are you sure, that you are comparing the same minutes spent in the same intensity zone (in the meaning that you claim to compare TPA from questionnaire with MVPA from accelerometer)?

In the light of the presented limit of the study (line 247-249 of the manuscript), please declare to the reader in the manuscript, why you are doing this study for?

Are you planning to adjust those questions in the questionnaire to use this questionnaire in the future? Or what additional information, which is nowadays not known, does this study add?

Reply1

Thank you very much for your comment.

The questionnaire was not validated and, as specified in the section “Methods –sample” (please, see lines 88-90, and References No. 19 and 20), it is a questionnaire about lifestyle developed within the framework of ALIADO Study. Within the questionnaire, there is a section specifically targeted to collect information about physical activity in an Italian sample of adolescents. The data reported in this study result from the addition of minutes that adolescents dedicated every week to physical activity, as a sum of sport at school, sport after school, and any other form of moderate to vigorous non-structured physical activity. Based on the total amount of minutes reported for each week, the minutes of physical activity obtained daily by participants were calculated.

For a better interpretation of results and an adequate comparison with other studies, we are attaching the questionnaire to the revised manuscript.

The aim of the study was to assess physical activity in a group of adolescents with the two different methods: i) accelerometers and ii) questionnaire. As a consequence, the aim of the article is to discuss the two different methods.

The present study aims, in fact, at comparing daily time (no. of minutes) spent doing physical activity to the number of minutes registered by accelerometers, so as to assess if the number of physical activity minutes reported in questionnaire, can be compared to data obtained by accelerometers. It is worth highlighting here that when we talk about physical activity in the questionnaire, we mean moderate to vigorous activity, and not walking.

Based on that, it is desirable that in the future it will be possible to add some more questions, more specifically targeted to retrieve information about physical activity, to the questionnaire, in order to better compare the two abovementioned methods. Hence, it is desirable that questionnaires about lifestyle can be exploited to retrieve information of physical activity of enrolled subjects.

Comment 2

Additional comments:

You are using few synonyms to name participants of your study (subject, respondent, student etc.) throughout the text. Please unify the expression according to the fact, they are human beings in the whole manuscript. I suggest term “participant”.

Reply 2

Thank you very much for your comment. The use of the words “adolescents” and “students” were chosen on purpose, as the study is targeted to adolescents which attend school (school is part of the framework within which physical activity is made by them). In addition, adolescents are the target of specific guidelines about physical activity, which are different from those laid down for adults. For this reason, in some parts of the manuscript it was not possible to use other words, and we kept the two words. However, when the use of the word “adolescents” or “students” was not mandatory, we accepted your suggestion, and amended the text accordingly.

Comment 3

Abstract

Please, round all p-values to the three decimal places (also in the following text and tables).

Reply 3

Thank you very much for your suggestion. We have modified our text as advised (see Page 2, line 33-34, Page 9-10 line 201-206)

Comment 4

Introduction

1. Please, modify the main aim of the study according to the general comment.
2. Line 66-68 – Information provided in this paragraph should be considered as out-of-date. Reference is from the year 2007 and since that time accelerometers and also accelerometer data processing has been more developed. Nowadays, some accelerometers could be used for swimming, and also, we have algorithms to capture physical activity while carrying load. Please provide information if you are presenting information about accelerometers in general, or if you are describing the ActiGraph GT1M device.
3. Line 74 – the reference number 18 is the same as number 8. Please correct.
4. Line 74-76 – Could you please provide information what method was used to obtain those results?
5. Line 77-81 – Was the same type of method for this report used to assess the physical activity as in previous paragraph? It could explain why the data differ so much in those two studies. Additional explanation should be seen in comparing the group of children and adolescents in national report against only adolescent population in WHO study.

Reply 4

1. Thank you very much for your suggestion. We have modified our text as advised (see Page 4, line 82-83).
2. We have modified our text as advised (see Page 3, line 66).
3. We made the required changes (see Page 4, line 74, 81).
4. For information, please see the reported reference 18.
5. Yes, because children and adolescents (6-17 year-old) were compared to only adolescents (11-17 year-old)

Comment 5

Methods

1. Sample – How many schools were involved in the study in total? How many of them were High Schools and how many Technical/Professional?

