Author’s response to reviews

Title: A systematic review of instruments for the analysis of national-level physical activity and sedentary behaviour policies

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Author’s response to reviews:

Editor’s comment: The CAPPA framework underpinning the review has not been published to date. As this is an important foundation of the work, we would like this to be accepted for publication so that readers can access this, prior to HARPS considering publication (based on your responses to the reviewer comments below). Can you please update us on the status of this publication?

Authors’ response: The CAPPA framework was published on 2nd August 2019 in International Journal of Behavioural Nutrition and Physical Activity.

Reviewer #1

Reviewer’s comment: General comment: The manuscript is well structured and written, easy to understand. It also shows strong method of the review.

Authors’ response: We are very grateful to the reviewer for the positive comments and for the useful suggestions that helped us further improve our article. Our point-to-point responses to the suggestions are provided below.

Reviewer’s comment: The review is based on the framework (CAPPA) which is developed by the author team but published in another journal. It seems that this piece of the whole study is to test the developed framework rather than theoretical framework itself as stated. So, more explanation on the CAPPA and its background, how it was developed would help the paper to be more rational (Line no.41-48, page 6). In addition, "theoretical framework" stated in Line no. 50-51, page 15 should be revised.

Authors’ response: Thank you for your comment! As suggested, we revised the wording and replaced the word “theoretical” with “conceptual”. In the meanwhile, the article describing the development process of the CAPPA framework has been published in International Journal of Behavioral Nutrition and Physical Activity.

Reviewer’s comment: Please elaborate the reasons of use/ non-use the standardized search term of each database. For example, why not use the MeSH of PubMed/MEDLINE which is the standard practice of searching.

Authors’ response: We are grateful for this comment. In fact, when selecting the keywords, we used Medical Subject Headings (MeSH) list as a guide. Our keywords “sedentary*” (for “sedentary behavior”, “sedentary behaviour”, and sedentarism) and policy are MeSH headings, while our keywords “physical activity” and sitting are MeSH entry terms. All these terms are commonly used in systematic reviews in physical activity and sedentary behaviour research. MeSH list does not include “physical inactivity”, but we used it because it is a standard search term in this area. While MeSH headings may work well in some cases in PubMed/MEDLINE searches, relying on these terms would not necessarily be an adequate search strategy in other bibliographic databases. That is the reason why, for example, Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and Cochrane guidelines for constructing search syntaxes, do not recommend strictly relying on MeSH terms.
Reviewer’s comment: What is the difference among each type of policy, especially, formal written v written standards v formal procedures; formal unwritten v informal policy? (Line no.33 to 36-37, page 6)

Authors’ response: Thank you for the comment. We now referred readers to our manuscript The development of the Comprehensive Analysis of Policy on Physical Activity framework includes, where they can find definitions of these types of policies.

Reviewer’s comment: While the study included only 24 documents, reference number 20,23-35, 36-45 and 46, why reference number 47 and 48 are often mentioned in the Results (i.e. from Line number 21-22 of the second paragraph of page 7 and onward. So, how many documents included in the study, 24 or 26?

Authors’ response: We are very grateful for this comment! We modified the Results section accordingly explaining that 26 documents are included in the study.

Reviewer’s comment: The paper should indicate the period (published date) of the papers included in the study.

Authors’ response: Thank you for this suggestion! In the Results section, we now added the following sentence indicating the period of papers included in the study:

“All included publications were issued from 2003 to 2017.”

Reviewer’s comment: Please describe the screening process in the method (as shown in Figure 1).

Authors’ response: We are grateful for this suggestion. We now added the following sentence describing the screening process as shown in Figure 1:

“We conducted a three-stage screening process that included: (i) automatic and manual exclusion of duplicates; (ii) manual screening of titles and abstracts; and (iii) assessment of eligibility based on full texts.”

Reviewer’s comment: Please reorder publications shown in the Additional file 2 to be in line with the reference number, stated in Line no.3 to 6-7, page 7).

Authors’ response: This has been addressed according to the suggestion and the publications in the Additional file 2 are reordered.
Reviewer #2

Reviewer’s comment: The manuscripts provides a systematic review of instruments for the analysis of policy related to physical activity (PA) and sedentary behavior (SB). Providing guidance on the robustness of instruments to analyze comprehensiveness of policies provides important guidance to researchers, decision and policy makers. The paper provides an excellent and comprehensive analysis of various aspects of the instruments for policy analysis of PA and SB.

