Author's response to reviews

Title: "Not just another walking program": Everyday Activity Supports You (EASY) Model - A pilot study for a parallel randomized controlled trial

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Author's response to reviews: see over
Response to Reviewers – September 13, 2014

Editor's Comments:
The authors should address the comments made by both reviewers.
Thank you very much for reviewing our manuscript and, in particular for the suggestions and comments that strengthen our paper. In this submission we provide a detailed response to the Editor and both Reviewers below and attach a revised manuscript with the changes/additions highlighted in bold. In addition, we made a few grammatical changes and highlight these in bold throughout. Thank you again for considering our manuscript for publication in the Pilot and Feasibility Studies journal.

In addition, there are a few statistical points to be addressed:
1. Line 253 - statement that the sample size would be sufficient to provide a reasonable estimate of effect for EASY is hard to justify in the absence of formal sample size calculation. For a pilot study it would be more appropriate to refer to this as a 'preliminary estimate of effect', but perhaps more importantly enables estimate of variability which would be needed in planning a definitive trial.

RESPONSE AND ACTION: Thank you for this comment. We agree and changed the paragraph to reflect your suggestion.

Pages 16-17, Lines 341-344

Statistical Analysis: We did not conduct a formal sample size calculation for this feasibility study, rather, we aimed to recruit sufficient participants to generate estimates of variability for our outcome measures, and to generate a preliminary estimate of effect for the intervention.

2. Considering the small sample size, and that this wasn't a fully powered RCT, I have some reservations over the interpretation of the statistical analysis of the health outcomes. Accepting that there is not yet consensus over the appropriateness of formal statistical analysis for such trials, with many statisticians preferring to limit analysis to summary statistics, it is important that whenever more formal analyses have been undertaken that there is explicit recognition that estimates of treatment effect obtained are in some sense 'preliminary', in that they may not be replicated in a larger trial, and that the assumptions made in the analysis may not apply when analysing the data from a larger trial. The Discussion section does refer to this in the limitations, but it would be useful to emphasise in the Methods and Results sections too.

RESPONSE AND ACTION: We added the following information to the Methods and Results section of the manuscript.

Page 15, Lines 298-300

Health Outcome Measures: As a secondary aim, we collected health outcome measures at three times during the study to determine feasibility of our assessment protocol, and a preliminary estimate of treatment effect.

Page 19, Lines 396-397

We provide initial estimates of treatment effect for the EASY program, however, these early results may not be replicated in a larger, definitive trial.
Second, the difference in outcomes between groups reported at six months are preliminary evidence that could be used to inform a larger trial, but these results may not be present in a scaled up version of the intervention.

3. The authors refer to "no statistically significant differences at baseline between the two groups" in lines 287 and 290 (Tables 1 and 2). It is not generally considered appropriate to formally test for baseline differences in RCTs and this should be removed. Instead, it is important to draw attention to the differences that exist when looking at the summary data, considering the implications of any difference observed - in this particular case there are some differences in other baseline measures, such as step count, which may not be "statistically significant" but nevertheless might be considered when interpreting the results. (A useful discussion is provided by Senn S: Testing for baseline balance in clinical trials, Statistics in Medicine, 1994, 13, 1715-1726.)

RESPONSE AND ACTION: Thank you for pointing this out and we have removed these statements from the manuscript. We also added the following information to the discussion.

Page 21, Lines 453-456

We note differences in stepcounts between groups at final assessment, but also note that the groups were slightly different at baseline. This should be considered when interpreting the results, and in the design of the future study (e.g., stratify participants by stepcounts above or below a cutpoint).

Pages 21-22, Lines 457-459

An unanticipated finding in this study was a 4 kg weight loss, on average, favoring the intervention group, although we recognized that there were some differences in weight between groups at study commencement that may have had an effect on our results.

4. Table 3 - Is the reported p-value for the adjusted analysis of MVPA correct?

RESPONSE: Thank you for the opportunity to clarify this result. Yes, the adjusted analysis is correct, however, the p-values were obtained from regression analyses that use the log-transformed MVPA values, whereas the intervals were estimated using nonparametric bootstrapping. We chose a conservative approach and report the results for the MVPA as not significant even though there was an almost 20 minute difference between the study groups with a p-value that is not too far from the 0.05 level and intervals that do not include zero.
Reviewer's report:
The authors present a well-written manuscript that appears to provide a promising intervention to increase physical activity in older women. I believe there are some major compulsory revisions that must be attempted before the manuscript can be considered for publication.

