

## 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>	Associations between contextual and compositional characteristics of early childcare facilities with health, health behaviours and wellbeing among young children aged zero to six years: protocol for a scoping review
<b>AUTHORS</b>	Hilger-Kolb, Jennifer; Schneider, Sven; Herr, Raphael; Osenbruegge, Nina; Hoffmann, Stephanie; Herke, Max; Pischke, Claudia; Sundmacher, Leonie; Diehl, Katharina

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Dr Kathryn Hesketh UCL Great Ormond Street Institute of Child Health
<b>REVIEW RETURNED</b>	12-Mar-2020

<b>GENERAL COMMENTS</b>	<p>This paper presents a protocol for a systematic scoping review assessing the ‘Associations between contextual and compositional characteristics of kindergartens with health and health behaviour among pre-schoolers: protocol for a scoping review of qualitative and quantitative studies’. This is a potentially interesting review topic, for which there no prior synthesis has been conducted. Although the authors provide a generally adequate amount of information, there are a number of areas that require clarification and further information in order to be allow readers to determine what exactly it is they plan to do. Please find my comments below.</p> <ul style="list-style-type: none"> <li>- By Kindergartens, do you mean any early childcare centre? I think this needs to be defined and your term ‘Kindergarten’ broadened early on in the paper, as it currently reads as though you only mean kindergartens which are a pretty niche group, and don't exist in some areas of the world.</li> </ul> <p>Abstract:</p> <ul style="list-style-type: none"> <li>- I don't think it is true that little is known about how kindergartens impact health – after all you are planning to summarise this literature. I therefore think it would be better to state that it has not been summarized (vs there being no information – because if that is the case this review isn't required and a primary study would be better).</li> <li>- Ln 54: don't need as a second step – this is implicit in the ‘After the completion’.</li> <li>- Inter-rater agreement in what? Number of studies? Surely it is better to just make sure the studies agree rather than calculating number you agree on?</li> <li>- You don't state anything about the outcomes or designs to be included, just that they will be varied – please include this important information.</li> </ul>
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	<p>Strengths and limitations</p> <ul style="list-style-type: none"> <li>- Be specific with the ages of children you are interested in – 0-5 years? 2-6 years?</li> <li>- They aren't 'a meso-level', they are at the meso level.</li> <li>- Include examples of outcomes; if you need space drop the 4th or 5th bullet.</li> </ul> <p>Introduction</p> <ul style="list-style-type: none"> <li>- Formatting of some references: commas missing between references e.g. 4 5</li> <li>- What do you mean by different fields of research?</li> <li>- I just don't agree that there isn't research about the preschool environment and health/ behaviours (and you go on to reference it); again if this was the case, there is no place or need for this review!! Compositional factors may be less well established, but contextual information is definitely available. Please revise the wording to temper this sentiment.</li> <li>- Ln 106: Please reference the specific studies relating to physical inactivity (is this TV viewing? Not necessarily the same as inactivity) and health outcomes separately to make the distinction between health and health behaviours here.</li> <li>Ln 119: systematic reviews also do this, as evidenced by the range in study quality assessments often seen.</li> <li>Ln 120: restatement of what you have said in previous sentences, remove or rephrase.</li> <li>- Again, you need to define what you mean by kindergartens and your target population (e.g. age of children).</li> </ul> <p>Methods</p> <ul style="list-style-type: none"> <li>- Presume outcomes are measured at the child level? This needs to be far more detailed in terms of the types of things you are going to include – Table includes things like objective health? How is that defined? What does it mean?</li> <li>- Your decision to exclude developing/ transition countries is an interesting one, and not necessarily intuitive given this is a scoping review and you are trying to determine where the evidence gaps are... Is it not interesting to know how different environments may (be perceived) to influence health and well-being in different parts of the world? And I think that some middle income countries where more work has been conducted, may provide valuable evidence - and are possibly more likely to have qualitative studies conducted here.</li> <li>Ln 141: missing a comma after parentheses</li> <li>- Why are you including passive smoking exposure as an outcome? Is that likely to be related to kindergarten? Surely no-one smokes at kindergartens and it is more related to child home environments? Wellbeing is also a very broad term – what do you mean by this? Do you have examples of how this will be measured/ operationalized?</li> <li>Ln 175 – don't need capital after :</li> <li>- Slightly strange to say that they will be included if they meet inclusion and exclusion criteria, please revise.</li> <li>- What do you mean by studying relationships between and within studies?</li> <li>- How do you intend to deal with multiple papers reporting from the same study?</li> <li>- Are you planning on doing any quality assessment of studies? Your PRISMA states that you outline this, but you include only a</li> </ul>
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	<p>very vague statement. If you aren't quality appraising (which isn't always necessary for scoping reviews), state that.</p> <p>- There is insufficient discussion of how you will deal with the different study types - do you plan to summarise all quant and all qual together? Or separately? Qual and Quant studies address slightly different research questions so reference to this is important. Also, what about the different types of quant studies? You suggest you will conduct subgroup analyses, but given the expected heterogeneity, some of the proposed subgroups seem inappropriate (e.g. regions - if you are excluding some!; age groups - how would you split this? It is a relatively small group anyway - Infants, toddlers, preschoolers?)</p> <p>I think it would be beneficial to add a summary paragraph about what this review adds and why it is important again. You could also state if there are any limitations to the work, in addition to the benefits.</p>
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<b>REVIEWER</b>	Sara Jones, PhD, APRN University of Arkansas for Medical Sciences, College of Nursing United States
<b>REVIEW RETURNED</b>	24-Mar-2020

