

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	DE-PASS Best Evidence Statement (BEST) – Modifiable determinants of physical activity and sedentary behaviour in children and adolescents aged 5-19 years: A protocol for systematic review and meta-analysis
<b>AUTHORS</b>	Khudair, Mohammed; Marcuzzi, Anna; Ng, Kwok; Tempest, Gavin; Bartoš, František; Peric, Ratko; Maier, Maximilian; Beccia, Flavia; Boccia, S; Brandes, Mirko; Cardon, Greet; Carlin, Angela; Castagna, Carolina; Chaabene, Helmi; Chalkley, Anna; Ciaccioni, Simone; Cieślińska-Świder, Joanna; Čingienė, Vilma; Cortis, Cristina; Corvino, Chiara; de Geus, Eco; Di Baldassarre, Angela; Di Credico, Andrea; Drid, Patrik; Fernández Tarazaga, Rosa M <sup>a</sup> ; Gallè, Francesca; García Sánchez, Esther; Gebremariam, Mekdes; Ghinassi, Barbara; Goudas, Marios; Hayes, Grainne; Honorio, Samuel; Izzicupo, Pascal; Jahre, Henriette; Jelsma, Judith; Juric, Petra; Kolovelonis, Athanasios; Kongsvold, Atle; Kouidi, Evangelia; Mansergh, Fiona; Masanovic, Bojan; Mekonnen, Teferi; Mork, Paul Jarle; Murphy, Marie; O’Hara, Kelly; Torun, Ayse Ozbil; Palumbo, Federico; Popovic, Stevo; Prieske, Olaf; Puharic, Zrinka; Ribeiro, José Carlos; Rumbold, Penny; Sandu, Petru; Sorić, Maroje; Stavnsbo, Mette; Sympas, Ioannis; van der Ploeg, Hidde; Van Hoye, Aurélie; Vilela, Sofia; Woods, Catherine; Wunsch, Kathrin; Caprinica, Laura; MacDonncha, Ciaran; Ling, Fiona

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Hongyan Guan Capital Institute of Pediatrics, Department of Integrated Early Childhood Development
<b>REVIEW RETURNED</b>	29-Dec-2021
<b>GENERAL COMMENTS</b>	<p>1.As we know, WHO has published The Global action plan on physical activity 2018–2030 which covered the whole age group and meanwhile, the Technical package for increasing physical activity was also released in 2018.Recently Promoting physical activity through schools: A toolkit which covered 5-18 year old children and youth was published in 2021 in which “Section 2: Evidence-based interventions to promote physical activity through school” included both PA interventions that address all six domains and PA policy. . As the above information and reference was not included in your manuscript, could you please introduce what is the gap still existed in these documents and explain the necessity of your Meta-analysis study in the part of Introduction?</p> <p>2.In table 1, suggest to add “movement behavior” in physical activity, “stationary” in Sedentary behavior, “risk factor” in Determinants and “questionnaire” in Measurement methods.</p> <p>3.The planned date of this study is not mentioned, suggest to add by the end of the manuscript.</p>

	4. Still some minor issue on writing, such as the words like "(RCT)s", "RCT", "RCTs" in the manuscript need to be unified.
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<b>REVIEWER</b>	James Paton University of Glasgow, School of Medicine
<b>REVIEW RETURNED</b>	13-Feb-2022

<b>GENERAL COMMENTS</b>	<p>This submission is of a protocol for a series of systematic literature reviews and meta-analyses that plans to investigate the potential modifiable determinants of physical activity behaviour (PAB) and sedentary behaviour (SB) on children and adolescents (5-19years) and to quantify their effect on/association with PAB and SAB. The large number of authors come from a variety of European centres.</p> <p>As the authors outline, understanding the determinate of PAB/SB in children and addressing these in implementations is likely to be important in addressing the current low levels of PAB in children.</p> <p>The authors outline that the available systematic literature reviews have yielded inconclusive findings. The work highlighted in the reference also largely looks across the whole life course rather than focusing particularly on children. The authors set out how they plan to address at least some of these limitations in their planned review. In my view, they have addressed most of the issues e.g. objective vs self-report, particular settings that are likely to be important. The methods are described in detail and comprehensively.</p> <p>However, any such review relies on already published research which may not have investigated all factors that might be relevant.</p> <p>Minor points</p> <p>1. Population</p> <p>Line 282 "Children with and without disabilities will be included.."</p> <p>Line 284 "Studies that include children and/or adolescents with any reported diagnosed medical conditions known to to affect PA participation will be excluded. "</p> <p>Comment: How would otherwise healthy children with say motor defects such as hemiplegia due to birth injury or infection be dealt with?</p> <p>2. Article screening</p> <p>P6 line 341 "The initial screening will be performed by one member of the review team"</p> <p>Line 356 "At each stage of the screening process, each study will be screened by two blinded independent reviewers."</p> <p>Comment: These statements appear logically inconsistent can the authors explain why they are not using 2 blinded independent reviews?</p> <p>3. Statistical analysis</p> <p>It would have been helpful if the authors had set out in more detail the analytical problem that the use of the Bayesian approach is</p>
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## VERSION 1 – AUTHOR RESPONSE

### Reviewer: 1

Dr. Hongyan Guan, Capital Institute of Pediatrics

Comments to the Author:

1.As we know, WHO has published The Global action plan on physical activity 2018–2030 which covered the whole age group and meanwhile, the Technical package for increasing physical activity was also released in 2018.Recently Promoting physical activity through schools: A toolkit which covered 5-18 year old children and youth was published in 2021 in which “Section 2: Evidence-based interventions to promote physical activity through school” included both PA interventions that address all six domains and PA policy. . As the above information and reference was not included in your manuscript, could you please introduce what is the gap still existed in these documents and explain the necessity of your Meta-analysis study in the part of Introduction?