1. In relation to whether the research question posed by the authors is new, I would suggest that the authors consider restructuring their introductory section (P5, l72 onwards) to provide a stronger rationale for focusing on the target population of middle-aged to older women and the need for further intervention attempts in this area.

1a. Currently the authors provide one reference demonstrating lower rates of sedentary behavior in women, but as the authors will know sedentary behavior and physical activity are considered separate constructs and the intervention being tested here would appear to target both constructs. Hence, a clearer justification for focusing on women, in particular elderly women, is needed.

1b. The authors then state that studies are needed to evaluate the potential for inactive middle-aged women to become physically active as a means to socialize and enhance health. Yet, the authors themselves provide a reference (number 16 Hobbs et al) that demonstrates (from a systematic review of 21 trials) that significant PA behaviour change can be achieved at 12-months in older adults. Therefore it would appear that the potential has already been evaluated and demonstrated. The authors therefore need to build on these findings and show the need for further research including a justification for the particular intervention approach they are piloting here.

RESPONSE AND ACTION: Thank you very much for reviewing our manuscript and offering suggestions that strengthen our paper. We included more information to highlight the novelty of our intervention throughout the manuscript. We also added information providing justification for the focus on middle age and older women.

Page 6, Lines 101-111
In Canada, about half of women aged 45-64 years engage in leisure-time physical activity, lower than the levels of men for the same age range [12]. Further, among women aged 60–69 years, 65% had a waist circumference considered high risk and a third of these women were obese [13]. When their physical activity was measured objectively (using accelerometry) they had only 12 minutes/day of moderate to vigorous physical activity (MVPA), and spent 10 hours of the waking day sitting [13]. Fewer than 5% of these women received ‘excellent’ or ‘very good’ for their fitness test. Given the physical inactivity, sedentary behavior, obesity, and the challenge of maintaining healthy behaviors, it is of little surprise that compared with men, women are at an elevated risk for developing some chronic diseases, and live with more disability in later life [14-16].

Page 7, Lines 115-122
In their systematic review, Hobbs and colleagues [19], highlight successful models for physical activity, yet, they concluded that these results do not extend beyond one year. Further, they do not discuss response to these interventions separately for men and women. Ross and colleagues
demonstrated a significant reduction in body size for middle-aged Canadian men and women who adopted a physician-initiated behavioral change intervention. However, results in women were not sustained at one-year follow-up [20]. Further, in a Diabetes Prevention Program study, men were more likely to meet physical activity goals compared with women [21].

2. In relation to whether the research question posed by the authors is well-defined, I feel that the authors in this section (and throughout the manuscript) should be extremely clear in how they describe the purpose of their intervention; is it to reduce sitting time, increase physical activity, both or reduce sitting time via increased physical activity. At times I do not feel this is clear. For example, P5 l83 suggests a need for promoting sustainable PA models, then P6 l97 states that the EASY model has a focus on reducing sitting time and increasing utilitarian PA but in the secondary objectives (P6 l100) only examining effects on physical activity is mentioned.

**RESPONSE AND ACTION:** Thank you for this observation, and we clarified throughout the manuscript that our goal was to reduce sitting time to encourage more physical activity. We highlight our additions to the manuscript below.

**Page 8, Lines 151-159**
more activity, by first reducing sitting time and then, incrementally increasing physical activity. The success of simple strategies (such as beginning by sitting less) has the potential to support self-efficacy (mastery) [33, 34], and provides a foundation to gradually add more daily physical activity: a “sit less to move more” approach. The novelty of this approach is that it acknowledges the physiological distinction of sedentary behavior (too much sitting) [7] and physical inactivity [35], but seeks to utilize behavior change techniques (BCT), such as graded tasks (small incremental changes in daily routine) [36], for long term habit formation. Thus, we hypothesised that the process of increasing physical activity begins with sitting less.

**Page 9, Lines 161-163**
The EASY model aims to extend previous work, and specifically targets sitting time reduction, to initially increase physical activity; to our knowledge this approach has not been studied for women at retirement age.

**Page 11, Lines 226-227**
*Intervention Group: The EASY model is focused on reducing sitting time to encourage more physical activity.*

**Page 20, Lines 413-414**
To our knowledge, the EASY model is the first intervention in this age group to specifically target reduced sitting time as a catalyst for engaging in more physical activity.