<b>GENERAL COMMENTS</b>	<p>It is interesting to see a protocol for a systematic review submitted for publication, but as this is permitted with BMJ Open, this protocol is very thorough. Minimal revisions needed for clarity.</p> <p><b>ABSTRACT:</b></p> <p>"Meso-level" is first mentioned here, but also throughout. This may not be a term that all are familiar with. Identify what theory/model and author this came from, in abstract and in Introduction.</p> <p>"... is crucial for _____ health and health inequalities..." Feels like a verb is missing. Developing? Predicting? (same on page 4, line 71)</p> <p>Instead of "pre-schoolers," use "children." In the U.S., preschool is before kindergarten.</p> <p>Write out PRISMA in abstract and first time in text.</p> <p><b>INTRODUCTION:</b></p> <p>Page 6, sentence on lines 111-113: use active voice.</p> <p>Research question #2 is a closed-ended questions (yes or no). Advise revising so that it is open ended. Perhaps, "how.."</p> <p>Delete comma in line 133.</p> <p><b>ELIGIBILITY CRITERIA:</b> Do not need all of that in narrative format (lines 134-148). Table is quite sufficient. Suggest reducing.</p> <p><b>DATA SYNTHESIS:</b></p> <p>Lines 208-209: what type of relationships between studies?</p> <p>Otherwise, well written, comprehensive, and reproduceable.</p>
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<b>REVIEWER</b>	Hanan Khalil School of Psychology and Public Health
<b>REVIEW RETURNED</b>	06-Jul-2020

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this paper,</p> <p>The paper has current discrepancies in the title submitted and the title written, it is unclear if the authors are undertaking a scoping review or a mixed methods review.</p> <p>If scoping review, the elements of scoping reviews have not been followed, there should be no synthesis in scoping reviews and authors need to use the PCC mnemonic.</p>
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	This topic is most suited for a mixed methods reviews, where the quantitative section focusses on what can be measured and the qualitative elements focus on the experience, attitude or the behaviour characteristics
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### VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1  
 Reviewer Name  
 Dr Kathryn Hesketh

Institution and Country  
 UCL Great Ormond Street Institute of Child Health

Please state any competing interests or state 'None declared':  
 None declared

This paper presents a protocol for a systematic scoping review assessing the 'Associations between contextual and compositional characteristics of kindergartens with health and health behaviour among pre-schoolers: protocol for a scoping review of qualitative and quantitative studies'. This is a potentially interesting review topic, for which there no prior synthesis has been conducted. Although the authors provide a generally adequate amount of information, there are a number of areas that require clarification and further information in order to be allow readers to determine what exactly it is they plan to do. Please find my comments below.

Answer: We thank the reviewer for the positive evaluation of our manuscript.

Comment 1: By Kindergartens, do you mean any early childcare centre? I think this needs to be defined and your term 'Kindergarten' broadened early on in the paper, as it currently reads as though you only mean kindergartens which are a pretty niche group, and don't exist in some areas of the world.

Answer: We thank the reviewer for this valuable comment. As definitions of the term "kindergarten" but also terms like "preschool" have different meanings across different regions and countries, we now use the term "early childcare facilities" throughout the manuscript. We also make obvious in the introduction section how we define this term and which facilities are covered by this term (please see page 4, lines 97-100). Due to word restrictions we give only some examples in the abstract (please see page 2, line 39-40).

