Author’s response to reviews

Title: Development of a conceptual framework for a group-based format of the Lifestyle integrated Functional Exercise (gLiFE) programme and its initial feasibility testing

Authors:
Franziska Kramer (kramer@nar.uni-heidelberg.de)
Sarah Labudek (labudek@nar.uni-heidelberg.de)
Carl-Philipp Jansen (jansen@nar.uni-heidelberg.de)
Corinna Nerz (corinna.nerz@rbk.de)
Lena Fleig (lena.fleig@medicalschool-berlin.de)
Lindy Clemson (lindy.clemson@sydney.edu.au)
Clemens Becker (clemens.becker@rbk.de)
Michael Schwenk (schwenk@nar.uni-heidelberg.de)

Version: 1 Date: 18 Oct 2019

Author’s response to reviews:

Editor comments:

Thank you for submitting this manuscript to Pilot and Feasibility. It is well written, and authors have described the study in detail. Our reviewers have gone through the manuscript and have given following feedback. Please address the comments below, before resubmitting the manuscript. I have provided some comments on the abstracts.

RESPONSE: Dear Vichithranie Madurasinghe,

First of all, we would like to take this opportunity to express our sincere thanks to the reviewers who identified areas of our manuscript that needed corrections or modification. We would like also thank you for your comments and to allowing us to resubmit a revised copy of our manuscript. Below, the reviewers will find our point-by-point replies. All changes are marked in blue colour in-text.

Text under the heading 'Conceptual framework' and 'Results: Conceptual framework development' are repetitions. Please move the 'Conceptual framework development' to methods section, and remove the text under the heading 'Conceptual framework'.
RESPONSE: Thank you for this comment. We deleted the repetition and moved the text into the methods section (line 32-33).

Reviewer reports:

Reviewer #1:

1. This paper is presented in a form that is suitable for publication in a journal catering for pilot and feasibility studies. The results are presented in great detail and there is a thorough discussion. Could the authors consider reducing the text? This would encourage readers not to skip any parts. A task well done.

RESPONSE: Thank you for this positive comment. We revised and shortened the manuscript through language editing and removing redundancies. However, the other reviewer asked for more specific information and background about the behaviour change paragraphs. After including this information, our manuscript has still the same length as before, unfortunately.

Specific Points:

2. Abstract: The abstract should start by saying that LIFE and gLIFE are falls prevention programmes. It only becomes clear that gLIFE is to do with falls in the penultimate sentence (Line 48).

RESPONSE: Thank you for this important comment. We clarified the type of intervention by adding a short description that LiFE is a fall prevention programme (line 24-25).

3. Line 84: What is a young senior? Include actual ages.

RESPONSE: We included the age range (59-71 years) of Fleig et al.’s study participants (line 88).

4. Table 1: What is BCT?

RESPONSE: We inserted an explanation at the end of Table 1, “BCT = Behaviour Change Techniques are the smallest identifiable parts of behaviour change interventions, mapped by (Michie et al., 2011).” (line 148-149).

5. Lines 269-272 These notes appear on Page 12. The text to which they refer are on Pages 9-10. Should they be moved?
RESPONSE: We have double checked this to make sure that the notes which refer to Table 2 appear below the table (page 12). This may have been a layout issue.


RESPONSE: We revised the passage in the text as followed: “…from a list of former participants of studies conducted at the Network Aging Research in the field of aging and physical activity. To avoid interferences with our study, we chose participants whose former study participations were at least more than 6 months ago”. One same note, we are discussing that our selected sample may have been biased due to their interest in research participation (see limitation, line 314-316).

7. Line 325: "Was assessed using two data items". Table 3 lists 5 questions. Explain please. Table 3 appears to be a result. The numbers need explanation. What does a high or a low score mean?

RESPONSE: We clarified the number of items for each construct in brackets and inserted the response formats below Table 3 (line 372-375). The meaning of high or low scores is now explained in the notes below Table 3.


RESPONSE: Done (line 391).


RESPONSE: Done (line 393).

10. Line 601: Should be currently being carried out.

RESPONSE: Done (line 645).

11. Consort check list: Should be line number rather than page number.

RESPONSE: This has been double checked. We now reported page numbers rather than line numbers as defined by the CONSORT guidelines.
This is a strong paper explaining the refinement of a 1:1 falls prevention programme to a group setting with the aim of increasing implementability and reducing costs. Whilst the intervention is well presented there are a number of elements which I feel should be addressed pre-publication

12. A key issue is the use of theory. The intervention does appear to be informed by theory and there seems to be coherence to the theory used. However, this may not be transparent to the non theorist reader. I would recommend greater description of the theories used i.e. Habit Formation Theory, the HAPA, Self-determination theory and the BCT taxonomy (which isn't actually a theory but a method to translate theory into techniques to change behavior. How these models are used, how they were integrated and how they were translated into practice (via BCTs?) would be helpful.