Authors’ response: We are very grateful to the reviewer for the positive comments and for the useful suggestions that helped us further improve our article. Our point-to-point responses to the suggestions are provided below.

Reviewer’s comment: However, the paper falls short of providing some specific (rather than general) guidance to stakeholders.

Authors’ response: Thank you for the comment! As the reviewer suggested, we now reorganized the discussion section to be more focused on specific guidance to stakeholders. We also added a new section entitled: Recommendations for the use of instruments for PA/SB policy analysis

Reviewer’s comment: Also, the challenge of this paper is that the analysis is conducted using a framework that has not yet been published, making it difficult to thoroughly understand and evaluate exactly what is being assessed.

Authors’ response: The CAPPA framework was published on 2nd August 2019 in International Journal of Behavioural Nutrition and Physical Activity.

Reviewer’s comment: The background begins with a summary of the health burden of insufficient physical activity (PA) and sedentary behavior (SB). Three paragraphs are devoted to this. There is no need for such expansion on this fact. It is generally known and the focus on this paper is on policy analysis so more expansion is needed on policies and policy analysis instruments. A few lines (2-3) of focus on PA and SB and their burden is plenty.

Authors’ response: Thank you for your suggestion! This part of the background section is now shorter as we deleted two paragraphs.

Reviewer’s comment: Since this journal is a general journal on health policy and systems, and not one that is specific to PA and SB, a broader description of the policies that are relevant to PA and SB might be needed (not expansive, just examples).

Authors’ response: Thank you for this suggestion! To address it, we added a new paragraph that reads as follows:

“Typical examples of standalone PA policies are national PA action plans (e.g. Get Ireland Active! The National Physical Activity Plan for Ireland [11]) and national PA strategies (e.g. Everybody active, every day - An evidence-based approach to physical activity by Public Health England [12]). PA and SB policies are also often included in national obesity prevention strategies (e.g. Mexican National Strategy for the Prevention and Control of Overweight, Obesity and Diabetes [13]), NCD prevention strategies (e.g. National Multisectoral Strategic Plan for Prevention and Control of Non-Communicable Diseases in Namibia 2017/18-2021/22 [14]), and public health strategies (e.g. Healthy throughout life – the targets and strategies for public health policy of the Government of Denmark, 2002–2010 [15]).”

Reviewer’s comment: Policy assessment/analysis can definitely guide potential modifications needed to any policy. However, the authors also argue that policy modification is needed because implementation is generally poor. I am not sure I follow this part of the argument. Many policies are in fact quite strong and do not need modification but they need to be implemented as developed. This is more about political will often, or politics, than revision/modification of policy. This type of analysis is different from what the authors currently are aiming for in this paper. The issue of implementation of policies perhaps should be moved to the discussion, where the authors can state that analysis of policies is just one step in the process of assessing its potential impact, implementation being critical to the latter.

Authors’ response: Thank you for this comment. We agree with your suggestion and we deleted that argument. The reworded paragraph now reads as follows:
“However, with policy implementation generally being poor, countries are urged to take bold initiatives to address this issue [16]. PA and SB policy analysis can help tackle these challenges through: raising awareness of the current opportunities and gaps; promoting important cross-sectoral and cross-level debates [17]; providing a platform to improve public policy-making related to PA/SB; contributing to meeting various health objectives [18]; and assisting policy-makers in making better informed decisions [19].”

Reviewer’s comment: The aim of this paper is to assess instruments used for policy analysis of PA and SB policies. However, the background does not review the general literature/scholarship on instruments to analyze policies for any health-related issue. Are the authors suggesting that we need a policy analysis instrument for every issue? This would seem unreasonable and overly cumbersome for researchers and policy/decision makers.

o What general instruments for policy analysis are available?

o What do they cover?

o Why are they not useful for PA and SB policy analysis? And if they are not, can they be adapted with the addition of 1-2 questions rather than having specific instruments for policy analysis of PA and SB policies?

