Reviewer's report

Title: Validation of Digit-length Ratio (2D:4D) Assessments on the Basis of DXA-derived Hand Scans

Version: 2 Date: 1 September 2014

Reviewer: Manuel Coelho-e-Silva

Reviewer's report:

MINOR ESSENTIAL REVISIONS

ABSTRACT:
Please inform the age range of the sample

INTRODUCTION:
The first paragraph was from specific aspect (“The underlying reason for this might be that a correlation may exist between 2D:4D and the amount of prenatal testosterone”) towards a less specific sentence (“Sexual dimorphism appears early in the human fetus [9] and stays stable during childhood and adolescence”).

I would be delighted to suggest the authors the following rationale sequence:

a) the concept of 2D4D, its link with prenatal environment, exposure to testosterone
b) sexual dimorphism and variation of 2D4D within males
c) protocols in the literature: x-ray, DXA, picture and photographs of the hand
d) evidences about the importance of the ratio in the context of sport performance and interest to include the characteristic in talent identification programs
e) research question

METHODS (1)
I believe that information about the distribution was useful, in particular, test for checking normal distribution.

METHODS (2)
Would also be delighted to contact with assumptions of linearity between 2D and 4D. In other words, CV of 2D divided by CV of 4D should be within 95%CI of the correlation between 2D and 4D.

RESULTS (1)
Technical error of measurement should also be reported in absolute values and as a percentage of the mean (CV%)

GRAPHICS (1)
Each should be include information about the correlation between axes (Y: difference between measurements; X: individual means)

DISCUSSION
This section is substantially redundant and is not a real discussion. Try to clearly split the contents in sections results and discussion. My suggestion is also to consider a short review of the literature about the link between 2D4D and endocrine parameters (Jurimae et al, Eur J Appl Physiol), athletes (Journal of Sports Sciences: 2010: rugby players; 2010: athletes from different sports @ Aspire academy; Scand J Med Sci and Sport 2010: fencers). It is important to demonstrate that the topic has real interest

Level of interest: An article of importance in its field

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