

I want to thank you again for the opportunity to review the Manuscript ID: Relationship between the average slope in the active commuting to and from school and fitness in adolescents: the mediator role of fatness (#41013). This manuscript is an excellent contribution to the literature on the relationship between the average slope in the active commuting to and from school and fitness in adolescents.

I was surprised by the quality of the authors' revision effort. Frankly, I thought the reviewers were asking too much of the authors to handle/revise, but the author team carried out an excellent revision. Specifically, the authors have strengthened the introduction and discussion section. My personal recommendation is to accept the manuscript with minor changes.

Abstract

1.- I would suggest changing “test the relationships between the average slope and physical fitness,...” for ““test the relationships between the average slope **in the active commuting to and from school** and physical fitness,...”.

2.- I would suggest changing “were assessed” for “participated in this study”.

3) I would suggest changing “Specifically, in the active commuter,” for “Specifically, in the active commuter **group**”.

4) I would suggest changing “which in turn was related” for ““which in turn was positively related”.

Introduction

1.- I would suggest changing “Active Commuting (AC) can be defined....” for “Active commuting to and from school (ACS) can be defined...”. I would also change “AC” for “ACS” throughout the article.

2.- Please remove this sentence because the idea is repeated in the above sentence “Previous research has shown that adolescents who actively commute to school can increase each day their levels of physical activity between 5 and 37 minutes (Mammen et al., 2014)”.

3.- Please change “AC to and from school” for “ACS”

4.- Please, change the order of these two references (Mytton, Panter & Ogilvie, 2016; Carson et al., 2016).

5.- How many hypotheses are in the study? Two or four? It is not clear.

Derived from these aims, 1) **the main hypotheses were**: the average slope during AC to and from school contributes to develop physical fitness, and 2) to achieve better levels of cardiorespiratory fitness. In accordance with the aims indicated, **several hypotheses are suggested**. The first hypothesis suggested that the active commuters would have a better physical fitness. The second hypothesis proposed that the active commuters would have a lesser fatness and as a consequence would have a better physical fitness.

Method

Design and Participants

1.- Some parts in the “Sample section” are written in future tense (e.g., The invitation to participate in the study will be made by draw). I would use past tense (e.g., The invitation to participate in the study was made...)

2.- Add the name of your university because it not a blind review.

Instruments

1.- I would change the name of the variable “active commuting” for “active commuting to and from school”.

2.- Please, change “on foot and bike” For “on foot **or** bike”

3.- Please change this sentence “However, the analyzes do not change because no participant reported go cycling commuter to school” for “It has to be noted that no student reported commuting by bike in this sudy”.

4.- Line 140. Please, change the order of this two references: Castro-Piñero et al., 2009; Artero et al., 2011

5.- Line 164. Add “groups” in this sentence “between active commuter, mixed commuter, and passive commuter **groups**”.

Results

1.- Line 194. Please, add “p” in italics.

Discussion

1.- Line 203-204. Add “groups”. “However, the results did not show the mediating effect of body fat between average slope and cardiorrespiratory fitness and strength lower limbs in the active commuter **group**”

2.- Line 205-206. Authors said “In line with our results, many researches have shown a positive relationship between AC to and from school in children and adolescents (Larouche et al., 2014; Martin et al., 2016), ...”.

a) The name of a variable is missing from this sentence. For example, “...a positive relationship between ACS and ...”? physical fitness?

3.- Line 203-204. Add “groups”. “association between average slope and strength lower limbs and cardiorrespiratory fitness in active commuter **group**”.

4.- Please, change the order of these three references (Lubans et al., 2011; Andersen et al., 2011; Carson et al., 2016).

5.- Please, add a reference to support this claim “Therefore, previous researchers have found the AC to and from school as a way to increase the level of weekly physical activity which in turn is associated with a physical fitness in adolescents”

6.- Line 218. What does mean “although these differences were minimal”? Was there or was there not a significant difference?

7.- Authors said “Researchers should take into account these findings during the AC to and from school because it was showed a positive relationship between average slope to lead to lead the changes in their strength lower”

a) Please, remove “to lead” because it appears twice.

8.- 257-265. Remove these sentences. They appear twice in the discussion.

9.- Please, change “The main strengths of the research are...” for “The main strength of this research is...”

10.- Line 290. Add “groups” in this sentence “active commuter **group**”.

Conclusions

1.- Please remove this sentence “These results are promising because there are not studies to date that have examined the relationships of the study variables using and objective measurement of active commuting such as the Google Earth software” and add the main implications of these findings.