Author's response to reviews

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

Authors:

Marco Cribari (cribi@gmx.ch)
Beat Knechtle (beat.knechtle@hispeed.ch)
Christoph A Rüst (christoph.ruest@bluewin.ch)
Thomas Rosemann (Thomas.Rosemann@usz.ch)
Vincent Onywera (vonywera@gmail.com)
Romuald Lepers (Romuald.Lepers@u-bourgogne.fr)

Version: 2 Date: 20 October 2013

Author's response to reviews: see over
Dear Editor

Revision 1 of 191665588919934
Participation and performance trends of East-African runners in Swiss marathons and half-marathons between 2000 and 2010

We thank you for your e-mail from August 6, 2013.

Find below the answers to the questions raised by the reviewers.

All changes are marked in red in the revised manuscript.

We hope the revised manuscript will be suitable for publication in ‘BMC Sports Science, Medicine, and Rehabilitation’.

Yours sincerely,

Beat Knechtle

Enclosure: Manuscript via central website
Reviewer's report

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

Version: 1

Date: 17 June 2013

Reviewer: Hannes Gatterer

Reviewer's report:

Although the manuscript is well written and research questions are clearly defined, the question with respect to the importance of these findings arises. Within their limitation section, authors state that explanatory measures are missing. The reviewer shows highest respect given the extensive work the authors performed so far, which is documented by numerous publications, but also urgently recommends adding explanatory measures to their research.

Answer: We agree with the expert reviewer and we only had the examined data. Therefore no explanatory measures were available (see limitations section in the manuscript).
Major Compulsory Revisions

The authors listed all marathons and half marathons in table 1 (does the list embraces all competitions?). Apparently, in some specific competitions, no African runners took part in, which might need some discussion.

Answer: We agree with the expert reviewer. The aim of the study was first to analyse all marathons and half-marathons during a decade in one country. Then, we analysed participation and performance trends from African (especially East African) athletes in details. We addressed this aspect by inserting the following section in the discussion

‘Regarding the studied running events, Africans mainly competed in larger marathon and half-marathon events (e.g. Greifenseelauf, Lausanne Marathon, Hallwilerseelauf, Genève Marathon for UNICEF and Zürich Marathon). In all other races, five or fewer Africans were competing during this period. We assume for smaller events lower budgets and these events were less prestigious. Interestingly at ‘Lucerne Marathon’, the ‘Maratona Ticino’ and the ‘Winterthur Marathon’, all were among the seven largest running events for half-marathons and marathons, four or fewer Africans were participating between 2000 and 2010. In personal conversation with the race directors from the Lucerne marathon and the Winterthur marathon we learned that there is prize money less than 200 Swiss francs (i.e. about 220 US dollars) and no promotional fee, neither for African nor for Non-African athletes. They further reported a decline of the prize money with years to become less attractive for African elite athletes and become more attractive for regional marathoners and half-marathoners at once. So in common beliefs the opportunity to win the race increased in absence of East African elite athletes. Other personal communications with the race directors of the ‘Greifenseelauf’, the ‘Hallwilerseelauf’, the ‘Zurich Marathon’ and the ‘Lausanne Marathon’ (i.e. races with a high number of African participants) they reported special prize money and promotional fee (especially for board and lodge) for elite African athletes. They specially invited elite athletes in general to make their competition more interesting. Perhaps from the
‘Maratona Ticino’ and the other races no data for prize money were available and beside the ‘Winterthur Marathon’ only from the ‘Lausanne Marathon’ an amount of the prize money was given’.

Marathon and half-marathon performance, beside others, depends on the course profile; could this be related to the no performance differences between African and Non-African runners? What about Alpine marathons?

**Answer:** We agree with the expert reviewer. Performance differences between Africans and Non-Africans might be related to course profiles. However, we analyzed only flat marathons and therefore we were not able to analyze differences in performance in marathons held in high alpine terrain.

Page 3, line 11: Referring to Leyk et al., the authors state that finishing a marathon is possibly “only after a few trainings”. What exactly is meant by “a few trainings”? Do the authors refer to training years or do they really belief everyone can finish a marathon after only 1 or 2 weeks of training? If so, I would severely challenge such a statement!

**Answer:** We agree with the expert reviewer and we refer it to the number of training years before the first participation in marathons and also that older athletes are able to finish a marathon with not more trainings than younger athletes. In the manuscript revision we wrote in “with only a short running history „instead of „little training”. They further reported that not more running kilometres and running frequencies were needed to finish a marathon successfully compared to their younger counterparts.”

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

**Quality of written English:** Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: competing interests: none
Reviewer's report

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

Version: 1

Date: 20 June 2013

Reviewer: James Rupert

Reviewer's report:
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.