Authors’ response: Thank you for your suggestion! We added the following paragraph:

Policy analysis, defined as “any form of policy-relevant research” [20], encompasses the use of various instruments, tools, and techniques that enable studying established policies, their development, and consequences [21]. It is a valuable practice for continuous improvement of policies, and it has been developing for almost seventy years [22, 23]. Health policy analysis has a central role in fostering successful health promotion reforms [24]. There is no consensus on how to perform a policy analysis and which method is best [25]. A plethora of instruments, tools, and techniques are available for policy analysis in general [23, 26-29], health policy analysis [21, 24, 30], and specific areas within health policy, such as chronic illness [31] or obesity policies [32]. Given that contexts and research questions relevant for policy analysis in different areas may greatly differ, not all policy analysis instruments are universally applicable. Several instruments have, therefore, been developed specifically for the analysis of PA and SB policies [33, 34].

Given the number of available general instruments for policy analysis, a more detailed assessment would require conducting an additional systematic literature review, which would be beyond the scope of the current study.
Reviewer’s comment: The authors end this section with a statement of the aim of the paper followed by the purpose of the paper. This is confusing. The aim is clear. I would recommend removing the section on the purpose. How the analysis of the various instruments can be used by researchers and policy makers can be stated towards the end of the discussion. Here it is confusing.

Authors’ response: According to your suggestion the sentence “The purpose of which will be to provide a comprehensive “menu” of instruments for academics, public officials, health policy practitioners and specialists, and policy makers interested in analysing and monitoring PA/SB policies” has been removed from the manuscript.

Reviewer’s comment: The authors conducted a systematic review according to published guidelines for such reviews.

Authors’ response: Thank you for your positive assessment of the review methods.

Reviewer’s comment: The biggest concern is that the authors used an unpublished (yet) instrument - CAPPA - for their analysis of the PA and SB policies. Although this may be an ideal tool for the analysis they want to conduct, the fact that the reader does not have access to its details makes the whole process a bit opaque and unclear.

Authors’ response: This concern is now resolved as in the meanwhile the CAPPA framework has been published.

Reviewer’s comment: Can the authors justify why they used this unpublished tool rather than another? I realize that this justification may be in the paper describing the tool, but in the absence of access to that paper, readers remain confused. It may be best to delay this paper until the other is published?

Authors’ response: The only framework for PA policy analysis was developed in 2006, at a time when the field of PA policy research was in its early stages. PA policy research has since grown, and our understanding of what elements need to be included in a comprehensive analysis of PA policy is now more refined. The CAPPA framework was developed in absence of more adequate framework. As suggested by the reviewer, we delayed the revision of this paper until the CAPPA paper was published.
Reviewer’s comment: And if the authors are arguing (based on the query in the background section) that one needs a separate analysis tool for policy related to difference behavior/health outcomes, then how do they use (or why is it then OK to use) the CAPPA for SB?

Authors’ response: Detailed reasons why the CAPPA framework is applicable to SB policy research are presented in the article on the development of the CAPPA framework. In addition to referring readers to that article, according to the reviewer’s suggestion, we added the following explanation in the current manuscript:

“PA and SB are co-dependent behaviours [36] and the contexts of PA and SB policies are very similar [35]. Owing to these facts, PA and SB policies are very often studied within a single study. A recent review found only one study that analysed SB policies independently of PA policies [25]. It was, therefore, suggested that the CAPPA framework can be used to guide research on SB policies”.

Reviewer’s comment: In the absence of access to the paper where CAPPA is described, the authors should include a table that defines clearly all the terms and elements and sub elements within it to allow readers to be able to clearly understand the tool.

Authors’ response: The article about CAPPA framework is now available.

Reviewer’s comment: Related to scope of analysis, do they instruments of policy analysis actually include an assessment of the availability of specific policies (as per WHO recommendations for example)… not clear if the part on scope/availability only assessed whether the instrument generally assessed availability of a general policy or specific policies.

Authors’ response: According to this suggestion, the definition of availability that is, “analysis of whether a specific PA/SB policy exists or not” was added.

Reviewer’s comment: The authors state that there was duplicate review at all stages of the systemic review process. Can they describe the process that followed for disagreements between reviewers?

