Reviewer's report

Title: Participation and performance trends of East-African runners in Swiss marathons and half-marathons between 2000 and 2010

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Reviewer: James Rupert

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The authors survey east African marathon and half marathon participation data in Swiss races for a decade. They present a lot of data on Africans but not on any other group, so there is no way to separate out African participation from international participation in general. There is also a lack of detail on the races, especially with respect to prize/appearance money, which the authors states is the principal reason African runners would compete. The changing numbers could simply be due to increased emphasis on recreational runners and less on elites. There is also no discussion about why there are substantial differences in African participation between the compared races. There is also little discussion of the observation that top Africans are not faster than the top non-Africans – which is contrary to data from other races and to most peoples' expectation. Overall, while the data is of some interest from a running demographics perspective, it may be more about Swiss races (i.e. are they becoming less attractive to African runners?) than African runners (i.e. as a group, they are changing globally over the period?).

The logic in the paper is a bit hard to follow at times and the manuscript could use further editing for English grammar. More details (or perhaps accuracy) are needed. For example the background refers to ‘few trainings’ but later states that 75% of the runners had been running for at least 5 years, which is not consistent (in my opinion) with ‘few trainings’. Another example: the statement ‘peak performances in long-distance running events will be achieved at younger ages’ is likely true at a population level but not at an individual level (runners who start late will peak late). Related to the latter issue: I am very surprised that the average age for the top ‘three non-African women is 46.7 years. This certainly disagrees with the comments on age related loss in performance.

Page 11 Why is “South Africa” not considered ‘specified’. Does this refer to the country (specific) or the geographic region (non-specific)?

Pg 11 What Jokl et al actually states should be clarified (increased participation in general or of Africans? – the latter is implied by the context of the sentence).

What is the purpose of the references in the limitations section? If specific issues raised in the cited papers are limitations, these needs to be explained.

Pg. 12 and elsewhere - the authors speculate that East African running in Europe is driven by available prize (or appearance?) money. If men and women, full and half marathons are to be compared, then differences in monetary incentives need
to be compared as well. Presumably, the amount of prize money offered at the races is in the public record. That should be used rather than educated guess based on GDP in neighbouring countries. Without actual data for prize money (e.g. how much, how many races offer prize money etc) the section on poverty etc (pg. 12) is just speculation. As distance running has become popular, new races may have emerged that don’t offer substantial awards (or old races could be putting more emphasis on recreational runners), which could account for increased overall participation but not by elite Africans – as there are no details about the races in the paper (other than participation numbers, this variable cannot be assessed). The authors’ arguments would be more convincing if they separated out data for races that offered prize money (which would also shift the relative numbers overall if, as I assume, non-Africans are more likely to do small, local, prizeless races in Switzerland than Africans are). The paper could easily be improved by separating out the ‘top’ races (those that attract elite runners) and comparing them to the less elite races. Pooling data from the Zuric Maratoni (38000 runners over the duration) and the Neujahrsmarathon Schlieren (with 700 runners over the same period) seems uninformative without knowing how they compare in incentives. An obvious example: why does the Genève (1/2) Marathon for UNICEF have 15x as many Africans as the Lucerne (1/2) Marathon (relative to total runners). Whatever causes that discrepancy would likely affect the overall patterns of participation.

Year by year participation numbers in specific races would be informative. e.g. is African participation in some races declining but increasing in others? This could be related to time of year (e.g. proximity to other ‘big dollar’ races like New York, Boston (or Olympic marathons) that would likely drain away the most elite African talent).

There is no discussion as to whether changes over the decade in the costs and ease of international travel has changed and whether that would affect the numbers (e.g. are the trends reported seen in international participation in the Swiss races a general or are they specific to Africans?).

The reference for Kenyan runners being banned to the 70s is not too convincing as there were restrictions on women runners at the Olympics into the 1980’s regardless of nationality, so how this issue is specific to east African needs to be established (if the argument is to be used to explain east African participation).

Pg. 13 The statement “There was no difference in finishing times between elite African finishers and elite non-African finishers, neither in marathons nor in half-marathons.” is the most interesting in the paper and contradicts studies and common beliefs. This result should be more carefully analysed and discussed. The data could easily be compared to trends in other major races and why Swiss races differ discussed. (currently, I am concerned that the results in this paper is more about Swiss races than about African runners).

Table 1: Why include Winterthur with 4 runners? Is it different from Winterthur Marathon (>5000 runners)?

There is no discussion about whether the number of marathon runners is increasing because the number of races is going up or if the size of races is
increasing. This could have an effect on prize/appearance money issue.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**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’