3. **Perhaps my most major concern with this manuscript is I am not sure that the primary outcome is best reflected in the rest of the manuscript. Further I am not sure that the authors are actually in a position to address the primary outcome measure with the data provided in the manuscript. Therefore, I would like to see the authors provide some more details on the recruitment phase of the study given that they state (P6, l99) that the primary objective was to assess recruitment and retention. For example, the authors states (P6, l110) that the setting has a population of approx. 2.3M residents but under the recruitment section (P7, l125 onwards) that posters were placed in the local neighborhood library and community center. There is obviously information lacking here about a**
specific neighborhood/community that was used as the focal point for recruitment efforts. Therefore, we need to know why was this community selected, what was the estimated target population within this community etc. This information is essential for the authors to reach accurate conclusions about how effective their recruitment strategy was. I do not feel that the primary aim of the study (i.e. to assess recruitment) is reflected in the main analysis of the manuscript. As an example, Foster et al. 2011 produced a review of recruitment in walking studies (International Journal of Behavioral Nutrition and Physical Activity 2011, 8:137 doi:10.1186/1479-5868-8-137) which I think may be useful for the authors to consider. They used 4 unique stages covering the eligible pool, the invites, the initial responses and the number of starters and calculated rates for each of these stages. They also considered examining weekly recruitment rates. Therefore, I do not agree with the authors viewpoint that recruitment can simply be considered successful if between 8-15 people per group were recruited (P10, l205). If the aim of the study is to determine recruitment rates and if a larger study is feasible, then surely this should be used to gauge success of the recruitment strategies as per in Foster et al (2011)? For example, recruiting 15 individuals from a potential sample of 30 people gives a 50% recruitment rate, yet recruiting 15 individuals from 315,000 people (13.5% of the population 65+years of the 2.3M Vancouver residents) gives a recruitment rate that would indicate a study is certainly not feasible. I would challenge the authors’ conclusion that they have demonstrated feasibility to recruit, as we know little about recruitment rates. Achieving a small absolute target of 8-15 individuals does not mean that a sufficient sample size would be achieved if a full RCT was conducted.

RESPONSE AND ACTION:
Thank you for this observation and we add further clarification to our objectives and findings throughout the manuscript. In addition, although we agree about reporting the results similar to the paper by Foster and colleagues, we did not use a specific sampling frame in this feasibility study and are unable to report as such. We have added more discussion on this throughout our revised manuscript.

Page 9, Lines 163-166
Our primary objective for this phase was to test study feasibility by measuring participant recruitment and retention rates. Second, we sought information on participants’ satisfaction with the program. Finally, we aimed to determine the timing and resource requirements for program delivery and outcome assessments.

Page 10, Lines 190-192
We worked with a local community centre, within Vancouver, and originally targeted our recruitment strategies to that neighborhood. However, the local newspaper was accessible to residents from all regions of Vancouver.

Page 14, Lines 286-296
The main objective of this pilot study was to determine recruitment and retention rates. Second, we sought information on participants’ satisfaction with the program. Finally, we aimed to determine appropriateness of program delivery, resources required and the specific components of the outcomes assessment to evaluate the EASY model in a larger trial. We defined success for recruitment for this feasibility study as enrolling up to 15 but no less than eight participants/group within the short timeframe (3 weeks); this permitted running two parallel arms of the study. We acknowledge that enrolling 15 participants/group would not constitute successful recruitment in a larger trial. However, these targets aim to provide us an estimate of interest in our program. We defined success for participant retention as 80% of study participants.
Completing the final assessment. We also asked participants to rate their satisfaction with the program (score out of a possible 10 points).

Page 21, Lines 435-438

Another viable option for next phase is to work with larger organizations to deliver the EASY model as a workplace intervention as part of a retirement package initiative, and in this way, it would be possible to utilize a known sampling frame to address wider generalizability of our findings.

Page 18, Lines 367-375

We included more information on feasibility (reasons for exclusion into the study).

Eighty two participants responded to newspaper ads, 56 participants were eligible following telephone screen by a trained research assistant and 26 participants agreed to take part in the study. Of the study participants who were not eligible to enroll in the study, the three reasons given were: already engaging in an exercise program (N=19); <55 years old (N=5); and >70 years old (N=2). Of 56 eligible participants, 30 declined to enroll. Work demands were cited as the main reason for being unavailable to attend sessions. One participant, who was referred back to her family physician following screening, due to an existing health condition did not receive physician approval to take part in the study. See Figure 1 for the CONSORT 2010 flow diagram.