Abstract:

Comment 2: I don't think it is true that little is known about how kindergartens impact health – after all you are planning to summarise this literature. I therefore think it would be better to state that it has not been summarized (vs there being no information – because if that is the case this review isn't required and a primary study would be better).

Answer: We agree with the reviewer and have revised this paragraph in the abstract (please see page 2, line 41) and also in the introduction section (please see page 4, line 101-105).

Comment 3: Ln 54: don't need as a second step – this is implicit in the 'After the completion'.

Answer: We deleted this as suggested.

Comment 4: Inter-rater agreement in what? Number of studies? Surely it is better to just make sure the studies agree rather than calculating number you agree on?

Answer: We calculated the inter-rater agreement (here: kappa) between both reviewers, like it is common for systematic reviews. We now added this information to make this more obvious to the reader (please see page 2 line 56; and page 9, line 199)

Comment 5: You don't state anything about the outcomes or designs to be included, just that they will be varied – please include this important information.

Answer: We now provide some examples for outcomes and study designs (please see page 2, lines 43-46)

#### Strengths and limitations

Comment 6: Be specific with the ages of children you are interested in – 0-5 years? 2-6 years?

Answer: We have specified the age of children we are interested in (0 to 6 years) throughout the manuscript and the abstract and title.

Comment 7: They aren't 'a meso-level', they are at the meso level.

Answer: We corrected this accordingly (please see page 3, line 74)

Comment 8: Include examples of outcomes; if you need space drop the 4th or 5th bullet.

Answer: We now include some examples of the outcomes we are interested in (please see page 3, lines 69-71).

#### Introduction

Comment 9: Formatting of some references: commas missing between references e.g. 4 5

Answer: According to the citation style of BMJ Open, single references should not be separated by commas. We carefully checked that everything is in line with the author guidelines provided by the journal before resubmitting the current version of the manuscript.

Comment 10: What do you mean by different fields of research?

Answer: We have revised the sentence and use "various research disciplines" instead of "different fields of research" now. In addition, we give some examples to clarify this statement (please see page 4, lines 96-97).

Comment 11: I just don't agree that there isn't research about the preschool environment and health/behaviours (and you go on to reference it); again if this was the case, there is no place or need for this review!! Compositional factors may be less well established, but contextual information is definitely available. Please revise the wording to temper this sentiment.

Answer: We agree with the reviewer and have revised this paragraph of the introduction (please see page 4, lines 101-105).

Comment 12: Ln 106: Please reference the specific studies relating to physical inactivity (is this TV viewing? Not necessarily the same as inactivity) and health outcomes separately to make the distinction between health and health behaviours here.

Answer: We changed this as suggested.

Comment 13: Ln 119: systematic reviews also do this, as evidenced by the range in study quality assessments often seen.

Answer: In line with recommendation of the reviewer we decided to delete this statement.

Comment 14: Ln 120: restatement of what you have said in previous sentences, remove or rephrase.  
Answer: Here, too, we deleted this statement as suggested.

Comment 15: Again, you need to define what you mean by kindergartens and your target population (e.g. age of children).

Answer: Please see our answer to Comment 1.

#### Methods

Comment 16: Presume outcomes are measured at the child level? This needs to be far more detailed in terms of the types of things you are going to include – Table includes things like objective health? How is that defined? What does it mean?

Answer: Due to our broad research question, we decided to follow a holistic approach of health and wellbeing (also applied by Priest et al. 2013 in their systematic review) to not miss potentially relevant studies. We therefore made no further restrictions (e.g., definitions, assessment methods) on the outcomes besides that they will have to be measured at the child level. We added these information in the methods section (please see page 6, lines 152-162).

Reference: Priest et al. 2013. A systematic review of studies examining the relationship between reported racism and health and wellbeing for children and young people. *Soc Sci Med.* 2013;95:115-127.

Comment 17: Your decision to exclude developing/ transition countries is an interesting one, and not necessarily intuitive given this is a scoping review and you are trying to determine where the evidence gaps are... Is it not interesting to know how different environments may (be perceived) to influence health and well-being in different parts of the world? And I think that some middle income countries where more work has be conducted, may provide valuable evidence - and are possibly more likely to have qualitative studies conducted here.