Answer: We agree with the expert reviewer. According to the well-known and well analysed dominance of Kenyan, Ethiopian and Eritrean athletes in long-distance running we focused our research only on East African runners.

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.

Answer: We agree with the expert reviewer and in personal communications with race directors of some marathon and half-marathon events there were new data available for prize money and promotional fee. Therefore in the discussion we insert a new argumentation in the
section about stable participations of East African runners: “Regarding the studied running events, African mainly competed at larger marathon and half-marathon events (e. g. Greifenseelauf, Lausanne Marathon, Hallwilerseelauf, Genève Marathon for UNICEF and Zürich Marathon). In all other Races there were five or fewer Africans competing during this period. We assume for smaller events lower budgets and these events were less prestigious. Interestingly at Lucerne Marathon, the Maratona Ticino and the Winterthur Marathon, all were among the seven largest running events for half-marathons and marathons, however, fewer than 4 Africans were participating from 2000 to 2010. In personal conversation with the race directors from the Lucerne marathon and the Winterthur marathon we learned that there is prize money less than 200 Swiss francs (about 220 US dollars) and no promotional fee, neither for African nor for Non-African athletes. They further reported a decline of the prize money with years to become less attractive for African elite athletes and become more attractive for regional marathoners and half-marathoners. So in common beliefs the opportunity to win the race increased in absence of East African elite athletes. Other personal communications with the race directors of the Greifenseelauf, the Hallwilerseelauf, the Zurich marathon and the Lausanne marathon (i.e. races with many African participants) they reported special prize money and promotional fee (i.e. especially for board and lodge) for elite African athletes. They specially invited African athletes to make their competition more interesting. Perhaps from the ‘Maratona Ticino’ and the other races no data for prize money were available and only from the Lausanne Marathon an amount of the prize money was given… Based on this sociocultural background and according to our different findings in participation of East African athletes in Swiss long distance running events and personal conversation with the race directors the question about correlation between prize money and participation raised… In addition the respondent race directors from running events with lots of Africans reported a stable budget for invited East African athletes.”
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.

**Answer:** We agree with the expert reviewer and we explained differences in African participation with different offers of prize money. Further budget for prize money in competitions remain stable over years and therefore East African participation remain stable. Increasing participation in Non-Africans is mainly due to increased participation in recreational runners driven by health promoting behavior.

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.

**Answer:** We agree with the expert reviewer and to date no clearly significant physiological differences between elite African runners and elite Non-African runners could be found. According to this and in contrast to most peoples’ expectation we could explain our results. For further discussion we added in the manuscript revision: “In summary no significant physiological differences between elite African runners and elite Non-African runners have been found yet and this goes in line with our unique results in marathons. Nevertheless regarding the IAAF Top list of marathons and half-marathons and corresponding to common beliefs East African runners had better running performances than Non-African runners [24]. Why do marathon events in Switzerland differ to marathons held in other countries? A plausible explanation might be the thesis that not the top of the top East African athletes were competing in Swiss long-distance running events because they were less prestigious and there was less prize money to win. For example in the Lausanne marathon there were about 2,150 U.S. Dollar (2,000 Swiss francs) for winning the marathon [29]. Comparing to the ‘New York City Marathon’ as the most prestigious marathon event worldwide the winner got about 100’000 U.S. Dollars [36]. To confirm this thesis about “second class” elite East African...
runners in Swiss marathons further studies should analyze East African performance trends in marathons held in larger countries. Especially performance findings of East African athletes from the World Marathon Majors (i.e. a collective of the worlds’ biggest marathon events) should be compared to our data of smaller country with smaller races.”

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?).

**Answer:** We agree with the expert reviewer. The aim of the study was to analyse a specific group (i.e. East Africans) out of a whole population (i.e. all marathoners and half-marathoners competing in Switzerland during this period) in one country over years and how important nationality would be as a determining factor of performance. It would be interesting to see if there are similar trends in larger countries (e.g. USA). Therefore we recommend that future studies should analyse participation and performance trends of African and Non-African runners in all marathon races held in a larger country (see Conclusion).

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’.

**Answer:** We agree with the expert reviewer and we refer it to the number of training years before the first participation in marathons and also that older athletes are able to finish a marathon with not more trainings than younger athletes. In the manuscript revision we wrote in “with only a short running history” instead of “little training”. "They further reported that
not more running kilometres and running frequencies were needed to finishing a marathon successfully comparing to their younger counterparts.”

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).

Answer: We agree with the expert reviewer and to be more accurate we are now talking about fastest running times in general population. So we corrected in the manuscript revision: “By analyzing marathon performance trends in general population, the fastest running times will be achieved at younger ages (<40 years).”

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.