4. **Whilst I am certainly not adverse to exploratory research to investigate the effects of intervention components, I do feel that the authors could provide justification for the intervention approach adopted rather than simply describing what did occur given that much as been published about how best to promote physical activity. For example, was the content based on previous interventions and adapted for this population, was this a brand new approach and if so how was it developed, were are the theoretical links between the content and theoretical framework/constructs and specific behavior change techniques that are being piloted here? The authors should also provide an explanatory note as to why a nutrition related topic was included during the activation stage of a PA intervention (P8, l189).**

**RESPONSE AND ACTION:** As per Item 2 above, we now clarify the novelty of our intervention (using sitting reduction to increase physical activity). We further expand on the constructs that underpin EASY, which is predominately based on the social ecological model and Bandura’s social cognitive theory.

Page 9, Lines 172-183

The social ecological model [32], identifies the impact of multiple levels of societal influence that span individual to policy and their influence on health outcomes, health promotion, and behavior change. In this study, we aimed to develop a program that addressed the intersection of macroscale and microscale “levels” that alone and together influence the health of individuals and populations, with particular regard to person, people (social environment), and places (community/built environment). The values of participatory action research [37], especially components that relate to social learning, collective problem solving, capacity-building, and empowerment (self-efficacy), very nicely complement elements of the social ecological model. We included in the EASY model a participatory focus that generated participant collaboration and reflexivity known to optimize the accessibility, uptake, effectiveness and, in future, scale up of effective, sustainable programs to the wider community [38].
We also provide Figure 3 that uses the Behaviour Change Technique Taxonomy to describe our intervention.

**Page 12, Lines 235-237**

Figure 2 and Supplemental Table 1 provide a summary of the BCTs utilized in the EASY model. Supplemental Figures 1 and 2 are examples of handouts used and generated during the group-based sessions.

In addition, we provided general topics to study participants as part of the Lunch and Learn sessions. Our purpose was to provide an overview on relevant topics. We specifically chose a tour of a grocery store to encourage community participation, and the purpose was not to describe an ideal food plan, rather, to re-introduce participants to walking to local destinations and healthy living. We added the following statement to clarify our purpose.

**Page 13-14, Lines 267-273**

(2) **Activation:** For this phase, one monthly class was offered to the intervention group. The education topics included: (1) how to take public transportation; (2) the importance of exercise; (3) bone health and falls prevention; (4) a **dietician-guided tour** of a grocery store; (5) gearing up for physical activity: tips, tricks, and safety; and (6) the final session on how to sustain activity patterns. **Our aim for the grocery store tour was two-fold: to provide an opportunity for community-engagement to encourage physical activity to local destinations and provide a general overview of a grocery store layout (with an emphasis on nutrition-rich food).**

**5. I would challenge the authors that this is the first intervention in this age group to specifically target a reduction in sedentary behavior. For example, I refer to this conference paper from Gardner et al, 2012 (an actual author on this EASY manuscript) that would suggest there would appear to be 1 study that targets sedentary behavior exclusively with a further 2 targeting sedentary behavior and PA. http://espace.library.uq.edu.au/view/UQ:285511. This relates to my earlier comments about a lack of information in the introductory section and the justification for this particular study and intervention approach.**

**RESPONSE AND ACTION:** Thank you for the opportunity to provide more information on the EASY framework. As per Item 2 above, we clarified our intervention strategy (sit less to move more). In addition, we made the following addition to the manuscript. Please note that the review paper cited above, is an abstract, and although is very helpful, it was not published as a full text. Instead, we provide a summary of findings from a recent review in this area by Prince and colleagues.

**Pages 7-8, Lines 135-147**

Despite elevated attention paid to (and risk for) increased sitting time in middle-aged and older adults, there are relatively few sedentary behavior interventions that specifically target this age group. Gardiner and colleagues tested feasibility of a brief goal-setting strategy to reduce sitting time in adults 60 years+ [26], and noted a 3.2% reduction in sitting over two weeks. Fitzsimons and colleagues also tested the feasibility of a brief individualized intervention that resulted in a 24 minutes/day reduction in sitting [27]. Prince and colleagues [28], in their systematic review of interventions (with a physical activity and/or sedentary behavior focus) to reduce sitting time in adults, noted that only two physical activity studies that targeted older adults had a positive effect on sedentary behavior [29, 30]. Further, of the sedentary behavior studies and/or sedentary behavior + physical activity studies, only one study specifically focused on older adults [31]. They used a quasi-experimental 8-week multi-prong intervention and achieved a significant reduction in sitting time [31].
The EASY model aims to extend previous work, and specifically targets reduced sitting time to initially increase physical activity; to our knowledge this approach has not been studied in women at retirement age.