RESPONSE: Thank you for your comment. We revised the part on behaviour change theory and extended the description of the theories. As requested by the reviewer, we now explain how these models are used and integrated into practice (methods part I, line 214-221, Appendix A). We also linked the BCTs to the used theories in Appendix A (line 916-918).

13. Similarly there is much talk of didactics but with poor referencing or explanation of what the authors mean by this. I am unsure if there is a language issue as traditionally didactics is thought of as rather a traditional lecture based form of teaching in contrast to a more facilitatory, participant centered approach. gLiFE feels as though it would fall more in the later however it is described here as the prior?? Is it that the authors drew of pedagogy or adult learning theories? Some explanation would be helpful.

RESPONSE: Thank you for your very important comment. Indeed, there are different terminologies for explaining the way of teaching (how and what gLiFE should teach). We agree that the choice of our language may have been misleading. After consulting an expert in educational psychology, we have decided to use the term “instruction” as an overarching term which might be easier to understand for readers. We also changed “teaching” into “methods” (see Figure 1, page 7).

14. In both the introduction and background I felt more relation of how this study fits with current literature in the field would be helpful. I am aware there are numerous studies and systematic reviews in this field and it would be helpful to refer to them more to contextualise the work.

RESPONSE: We have now included further relevant literature in the field of fall prevention (line 65), lifestyle-integrated training (line 70), and adherence rates to physical training in older adults (line 67) into the introduction and background in order to contextualise the work, as requested by the reviewer.

Phase 1
15. It is not clear if any methodology (e.g. Stirman 2019 FRAME or see Levati review 2016) was followed for intervention refinement. Even if no specific methodology was used here it would be helpful to make reference to this emerging field within the discussion.

RESPONSE: Thank you for this note. We did not use the methodologies mentioned by the reviewer, but the intervention development based on the MRC guidelines which we stressed out in the text through placing the information on the beginning of the paragraph of intervention development (line 130-132). Based on the reviewer comment, we are now referencing and discussing the intervention development in the context of other methodological approaches such as FRAME in the discussion (line 499-501).

16. I am unclear on reading this section what the principles of gLiFE are - could these be added to either table 1 or Figure 1

RESPONSE: We included the LiFE principles in the notes below Figure 1 (line 158-162).

17. Again can you label the theories on group learning you used.

RESPONSE: Based on the comment, we have now labelled the different aspects of group learning with the corresponding reference in order to increase clarity and included a short description of the theory we used: “The teaching concept was informed by the Social Learning Theory [27] which proposes role models and reinforcement as core elements of the group learning setting. Through group activities and discussions, gLiFE fosters group cohesion [26] in order to keep participants engaged and motivate them to practice LiFE.” (line 139-143).

18. What was the methodology for coding BCTs - was this done by more than one person. It appears to me that there are some additional BCTs e.g. credible source, feedback on behavior, monitoring of behavior that may need to be considered and added if appropriate.

RESPONSE: We have added the requested information to the manuscript. The inclusion of BCTs was based on ratings and discussions by two of the authors (SL, LF) (line 222-223). We now coded the BCTs 2.2. “Feedback on behavior” (line 265) and 9.1. “Credible source” (line 266) as additional BCTs for gLiFE (see Appendix A, line 916-918). We now also included the BCT 2.3. “self-monitoring of the behavior” which had only been addressed in-text without direct linking to the BCT (line 288). Please note that participants engage in this BCT at home (participants ticking the box in their activity planner if they have practiced their LiFE activities) and not during gLiFE sessions.

Phase 2

19. Pg 13 Quantitative feasibility measures (are you really measuring adherence or behavior?
RESPONSE: This is an interesting and important question. We defined adherence based on previous LiFE studies (Schwenk 2019, how many LiFE activities are implemented into participants’ daily life). We agree that this is also a measure of behaviour, which is now also discussed in the paper (line 588-590; 593) Moreover, we now included also session attendance as another measure of adherence (methods, line 340-342; results, line 415-416; discussion, line 578).

20. Didactics - note comment above.

RESPONSE: see response on comment 13.

21. Table 3 - the authors are to be commended on including measures of theoretical mediators through which they propose the intervention to act. If the theory were explained more initially (possibly through a logic diagram) then it would be easier for the non expert reader to see how these translate to the programme theory.

RESPONSE: Thank you. We have extended the explanation of the behaviour change theory which guided the intervention development as requested in comment 12. It goes beyond the scope of this paper to explain the theory in more detail. We have now included a new reference for interested readers which includes a logic model for habit formation (Gardner & Lally, 2018, line 194-195).

22. It does not appear that fidelity of delivery or other forms of fidelity were assessed? If this was not done it would still be appropriate to highlight the implications of this and importance within the discussion.

RESPONSE: We unfortunately did not include any fidelity measures although we agree that it is an important issue regarding large-scale implementation. We are now discussing fidelity as an important aspect for future studies and reference other studies addressing fidelity in the context of LiFE (Gibbs et al., 2015, 2019) (line 646-650).