Answer: We agree with the expert reviewer and there were false data in the results from the Sri Chinmoy Half-Marathon in Winterthur. We corrected the data and had different results for age and performance. African athletes were faster than Non-African athletes in half-marathons, but there was not an age difference for both sexes. See new results section (“Comparison of African and Non-African runners’ performance” and “Comparison of African and top Non-African runners age”) and new discussion section (“Elite African marathoners were not faster than elite Non-African marathoners” and “Top African runners were faster than top Non-African runners in half-marathons” and ”Elite African runners were not younger than elite Non-African runners”).

Page 11 Why is “South Africa” not considered ‘specified’. Does this refer to the country (specific) or the geographic region (non-specific)?
**Answer:** We agree with the expert reviewer and this refers to the geographic region. We only wanted to analyze participation and performance trends of East African athletes from Kenya, Eritrea and Ethiopia.

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).

**Answer:** We agree with the expert reviewer. Jokl et al. reported an increased participation in general.

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

**Answer:** We agree with the expert reviewer and we cancel the references in the limitations section.

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 neighboring 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.

**Answer:** We agree with the expert reviewer and regarding new data about prize money (in public record you will only find data from the Lausanne and the Winterthur Marathon and race directors won’t give any values of prize money or promotional fee) we could find differences in the top races which correlates with the number of participation in African athletes (see new discussion section above). In other races no data were available.

Pooling data from the Zurich Marathon (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.

**Answer:** We agree with the expert reviewer. The aim of the study was to analyse participation and performance trends in all marathons and half-marathons held in one country. There would be a selection bias if we analysed individual races. Perhaps data about prize money were only available for a few competitions.

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).
**Answer:** We agree with the expert reviewer and insert new figures with the trends for African runners competing in half-marathons and marathons.

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?).

**Answer:** We agree with the expert reviewer and it might be true that changes in the costs and ease of international travel had an influence of participation trends. We had no data for other foreign athletes competing in Swiss marathons and half-marathons in this period to compare with data from African participation. In the whole collected data we only separated East 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).

**Answer:** We agree with the expert reviewer. The Kenyan history of women runners is representative for disparate findings between men and women participation in running events in general. We adapted the manuscript revision: “During the studied period there were more African men than women competing. The same can be reported for Non-African athletes. Participation differences between men and women are common findings in sports events. In 1988 at the Seoul (KOR) Olympics only 26.1% of all participants were women [30]. Compared to the XXIX Olympic Games in Beijing (CHN) in 2008 women increased their percentage of participants up to 42.4% [30]. So especially in earlier years there were restrictions on female athletes. In Kenya women were banned from international competitions
until the 1970s [27]. Regarding the percentage of female participants at the Olympic Games in Seoul, 5.5% of the Kenyan team were women. They increased also up to 39.1% in Beijing (2008) [31]. Therefore the female running culture has not such a long time history as those of males. The Kenyan men were well established in long distance running since years. But today, a female running culture is growing in Kenya and it is also a great honour for female athletes to represent their country in international competitions [27]. Participation of Kenyan woman increased with a delay of several years compared to Kenyan men. Also in Ethiopia there was a similar development. Comparing Olympic Games in 1980 (Ethiopia took not part of the Olympics in 1988 and 1984) and 2008 Ethiopian women increased their participation from 4.9% to 48.1% [31]. So we could explain the difference between female and male participation trends of Kenyan athletes in marathons and Ethiopian athletes in half-marathons.”

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.

**Answer:** We agree with the expert reviewer and to date no clearly significant physiological differences between elite African runners and elite Non-African runners could be found. According to this and in contrary to most peoples’ expectation we could explain our results. In the manuscript revision we further discussed more critically (see your question above).

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 are more about Swiss races than about African runners).
Answer: We agree with the expert reviewer and the aim of the study was to compare participation and performance trends of East-African athletes in all marathons and half-marathons in one country during a defined time period. So we are able to make assumptions about motivation (like prize money) for East African athletes to compete in Swiss running events by comparing participation in different running events in Switzerland. By analyzing participation trends of East Africans only in major races it would be difficult to make suggestions about motivation because major races are prestigious and they have prize money and promotional fees for world top athletes.

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

Answer: We agree with the expert reviewer. The Winterthur Marathon with 4 Runners was a different running event (fully named Sri Chinmoy Self Transcendence Marathon Winterthur). We adapted Table 1. The aim of the study was to include all marathons and half-marathons during this period. Therefore also smaller running events were analyzed-

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.

Answer: We agree with the expert reviewer and it’s true especially for half-marathons that the number of races is going up and size of races increased in general during the studied period. But they increased only slightly. When we asked the race directors from races with many African participants about prize/appearance money they reported stable budgets for elite athletes.
**Level of interest:** An article of limited interest

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

**Answer:** *We agree with the expert reviewer and the English was improved.*

**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'