2. Ethical Committee Declaration – Why was the study design approved by the Ethical Committee one and half year after the data collection was done?
3. Line 121 – Please explain the used term “onetime interval”.
4. Line 132 – Please provide the name of the accelerometer manufacturer.
5. Line 124 – What does the term “1minute recording time interval” mean? Does it mean that accelerometer data were processed in 60 seconds epoch interval?
6. Line 128 – Please omit the “as” in the sentence, it is there two times.
7. Line 129 – How many valid school days and weekend days were considered as valid monitoring output out of 4 days stated in this sentence?
8. Line 132 – Was the average made always from seven days, or it was calculated as average of valid monitored days (average of possible 4-7 monitored valid days per participant)?
9. Line 135-137 – This sentence is confusing. I think that this MVPA variable was created to define the total amount of time spent in moderate and higher level of intensity to compare this value with physical activity guideline cut-of-point (60 minutes of MVPA per day).
10. Line 137 – Why did you decide to create TPA variable? If it is sum of LPA and MVPA, what does this information add and could be this variable compared to TPA from questionnaire?
11. Line 130 – Why do you use additional reference for the WHO physical activity guideline, when almost the same is presented in reference number 8?
12. Line 140-142 – This paragraph could be shifted to the line 125, where is information about accelerometers.
13. Line 145-151 - Please revise whole paragraph according to the general comment. Add there also information when (prior the monitoring or after) and under which conditions was the questionnaire filled in (at home, at school, under some supervision of trained person, etc.). How was treated this example situation which could occur during the data processing? Participant was swimming during the monitored week. He was not able to wear the accelerometer because the device is not waterproof, but he included this time as physical activity at MVPA level in the questionnaire.
14. Line 146 – Is the term “school sports” equivalent to the “Physical Education classes” (PE), or PE has a separate category?
15. Line 148-149 – This sentence should describe FITT characteristics (Frequency, Intensity, Time and Type) of physical activity. I am missing the right description of capturing the intensity level. Performing physical activity at amateur or competitive level could not be used to explain the intensity of physical activity.

16. Line 152-156 – This paragraph could be optionally omitted because it describes additional information obtained from participants via questionnaire which are not relevant to the aim of the study.

Reply 5

1. Thank you very much for your suggestion we added some data (please, see Page 5, line 94-95)"
2. The study design was approved by the Ethical Committee one and half year after the data collection because of bureaucratic reasons. The National Research Institute for Food and Nutrition was incorporated in a more Comprehensive Research Institute, that is, CRA (Council for Research on Agriculture). And the Ethical Committee met after that the incorporation.
3. We explained as requested. (please, see Page 6, line 125)"
4. We added what was required (please, see Page 7, line 138-139)
5. Yes. It means that accelerometer data were processed every 60 seconds epoch interval.
6. We have modified our text as advised (please, see Page 6, line 134).
7. Although a weekend day was not specified in order to fulfill validity criteria, all adolescents had at least 1 weekend day of recording. (please, see Page 6-7, line 135-137)
8. The made average always was calculated as average of valid monitored days (average of possible 4-7 monitored valid days per participant). (please, see Page 7, line 140-142)
9. This TPA variable of questionnaire was created to define the total amount of time spent in moderate and higher level of intensity to compare this value with physical activity guideline cut-of-point (60 minutes of MVPA per day). It refers to the minutes of physical activity (at school and outside school) and sport-making (comprising the minutes of moderate to vigorous physical activity, and not light activity).
10. With respect to accelerometers, it adds information about any possible difference between the two genders, the nutritional status and the school type. It is separate, as it is not possible to compare it to the questionnaire. The questionnaire does not allow retrieving information about light physical activity.
11. We made the required changes. (please, see Page 7, line 153).
12. We made the required changes. (please, see Page 6, line 129-131).
13. The questionnaire distribution occurred in class, with the participation of teacher(s), and under the supervision of researchers, after accelerometers were worn and after mandatory instructions on how to fill in the questionnaire. As to the activities when it was not possible

to wear the accelerometer (i.e., swimming, or other sport activities which could damage the tool), the participants specified in a diary (distributed together with the accelerometer), the performed activity and timetables. The total amount of minutes recorded in the diary were afterwards added to the minutes of MVPA reported by the accelerometer (please, see Page 7, line 143-146, 156).