To our knowledge, the EASY model is the first intervention in this age group to specifically target a reduction in sitting time as a catalyst for engaging in more physically activity.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:** I declare that I have no competing interests
Reviewer's report
Title: "Not just another walking program": Everyday Activity Supports You (EASY) Model - A pilot study for a parallel randomized controlled trial
Version: 1 Date: 14 July 2014
Reviewer: Lucas LC Carr

Reviewer's report:
This is a good pilot study that tests the feasibility of a physical activity promotion program targeted to older females. Overall, the paper is well written and the methods and statistics are sound. However, it is unclear how/if this study adds to the literature. The authors did not clearly indicate the novelty of this study nor did they connect the findings to past studies. Other issues are listed below.

Major Compulsory Revisions
1. It is unclear whether recruitment and retention should be the primary or secondary outcomes of this pilot study. This is certainly not an original question. It is unclear what the primary conclusion of this study might be if the primary aim is related to the retention and recruitment success.
RESPONSE AND ACTION: Thank you for the detailed review of our manuscript. We made several substantial changes to the paper to clarify the novelty of the study, the features of the behaviour change techniques that underpin the intervention and expanded on the feasibility characteristics evaluated in the pilot study.
Novelty of the study:
To reduce sitting time as a means to encourage more physical activity. We highlight our additions to the manuscript below.
Page 8, Lines 151-159
more activity, by first reducing sitting time and then, incrementally increasing physical activity. The success of simple strategies (such as beginning by sitting less) has the potential to support self-efficacy (mastery) [33, 34], and provides a foundation to gradually add more daily physical activity: a “sit less to move more” approach. The novelty of this approach is that it acknowledges the physiological distinction of sedentary behavior (too much sitting) [7] and physical inactivity [35], but seeks to utilize behavior change techniques (BCT), such as graded tasks (small incremental changes in daily routine) [36], for long term habit formation. Thus, we hypothesised that the process of increasing physical activity begins with sitting less.

Page 9, Lines 161-163
The EASY model aims to extend previous work, and specifically targets sitting time reduction, to initially increase physical activity; to our knowledge this approach has not been studied for women at retirement age.

Page 11, Lines 226-227
Intervention Group: The EASY model is focused on reducing sitting time to encourage more physical activity.

Page 20, Lines 413-414
To our knowledge, the EASY model is the first intervention in this age group to specifically target reduced sitting time as a catalyst for engaging in more physical activity.
Features of the behaviour change techniques that underpin the intervention

Figure 2 uses the Behaviour Change Technique Taxonomy to describe our intervention.

Page 12, Lines 235-237
Figure 2 and Supplemental Table 1 provide a summary of the BCTs utilized in the EASY model. Supplemental Figures 1 and 2 are examples of handouts used and generated during the group-based sessions.

Feasibility characteristics evaluated in the pilot study

Page 14, Lines 286-296
The main objective of this pilot study was to determine recruitment and retention rates. Second, we sought information on participants’ satisfaction with the program. Finally, we aimed to determine appropriateness of program delivery, resources required and the specific components of the outcomes assessment to evaluate the EASY model in a larger trial. We defined success for recruitment for this feasibility study as enrolling up to 15 but no less than eight participants/group within the short timeframe (3 weeks); this permitted running two parallel arms of the study. We acknowledge that enrolling 15 participants/group would not constitute successful recruitment in a larger trial. However, these targets aim to provide us an estimate of interest in our program. We defined success for participant retention as 80% of study participants completing the final assessment. We also asked participants to rate their satisfaction with the program (score out of a possible 10 points).

We now include information on participants’ satisfaction with the program.

Page 9, Lines 163-166
Our primary objective for this phase was to test study feasibility by measuring participant recruitment and retention rates. Second, we sought information on participants’ satisfaction with the program. Finally, we aimed to determine the timing and resource requirements for program delivery and outcome assessments.

Page 14, Lines 295-296
We also asked participants to rate their satisfaction with the program (score out of a possible 10 points).

Page 17, Lines 348-349
we also report participants’ program satisfaction as mean (standard deviation).