### Response:

Thank you for raising this point. In fact, the target for 2030 set by WHO is complementary and a driver behind the DE-PASS initiative to summarize the existing interventions which promote PA to act as a basis for a best-evidence statement.

P4, L71-73: The reference has been added to the introduction to clarify this.

P4, L65-75: Further edits have been made in the first paragraph of the introduction to clarify the context of our initiative and to accommodate this addition.

2.In table 1, suggest to add “movement behavior” in physical activity, “stationary” in Sedentary behavior, “risk factor” in Determinants and “questionnaire” in Measurement methods.

### Response:

Thank you for the suggestions. We have completed the search, submitted the protocol to PROSPERO (ref: CRD42021282874) and moved on to the following stages of the review process. Therefore, it is difficult to make any additions to the search terms. We did however consider the terms suggested while piloting the search strategy and found that they either yielded no additional study records or would yield a large amount of additional study records that are more relevant in other fields and less relevant in our review. The suggested terms were therefore removed from our search strategy after extensive consultation within the review team.

3.The planned date of this study is not mentioned, suggest to add by the end of the manuscript.

### Response:

P14, L386-388: A short summary of the timeline of the current review process has been added to the end of the manuscript.

4.Still some minor issue on writing, such as the words like “(RCT)s”, “RCT”, “RCTs” in the manuscript need to be unified.

### Response:

Thanks for picking this up. We have checked the manuscript for consistency and used the terms 'RCT' and 'CT' when referring to single studies and 'RCTs' and 'CTs' when referring to multiple studies.

**Reviewer: 2**

Dr. James Paton, University of Glasgow

Comments to the Author:

This submission is of a protocol for a series of systematic literature reviews and meta-analyses that plans to investigate the potential modifiable determinants of physical activity behaviour (PAB) and sedentary behaviour (SB) on children and adolescents (5-19years) and to quantify their effect on/association with PAB and SAB. The large number of authors come from a variety of European centres.

As the authors outline, understanding the determinate of PAB/SB in children and addressing these in implementations is likely to be important in addressing the current low levels of PAB in children.

The authors outline that the available systematic literature reviews have yielded inconclusive findings. The work highlighted in the reference also largely looks across the whole life course rather than focusing particularly on children. The authors set out how they plan to address at least some of these limitations in their planned review. In my view, they have addressed most of the issues e.g. objective vs self-report, particular settings that are likely to be important. The methods are described in detail and comprehensively.

However, any such review relies on already published research which may not have investigated all factors that might be relevant.

Minor points

1. Population

Line 282

"Children with and without disabilities will be included.."

Line 284

"Studies that include children and/or adolescents with any reported diagnosed medical conditions known to to affect PA participation will be excluded. "

Comment: How would otherwise healthy children with say motor defects such as hemiplegia due to birth injury or infection be dealt with?

**Response:**

An important point, thank you. We differentiate between disabilities and diagnosed medical conditions based on the focus of the intervention and the setting in which the intervention/recruitment of participants took place. In your example, a study including children with hemiplegia would be considered a disability study, unless it was performed to treat hemiplegia or performed in a clinical setting concerned with treating hemiplegia.

P6-7, L160-170: An elaboration has been made on this section to clarify the difference.

2. Article screening

P6 line 341

"The initial screening will be performed by one member of the review team"

Line 356

"At each stage of the screening process, each study will be screened by two blinded independent reviewers."

Comment: These statements appear logically inconsistent can the authors explain why they are not using 2 blinded independent reviews?

**Response:**

Thank you for raising this question. The initial screening is performed to filter the list from wrong document types, such as grey literature, and duplicates before the screening is initiated by the independent reviewers. During title-and-abstract and full-text screening, the independent reviewers will review the studies for eligibility.

P9, L225-231 and P9, L242: The formulation of these two sections has been amended to clarify that these are different stages of the process.

3. Statistical analysis

It would have been helpful if the authors had set out in more detail the analytical problem that the use of the Bayesian approach is being used to address.

**Response:**

Thank you, a very good point.

P12, L337-342: A brief elaboration has been added to the section on Bayesian data synthesis.

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	James Paton University of Glasgow, School of Medicine
<b>REVIEW RETURNED</b>	20-May-2022

<b>GENERAL COMMENTS</b>	I think the authors have covered the points I raised.  I identified one minor point that I think requires clarification.  Minor Point P6, line 188 "...narrative approach will be adopted" ?in all cases or where appropriate - suggest authors clarify
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