14. Yes, the term “school sports” is equivalent to “Physical Education classes” (PE). We made the required changes. (please, see Page 7, line 158).
15. The intensity of physical activity was not taken into consideration, that is, we registered only the amount of minutes and not the metabolic equivalent of task (MET). We only wanted to distinguish amateur sport class from competitive sports. We substituted the term (please, see Page 7, line 160).
16. We omitted what was required.

Comment 6

Results

1. Please, adjust the results in agreement to the modified main aim of the study. Further focus the results more on differences between the two used methods to assessing physical activity.
2. Line 172-173 – The “WC” and “WtHR” abbreviations could be omitted because they are not used in following text.
3. Line 194-198 – Please round the p-value to 3 decimal points and check the “p=0,0015” value on line 194, because in Table 3 you present different result (p=0,0155).

Reply 6

1. Thank you very much for your suggestion. We made the required changes. (Please, see Page 10, line 202).
2. We made the required changes. (Please, see Page 9, line 179-180).
3. We made the required changes. (Please, see Page 9, line 201).

Comment 7

Discussion

1. Please, adjust the discussion in agreement to the modified main aim of the study. Further focus the discussion more on differences between the two used methods to assessing physical activity.
2. Line 218-225 – There is used the same reference for both explanations. I think there are more sources which could explain why boys are more active than girls and vice versa.
3. Line 227 – Please check the misspelling of “LPA e TPA” (should be “LPA and TPA”?).
4. Line 238 – ii) should be iii)
5. Line 247 – Could you explain more in detail what is meant by this sentence: “In addition, some MVPA activities may have been thus lost during measurement.”
6. Line 244-246 – I think that the second limitation should be more on side of data processing (used algorithms to evaluate obtained data) and used initial setup of the device prior the beginning of the monitoring (Hz used to collect the data into device) than on type of used device. Unfortunately, I am not familiar with MAHUFFE method used in this study so I cannot evaluate this method in means of pros and cons

Reply 7

1. Thank you very much for your suggestion. We made the required changes. (Please, see Page 11, line 212-213).
2. We added two references (Please, see Page 11, line 232).
3. We are sorry, but we found not misspelling in the manuscript.
4. We made the required changes. (Please, see Page 12, line 245).
5. We omitted this sentence because repetitive of the previous sentence.
6. We explained more in detail the second limitation Please, (see Page 12, line 253-255).

Comment 8

Conclusions

Please, adjust the conclusion in agreement to the modified main aim of the study.

Reply 8

Thank you very much for your suggestion. We made the required changes. (Please, see Page 13, line 264-270).

Comment 9

References

Please correct the references mentioned in the specific text above (Ref 8, 18 and 30) and check the entire section for mistakes and misspellings:

Ref 9 – doi: 10.1139/H11-012.

Ref 21 – [Epub ahead of print] – but published on 22nd December 2016 etc

Reply 9

Thank you very much for your suggestion. We corrected the references (Please, see Page 15, line 316, 319; Page 17, line 350).

Comment 10

Tables

Table 1

- omit the “-value” from the table heading, leave there only p
- provide all p values for all tests (overweight boys vs girls, etc.)

Table 2

- provide information into the manuscript which categories refers to “Normal weight” and “Obese” category mentioned in the Table 2
- check the presented values (there are “(37)” values in the TPA and MVPA rows)
- please, correct the misspelling of “Technical”

Table 3

- omit the “-value” from the table heading, leave there only p and round it to three decimal points

– I would suggest rewording the title of the table

Table 4

– omit the “-value” from the table heading, leave there only p and round it to three decimal points

– what does the ® symbol mean?

– please, correct the misspelling of “Technical”

Reply 10

Table 1: Thank you very much for your suggestion. We made the required changes. (Please, see Table 1).

Table 2: Thank you very much for your suggestion. We made the required changes. (Please, see Table 2).

Table 3: Thank you very much for your suggestion. We made the required changes. (Please, see Table 3).

Table 4: Thank you very much for your suggestion. We made the required changes. (Please, see Table 4).