Reviewer’s report

**Title:** The relationship of body composition with physical fitness in the 14 years adolescents residing within the Tlokwe municipality, South Africa: The PAHL-Study

**Version:** 3  **Date:** 4 March 2012

**Reviewer:** Rimke Vos

**Reviewer’s report:**

The authors of the manuscript on “The PAHL-Study” have made a lot of improvements based on the comments of both reviewers. Nonetheless, I have still a few minor questions after reading the revised manuscript.

**Minor Essential Revisions:**

• Second sentence “Results” section: the authors report no significant age difference for gender. However, they mention a p-value of p<0.05, which they considered statistical significant in their “statistical analysis” section of the manuscript.

• The authors should refer to Table 3 in the results part of the multinominal logistic regression.

• In the discussion section the prevalence on underweight (42%; 36%) and overweight/obesity (16%;26%) does not correspond with the mentioned prevalence in the results section, table 1 and abstract (underweight: 44% boys & 30.7% girls/ overweight: 8% boys & 17.3% girls).

• The sentence in the discussion; [Additionally, the results showed a strong significant positive association (OR, 10.69[95%CI: 2.81-40.73]) between physical fitness and BMI for underweight girls with high physical fitness scores, and overweight girls with high physical fitness scores (OR, 1.80 [95%CI: 0.63-5.09]). This last OR is in the results section mention for the underweight boys with the high physical fitness.

**Discretionary Revisions:**

• Fifth sentence “Results” section; When analyses were performed separately by gender, boys showed high (I think they mean higher)?

• To improve readability I would suggest the following for both the sentences on the results part of the multinominal logistic regression: [The results of the multinominal logistic regression analyses showed a strong and significant positive association between physical fitness and BMI for the underweight girls with high physical fitness scores (OR, 10.69 [95%CI: 2.81-40.73], and for the overweight girls with high physical fitness scores (OR, 0.11 [95%CI: 0.03-0.50]).

Non-significant weaker positive relationships were found between physical fitness and BMI for the underweight boys with the high physical fitness scores
(OR, 1.80 [95%CI: 0.63-5.09]), and for the overweight boys with high physical fitness scores (OR, 0.18 [95%CI: 0.02-1.78]).]

• I would suggest to alter the second “especially” in for instance “particularly” in the following sentence: [However, because overweight adolescents with low physical fitness in the study, especially girls tended to perform poorly in physical fitness as such physical activity, interventions or follow-up studies recognizing this relationship especially in the overweight adolescents are needed [38,48].]

**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.