Page 19, Lines 392-394
Overall, at six months participants in the intervention group rated their satisfaction with the program as [mean (SD)] 9 (1) points; it was 9 (1) points for control group participants.

Page 20, Lines 414-420
We demonstrated interest in our study and recruited sufficient participants to pilot the intervention, delivered the EASY intervention as planned including testing outcome measurements, participants had a high level of satisfaction with the program, and we retained 92% of intervention group participants at six months. However, we note that for a larger trial, we will need to provide more time for recruitment and/or different strategies to optimize our potential to meet recruitment goals.
Study participants had a high level of engagement with their attendance, and both groups rated their satisfaction with the program as 9/10.

Participants were highly engaged in, and satisfied with, the EASY program.

2. Line 305 – It is not made clear that this was the purpose of the study. If this is the defining characteristic of this study, it must be made more clear in the purpose statement.

RESPONSE AND ACTION: Thank you, and as per Reviewer 1’s comments we now clarified throughout the manuscript that our goal was to reduce sitting time to encourage more physical activity.

more activity, by first reducing sitting time and then, incrementally increasing physical activity. The success of simple strategies (such as beginning by sitting less) has the potential to support self-efficacy (mastery) [33, 34], and provides a foundation to gradually add more daily physical activity: a “sit less to move more” approach. The novelty of this approach is that it acknowledges the physiological distinction of sedentary behavior (too much sitting) [7] and physical inactivity [35], but seeks to utilize behavior change techniques (BCT), such as graded tasks (small incremental changes in daily routine) [36], for long term habit formation. Thus, we hypothesised that the process of increasing physical activity begins with sitting less.

The EASY model aims to extend previous work, and specifically targets sitting time reduction, to initially increase physical activity; to our knowledge this approach has not been studied for women at retirement age.

The EASY model is focused on reducing sitting time to encourage more physical activity.

To our knowledge, the EASY model is the first intervention in this age group to specifically target reduced sitting time as a catalyst for engaging in more physical activity.

3. The authors do not relate the findings of this study to any previous studies which makes it difficult for the readers to determine how this study adds to the literature.

RESPONSE AND ACTION: Thank you for your comment. As outlined above, we have made substantial changes to the introduction and discussion including additional literature to support the study rationale and put the findings into context of the current available literature.

Despite elevated attention paid to (and risk for) increased sitting time in middle-aged and older adults, there are relatively few sedentary behavior interventions that specifically target this age group. Gardiner and colleagues tested feasibility of a brief goal-setting strategy to reduce sitting time in adults 60 years+ [26], and noted a 3.2% reduction in sitting over two weeks. Fitzsimons and colleagues also tested the feasibility of a brief individualized intervention that resulted in a 24 minutes/day reduction in sitting [27]. Prince and colleagues [28], in their systematic review of interventions (with a physical activity and/or sedentary behavior focus) to reduce sitting time in
adults, noted that only two physical activity studies that targeted older adults had a positive effect on sedentary behavior [29, 30]. Further, of the sedentary behavior studies and/or sedentary behavior + physical activity studies, only one study specifically focused on older adults [31]. They used a quasi-experimental 8-week multi-prong intervention and achieved a significant reduction in sitting time [31].

Page 22, Lines 465-471
Another possible explanation is that reductions in sitting time with increases in physical activity were “gateway behaviors” for changes in diet [60]. While Fleig and colleagues [61] noted that positive changes in physical activity occurred in parallel to nutritional changes, there are other interventions which did not note this synergy [62, 63]. Exploration of factors that contributed to change in body composition associated with our model would be an important focus for future studies.

Page 23, Lines 481-487
Olander and colleagues [65] observed that effective BCTs for increasing self-efficacy in activity trials included action planning, time management, self-management of behavior and social influences- components of which are contained within EASY. However, we observed a difference for the unadjusted measure of behavior intentions only but did not note a between group difference for self-efficacy measures. The area of determining which BCT was effective will be the focus of future studies that will be designed based on the findings herein.

4. There is a concern that not all references cited support the statements made.
RESPONSE AND ACTION: We reviewed all references cited and relevance of/support for statements made.

Minor Essential Revisions
5. Line 56 - The authors do not mention outcomes of physical activity, weight or blood pressure as outcomes of interest in the Methods section of the Abstract. These should be listed as they are presented in the Results/Discussion sections.
RESPONSE AND ACTION: We now include this information in the methods section of the abstract.