Authors’ response: According to the reviewer’s suggestion, we added the description of the process that followed disagreements between reviewers. It reads as follows:

“Discrepancies between the study selections were resolved in a discussion with the third author (ZP). If the perfect agreement between the three authors had not been reached in the discussion, the final decision was made based on a majority vote”.
Reviewer’s comment: Can the authors provide a general description of which of the eligibility criteria resulted in removal of most articles at the stage of title/abstract review and at the stage of full text review?

Authors’ response: According to the reviewer’s suggestion, we added a new paragraph that reads as follows:

“Most publications excluded based on the title/abstract were: (i) not related to PA/SB (e.g. publications focused on climate change, war, history, racial differences, sedentarism/nomadism, tobacco/smoking, HIV/AIDS, food etc.); (ii) epidemiological studies related to various health issues; and (iii) PA/SB studies that were not about policies. Most publications excluded based on their full text were: (i) focused on PA/SB policies but did not describe and/or use any instrument for policy analysis; (ii) described and/or used an instrument for policy analysis that focused on international, subnational, local, or institutional PA/SB policies; or (iii) described and/or used an instrument for the analysis of health, sport, obesity, NCD, or chronic disease-related policies only, without specific reference to PA/SB policies.”

Reviewer’s comment: The authors state that one of the criteria they will extract is whether the policy instrument was based on a theoretical framework, but this is not part of CAPPA? Is this correct? If so, why is it not and why did the authors choose to include this?

Authors’ response: Thank you for your suggestion! Based on your suggestion we decided not to include this part of extracted data and all related text. This is not a part of CAPP framework and was not essential for the current manuscript.

Reviewer’s comment: The authors describe the various aspects of the instrument very comprehensively. This is extremely helpful to an understanding of the landscape of policy assessment/analysis instruments.

Authors’ response: We are very grateful to the reviewer for these positive comments!

Reviewer's comment: Table 1: the first column should include the actual title of the policy analysis instrument then only include the reference number (no need for authors there).

Authors’ response: Thank you for your suggestion! Table 1 is modified accordingly.
Reviewer’s comment: Figure 1 should be referred to at end of methods section not at end of results section.

Authors’ response: Thank you for this suggestion! Figure 1 is now referred to at the end of methods section.

Reviewer’s comment: Generally the discussion section is long, a bit repetitive of results, and not very prescriptive.

Authors’ response: Thank you for the very useful comments that helped us considerably improve the organization and structure of the discussion section. We significantly reduced the length of the discussion and added a new prescriptive section entitled Recommendations for the use of instruments for PA/SB policy analysis. Deleted paragraphs are indicated in the comments of the revised version of the manuscript.

Reviewer’s comment: Back to the focus on theoretical framework for development of instruments to assess/analyze policy. Do authors mean theoretical frameworks, or conceptual frameworks? And it would be useful to the reader if they provide an example of how such a theoretical framework might be useful in the development of an instrument to analyze policies; and what research question might be driven from that type of instrument rather than one not based on a theoretical framework?

Authors’ response: According to this reviewer’s suggestion we completely removed this from the study.

Reviewer’s comment: The definitions of auditing versus assessment/evaluation should go into the methods section.

Authors’ response: Thank you for this suggestion! As requested, we removed the definitions of auditing and assessment from the discussion section and suggested in the methods section that all definitions are available in the article about the development of the CAPPA framework.
Reviewer’s comment: Within the various discussion sections, the authors do tackle the pros and cons of a comprehensive instrument. These pros and cons should take up a separate section in the discussion, as this is what will drive the development of new instruments, or the tweaking of current instruments. Considering the various 'users' of such an instrument for policy analysis (decision/policy makers, researchers, etc), what are the pros and cons of a comprehensive instrument versus one that is less comprehensive? And after your review of all these instruments, and based on the above, which would you recommend and why? I realize that you have include a section on whether standardization is a good idea or not, but this question is different. Currently, if I am a decision maker or a researchers, I am not left with much direction at the end of this systematic review. If I want to conduct an assessment now, how should I proceed? Based on your expertise in PA/SB AND your systematic review of the available instruments, how can you guide me?

Authors’ response: We are very grateful for this suggestion! Based on this suggestion we added a separate section entitled Recommendations for the use of instruments for PA/SB policy analysis users. The new section reads as follows:

“Recommendations for instruments’ users

We suggest to future users of the instruments, such as policy analysts, policymakers, and other stakeholders, to first use the CAPPA framework as a “road map” to determine a more specific “route” to answer their research question [35]. This can help to inform decisions on which particular instrument best meets their needs. All instruments assessed in this review have advantages and disadvantages.