Answer: We agree with the reviewer that including also studies from countries in transition would be interesting and we also agree that this is a limitation of our work. Therefore, we followed the reviewers suggestion made in Comment 27 and added a summary paragraph at the end of the manuscript. This summary paragraph also includes this point as a limitation (please see page 10, lines 242-246). We also added this aspect as a bullet point in the strengths and limitation box (please see page 3, lines 77-78).

Comment 18: Ln 141: missing a comma after parentheses

Answer: Revised as suggested

Comment 20: Why are you including passive smoking exposure as an outcome? Is that likely to be related to kindergarten? Surely no-one smokes at kindergartens and it is more related to child home environments? Wellbeing is also a very broad term – what do you mean by this? Do you have examples of how this will be measured/ operationalized?

Answer: Regarding smoking exposure we also thought that it would not be relevant in early childcare settings. However, our unsystematic literature search on this topic revealed that it seems not to be self-evident that there are smoking bans in all childcare facilities. For example, we identified a study conducted by Cramer et al. 2003 in the USA. While they found out that 95% of the childcare facilities have smoke-free indoor environments, only 77% also had smoke-free outdoor play areas. Again in line with our holistic definition of health and wellbeing and to not miss potentially relevant articles on this topic, we decided to include “smoking exposure” as a potential outcome. Regarding wellbeing we also made no further restrictions on types of measurement or kinds of operationalization. Please see also our answer to Comment 16.



Reference: Cramer ME, Mueller KJ, Harrop D. Evaluation informs coalition programming for environmental tobacco smoke reduction. *J Community Health Nurs.* 2003;20(4):245-258.

Comment 21: Ln 175 – don't need capital after:

Answer: We changed this as suggested.

Comment 22: Slightly strange to say that they will be included if they meet inclusion and exclusion criteria, please revise.

Answer: We revised this sentence to clarify this issue (please see page 9, line 203).

Comment 23: What do you mean by studying relationships between and within studies?

Answer: We now have deleted this statement as we no longer plan to perform this way of data synthesis (please see Comment 26 and also Comment 1 of Reviewer 3 for more details).

Comment 24: How do you intend to deal with multiple papers reporting from the same study?

Answer: We added this important information in the methods section (please see page 10, lines 216-220).

Comment 25: Are you planning on doing any quality assessment of studies? Your PRISMA states that you outline this, but you include only a very vague statement. If you aren't quality appraising (which isn't always necessary for scoping reviews), state that.

Answer: We agree with the reviewer that a quality assessment is not mandatory for a scoping review. However, we decided to extract some general quality indicators (e.g., sample size, selection of participants, occurrence of a selection bias, and limitations stated by the authors) to allow a rough evaluation of study quality. We added this information to the method section (please see page 10, lines 214-216).

Comment 26: There is insufficient discussion of how you will deal with the different study types - do you plan to summarise all quant and all qual together? Or separately? Qual and Quant studies address slightly different research questions so reference to this is important. Also, what about the different types of quant studies? You suggest you will conduct subgroup analyses, but given the expected heterogeneity, some of the proposed subgroups seem inappropriate (e.g. regions - if you are excluding some!; age groups - how would you split this? It is a relatively small group anyway - Infants, toddlers, preschoolers?)

Answer: As addressed by reviewer 3 that data synthesis is not an element of a scoping review, we decided to follow a mapping approach, which is more appropriate for a scoping review. We therefore revised this paragraph in the methods section and no longer plan to synthesis the evidence found and to conduct any subgroup analysis. Instead we will descriptively map the evidence using tables and figures (please see page 10, lines 222-232). As no statistical associations can be drawn from qualitative studies, we will not include qualitative studies in our graphical illustrations of the associations found between compositional/contextual factors at childcare facilities and health outcomes, but we will present the findings of the qualitative studies in the text part of the results section in the main manuscript and contrast the findings of the qualitative studies with those of the quantitative ones (please see page 10, lines 232-237). We expect that this approach will be helpful to guide further research efforts.

Comment 27: I think it would be beneficial to add a summary paragraph about what this review adds and why it is important again. You could also state if there are any limitations to the work, in addition to the benefits.

Answer: We thank the reviewer for this valuable suggestion and added such a paragraph at the end of the manuscript (please see page 10; lines 238-246).

