Author's response to reviews

Title: "ASUKI Step" pedometer intervention in university staff: rationale and design

Authors:

Barbara E Ainsworth (barbara.ainsworth@asu.edu)
Cheryl Der Ananian (Cheryl.derananian@asu.edu)
Ali Soroush (Ali.Soroush@ki.se)
Jenelle Walker (Jenelle.walker@asu.edu)
Pamela Swan (pswan@asu.edu)
Eric Poortvliet (eric.poortvliet@ki.se)
Agneta Yngve (agneta.yngve@hiao.no)

Version: 3 Date: 17 July 2012

Author's response to reviews: see over
July 17, 2012

Natalie Pafitis
Executive Editor for BMC Public Health

Dear Dr. Pafitis:

We submit our revised manuscript for publication in BMC Public Health titled, “ASUKI Step” Pedometer Intervention in University Staff: Rationale and Design. Our responses to the reviewer’s questions are on pages 2-4 of this cover letter.

As BMC Public Health is a highly respected journal that is read by academic professionals globally, we thank you for the opportunity to submit a revised manuscript for consideration of publication. We noted in our first cover letter that few studies with our goals and design have been published in peer-reviewed journals. We hope our study can be a stimulus for additional worksite physical activity promotion studies in university settings and can contribute to the understanding of the effectiveness, strengths, and challenges of intervention processes involving innovative uses of pedometers, physical fitness measures, and technology to promote and track physical activity in employed adults.

None of the authors have any competing interests, all have contributed substantially to the study, and all have approved of the revisions to this manuscript.

Sincerely,

Barbara E. Ainsworth, Ph.D., MPH, FACSM, FNAK
Professor of Exercise and Wellness and Associate Director for Health Promotion Programs
Immediate Past President, American College of Sports Medicine
To: Editor and reviewer for MS 2897866426597562 – “ASUKI Step pedometer intervention in university staff: rationale and design”

From: Barbara Ainsworth

Re: Explanation of changes made to address comments

Thank you for reviewing our study and making helpful comments. We provide an explanation for how we addressed the comments in the paper.

1. Background, first paragraph “early death” is repeated in the same place.

   **Comment:** Thank you for pointing this out. The repeated words are removed.

2. Please comment on why the 20 week program referenced showed a decrease.

   **Comment:** We have made the following explanation in the paper as shown below.

   [Revised on page 20]. *Adherence. Participation in the study was determined from the participant’s recording of the steps taken each day. Failure to record steps for longer than one week was regarded as dropping out and accounted for the attrition observed during the study.*

3. In the study design, please describe how and when the participants quantify and record the steps on the website.

   **Comment:** We have made the following explanation in the paper as shown below.

   [Revised on page 11]. *At the end of each day, participants were instructed to record their steps on a website developed for the study. In addition to keeping track of all steps recorded, the website provided feedback on steps accrued for each participant and team over time.*

4. In the study design as well, the prize for the participants might bias voluntary participation.

   **Comment:** The grand prize was a strong motivation for participants to join the study and did influence a desire to participate in the study. It is not uncommon for research studies
to offer incentives for participants to participate in a study and have additional incentives to complete a study. Our university institutional review boards approved of the study and did not feel the prizes were a source of bias or coercion.

5. What is the justification for the 1 week for the accelerometers? Is that enough time to capture the variations and the fact that participants may change their behavior when wearing accelerometers? Were there day to day variations from early in the week to later in the week?

Comment: We have made the following explanations below regarding the duration the accelerometers were worn and why we chose to have them wear the accelerometers in the paper as shown below.

Because the purpose of this paper is to describe the methods used in the ASUKI Step study, we are unable to report if there were day-to-day variations in the accelerometer-determine physical activity behavior from early in the week to later in the week.

[revised on page 11]. The purpose of the sub-study was to determine the effects of the intervention on physical fitness and objectively-measured physical activity. Accelerometers were worn for one-week as an objective measure of physical activity that enabled researchers to evaluate the time spent in physical activities by intensity levels.

[revised on page 17]. Based on guidelines for using accelerometers in a field setting, a minimum of three days during the week with 10 h d⁻¹ of wear time was required for data to be included in the analysis [38].

6. In the outcome measures please check text for repeats. 

Comment: We have checked the text for repeats as suggested.

7. Under the physical fitness and objective assessment of physical activity, please clarify how you were able to distinguish between time and intensity from the accelerometers.

Comment: We have made the following explanation in the paper as shown below.

[revised on page 17]. The ActiGraph provides information about the frequency, intensity, and duration of physical activity by utilizing a built-in single axis accelerometer which measures vertical accelerations at the hip. The accelerations are sampled at 30 times/sec, averaged over one minute, and outputted as numerical counts. The movement intensity is derived from the activity counts ranging from 0 to >10,000.
8. Need to reference table 1 in the text.

**Comment:** We have identified Table 1 on page 20 and recommend it be placed in that location in the paper.

9. Should adherence measures include: “wearing accelerometers and pedometers”?

**Comment:** Because ASUKI Step was a pedometer intervention with the outcome measures based on the pedometer values, we based our adherence measures on recording the pedometer step data.

10. In the limitations, add that the questionnaire data was “prior to baseline”, not before the walking intervention.

**Comment:** We have made the following revision as shown below.

[revised on page 21], *The questionnaire data were collected prior to the participants beginning the walking intervention.*