If a comprehensive PA policy analysis needs to be done, HEPA-PAT would be the most suitable instrument. Using such a comprehensive instrument has advantages in that it can: (i) provide a deeper understanding of the current state of national PA/SB policies; (ii) lead to a more detailed insight on what needs to be changed in order to improve policy development and/or implementation. On the other hand, using a comprehensive instrument usually means longer data collection which may slow down the process of policy analysis. Also, once the analysis is finally completed it may already be outdated. According to some experts who are currently using HEPA PAT, if undertaken by a single researcher, the process can take up to more than a year. Therefore, we believe this instrument is especially suitable for an official governmental audit of national PA/SB policy, where a team of people is available to work on collecting and analysing the data.
While the HEPA PAT does have one assessment-type question, it is more suitable for an audit than for assessment. Therefore, for assessment purposes, we recommend using the Analysis of Determinants of Policy Impact (ADEPT) Model [43, 44]. This instrument is especially suitable for researchers who wish to conduct interviews with policy-makers. However, the instrument does not mention SB policies, and it relies on a broad definition of policy, which may not be suitable for some researchers who want to use a narrower definition.

It may not always be practical to conduct a comprehensive analysis of PA policy. In such cases, a less comprehensive instrument may need to be considered; albeit on account of gathering less detailed information about PA/SB policy. If time or capacity is limited we recommend using the GoPA! Policy Inventory [34]. It contains only ten questions and is based on: (i) HEPA PAT – version 2 [33]; and (ii) the Questionnaire on the monitoring framework for the implementation of policies to promote health-enhancing physical activity in the EU and WHO European Region 2015 [48].

Some of the instruments are not structured as questionnaires. An example are the eight policy principles for the promotion of healthy diets and physical activity developed by the WHO [52]. If needed for the purpose of data collection, such sets of principles can be easily transformed into questionnaire items. We provided sample questions derived from the WHO’s set of principles in Additional file 3. It should be noted, however, that these sample questions, have not been developed by the authors of the original instrument and their measurement properties have not been assessed. These sample questions have been developed exclusively for the purpose of this review, to help readers understand how a set of criteria can be transformed into a format suitable for data collection. Depending on their study design, researchers may prefer to develop different questions and use different types of response scales. In any case, it would be important to conduct a study of measurement properties of such newly developed questions before starting the data collection.

All these recommendations are an informed opinion of the present authors and should not be taken as an exclusive suggestion to use one instrument over another. The final decision should be left to users to independently assess all instruments and decide which of them is the most suitable for their needs. Table 1 and Additional file 2 can help facilitate this process.”
Reviewer’s comment: You suggest the possible need to develop complementary instruments, but do not give guidance on what aspects are most important to be collecting.

Authors’ response: Thank you for this suggestion! In the discussion section, we mentioned the following:

- “…none of the instruments address unwritten formal statements, informal policies, and the termination and succession stages of the policy cycle. Thus, designing new instruments or adapting existing ones is needed to allow for a more thorough analysis of national PA and SB policies.”

- “However, a detailed analysis of processes can be performed with very few instruments. For example, little attention has been given to actions and interrelationships between various actors and to formal processes during the development and implementation of policy. Besides, none of the instruments ask about the power relationship in different processes”

- “In order to thoroughly understand PA/SB policies it would be beneficial if they were first audited and then assessed. Therefore, having matching items for both these purposes in a single instrument would allow for an easier and more straightforward analysis and interpretation of results. This potentially useful feature has not been found in any of the included measurement tools”

- “However, broader, country-specific context such as religious, social or other values relevant for PA promotion, dominant ideology, and the nature of political systems, was addressed by very few instruments.”

- “However, we found only a few instruments that include items about the effects of PA policy”.

Reviewer’s comment: In general, the discussion is more descriptive than analytical and would benefit from taking a step back and providing birds eye view guidance to those not wanting to do the thorough systematic review you did, but wanting to benefit in real time and with next steps from the expertise you gained from conducting the review.

Authors’ response: After incorporating the reviewer’s suggestions and after making significant changes in the discussion section, this is now greatly improved. Thank you!