Page 4, Line 73-76
We also collected information on activity patterns (ActiGraph GT3X+ accelerometers) and health related outcomes such as body composition (height and weight using standard techniques), blood pressure (automatic blood pressure monitor) and psychosocial variables (questionnaires).

6. Line 73 – This reads as more opinion than fact. Please revise. Also, need to spell out WHO first time mentioned then abbreviate.
RESPONSE AND ACTION: We revised the sentence and wrote out the World Health Organization.

Page 6, Lines 93-95
The World Health Organization ranked physical inactivity as the world’s fourth most important risk factor for mortality [1], in part, because we engineered activity out of our everyday lives [2].

7. Line 80 – This statement reads as more opinion than fact. Also, not sure reference 12 is the correct reference here.
RESPONSE: We removed the sentence.
8. Line 86- this does not appear to be the correct reference
RESPONSE AND ACTION: We changed the format of the sentence to better reflect our intention and the content of the reference.

Page 7, Lines 125-132
We hypothesize that simple strategies, such as including more activities of daily living (e.g., household tasks, gardening) and/or daily public transit use [23] encourage movement with the downstream benefits of more physical activity, such as increased fitness, enhanced social engagement and quality of life [24]. These more routine ways to create positive physical activity habits [22] may, in the long run be easier to maintain in daily life. We further hypothesized that an intervention based on everyday activities, delivered in a group setting may be positive for women at retirement.

9. Line 90- indicate which behavior change theory
RESPONSE AND ACTION: We made substantial changes to our manuscript and highlight the theories that guided the model development and the behaviour change techniques included within.

Page 8, Line 149-154
The Everyday Activity Supports You (EASY) model, grounded in the social-ecological model [32] and guided by the social cognitive theory [33], aims to encourage sustainable adoption of more activity, by first reducing sitting time and then, incrementally increasing physical activity. The success of simple strategies (such as beginning by sitting less) has the potential to support self-efficacy (mastery) [33, 34], and provides a foundation to gradually add more daily physical activity: a “sit less to move more” approach.

10. Line 111- It is unclear why Figure 1 is included. The authors do not discuss the figure at all in the Results or Discussion sections.
RESPONSE: We removed the figure.

11. Line 151 – It is unclear what is meant by ‘Activity 4-1-1’. If there is a reference, please provide. Otherwise, the authors should more clearly describe what this abbreviation means.
RESPONSE AND ACTION: This was the name that we provided for this segment of the model. We explain this in manuscript and in Supplemental Table 1.

Page 11, Line 228
individualized physical activity prescription (which we named Activity 4-1-1);

12. Line 162 – it is unclear what is meant by an ‘interactive education component’. Please clarify.
RESPONSE AND ACTION: We changed the word to participatory and provide significantly more information on the model within the manuscript and supplemental information.

Page 12, Line 241
session was a participatory component

Page 12, Lines 247-248
(Please see Supplemental Figures 1 and 2, and Supplemental Table 1).

13. Line 302- The authors do not report on any of the behavioral survey data in the Results section. This should be included even if just to say there were no between group differences for these
outcomes. This should also be addressed in the Discussion if this data is to be included in the manuscript.

RESPONSE AND ACTION: We now include the following statements:

Page 19, Lines 408-410

There were no significant differences between groups for any other variables except unadjusted behavioral intentions, where there was a 0.82 [0.07, 1.56] difference favouring EASY.

Page 23, Lines 484-487

However, we observed a difference for the unadjusted measure of behavior intentions only but did not note a between group difference for self-efficacy measures. The area of determining which BCT was effective will be the focus of future studies that will be designed based on the findings herein.

14. Line 310- it is not clear whether the study actually instilled confidence and knowledge about physical activity.

RESPONSE: Thank you for your comment. We changed the sentence but are happy to reconsider our response if we have misunderstood the reviewer’s request.

Page 23, Lines 422-424

The program was designed to instill confidence and knowledge about key elements of a sustainable physical activity program and to support people to make their own choices regarding an active lifestyle.

15. Line 325 – The authors need to clarify how ‘engagement’ was measured.

RESPONSE AND ACTION: We clarified the sentence.

Page 20, Lines 440-441

Study participants had a high level of engagement as demonstrated by their attendance. In addition, both groups rated their satisfaction with the program as 9/10.

16. Discretionary Revisions: None

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.

Declaration of competing interests: I declare that I have no competing interests.