Reviewer: 2

Reviewer Name

Sara Jones, PhD, APRN

Institution and Country

University of Arkansas for Medical Sciences, College of Nursing United States

Please state any competing interests or state 'None declared':

None declared

Please leave your comments for the authors below It is interesting to see a protocol for a systematic review submitted for publication, but as this is permitted with BMJ Open, this protocol is very thorough. Minimal revisions needed for clarity.

ABSTRACT:

Comment 1: "Meso-level" is first mentioned here, but also throughout. This may not be a term that all are familiar with. Identify what theory/model and author this came from, in abstract and in Introduction.

Answer: We added a paragraph to better explain the meaning of the term "meso-level" in the introduction section (please see page 4, lines 87-91). Due to the word limit, we could not include a full definition in the abstract, but we added the term "institutional level" to increase clarity (please see page 2, line 39).

Comment 2: "... is crucial for \_\_\_\_\_ health and health inequalities..." Feels like a verb is missing. Developing? Predicting? (same on page 4, line 71) Instead of "pre-schoolers," use "children." In the U.S., preschool is before kindergarten.

Answer: We revised both sentences (please see page 2 lines 38 and page 4 line 80).

We have removed the term "pre-schoolers" throughout the manuscript and us the term young children instead.

Comment 3: Write out PRISMA in abstract and first time in text.

Answer: We changed this as suggested (please see page 2, lines 48-49 and page 5, lines 140-141).

INTRODUCTION:

Comment 4: Page 6, sentence on lines 111-113: use active voice.

Answer: We changed this as suggested (please see page 5, lines 126-128).

Comment 5: Research question #2 is a closed-ended questions (yes or no). Advise revising so that it is open ended. Perhaps, "how.."

Answer: We have revised the second research question (please see page 5, line 137-138).

Comment 6: Delete comma in line 133.

Answer: We deleted the comma in line 133.

Comment 7: ELIGIBILITY CRITERIA: Do not need all of that in narrative format (lines 134-148). Table is quite sufficient. Suggest reducing.

Answer: We thank the reviewer for this comment but as this comment seems to contradict the opinion of reviewer 1 who states in several comments (e.g., comment 20 and 26) that important information is missing in this protocol, we unfortunately do not feel able to correspond to both reviewers. Therefore, we decided not to shorten this paragraph.

Comment 8: DATA SYNTHESIS:



Lines 208-209: what type of relationships between studies?

Answer: We have deleted this statement as we no longer plan to perform this way of data synthesis (please see Comment 26 of Reviewer 1 and Comment 1 of Reviewer 3 for more details).

Comment 9: Otherwise, well written, comprehensive, and reproduceable.

Answer: We thank the reviewer for the positive evaluation of our manuscript.

Reviewer: 3

Reviewer Name

Hanan Khalil

Institution and Country

School of Psychology and Public Health

Please state any competing interests or state 'None declared':

None declared

Comment 1: Please leave your comments for the authors below. Thank you for the opportunity to review this paper, The paper has current discrepancies in the title submitted and the title written, it is unclear if the authors are undertaking a scoping review or a mixed methods review.

If scoping review, the elements of scoping reviews have not been followed, there should be no synthesis in scoping reviews and authors need to use the PCC mnemonic.

This topic is most suited for a mixed methods reviews, where the quantitative section focusses on what can be measured and the qualitative elements focus on the experience, attitude or the behaviour characteristics.

Answer: We thank the reviewer for this comment. We are sorry for the confusion on the title. We now correctly point out in the title of the manuscript that our study is a "scoping review". In addition, we revised the title of the manuscript and have aligned it to the PCC mnemonic, although the PCC mnemonic is not an element of the PRISMA ScR checklist we followed, but originated from the Joanna Briggs Institute's manual.

Regarding the term "synthesis" there are also some discrepancies between the PRISMA ScR checklist, which is the base for our review, and the Manual of the Joanna Briggs Institute. However, we realized that it is more appropriate in a scoping review to map the evidence instead of providing a data synthesis (which is usually done in systematic reviews). We therefore have revised the whole paragraph "Data synthesis" in the manuscript and now describe how we will plan to map the findings in our scoping review (please see page 10, lines 222-232).

We decided not to declare our review as a "mixed-methods review", because we did not apply the respective guidelines for conducting such a mixed-methods review. However, we added a statement in the revised paragraph how we will handle the different study designs (qualitative and quantitative ones) in our scoping review (please see page 10, lines 232-237).