

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Circumstances that promote social connectedness in older adults participating in intergenerational programs with adolescents: a realist review
AUTHORS	Simionato, J; Vally, H; Archibald, Daryll

VERSION 1 – REVIEW

REVIEWER	Poppe , M University College London
REVIEW RETURNED	20-Dec-2022

GENERAL COMMENTS	<p>A necessary and novel review. I left some comments regarding the lack of details in the methodology. These could facilitate the replication of the study. If there is space available, expand on the limitations of your study.</p> <p>The reviewer also provided an attachment – contact publisher to view.</p>
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REVIEWER	Hoang, Peter University of Toronto Faculty of Medicine
REVIEW RETURNED	26-Jan-2023

GENERAL COMMENTS	<p>Thank you for the opportunity to review this article on the components of intergenerational interventions to improve social connectedness in older adults. The known heterogeneity in studies on interventions to improve social connectedness in older adults is a pertinent issue when designing interventions. Using a realist approach applies an interesting framework to guide such discussions. I particularly enjoyed reading about the framework that was identified for components of a successful intervention.</p> <p>I think there are number of over-arching concerns regarding this article:</p> <ol style="list-style-type: none">1) the search methodology is missing several important factors, including a comprehensive search strategy, screening, extraction, and quality assessment. A sample protocol from the same journal has an extensive methodology: https://bmjopen.bmj.com/content/11/4/e0489372) if the intention is understanding improved social connectedness, salient social outcomes should be the forefront in the inclusion of articles (the outcome) and their results. How do these programs affect social domains of health (i.e., loneliness, social support, social isolation) in the realm of social connectedness?3) while important to identify that adolescents are an under-studied area, how do programs with adolescents differ or share similarities with other programs? As in this study (https://www.tandfonline.com/doi/abs/10.1080/15350770.2018.1477650),
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	<p>contrasting to known models would be of interest to policymakers and service providers.</p> <p>ABSTRACT</p> <p>Methods: the databases searched and the inclusion/exclusion should be included.</p> <p>Results: number of studies that were identified and screened should be included.</p> <p>INTRODUCTION</p> <p>Line 15: while medical incidents can be a reason for moving into residential facilities, this may not distinguish between long-term care, assisted living, and independent living. The pathways towards these may be different, as well as the opportunity for social connection (i.e., retirement homes may have a more independent group with scheduled programs).</p> <p>Line 57 onwards: it would be helpful to know what reviews of intergenerational programming have been completed, and what evidence is known on program models and age groups. What is still missing from these reviews? I understand that the adolescent group may have limited information, but previous research on the components and circumstances that make a successful model as identified as an objective of this study can be further described.</p> <p>It would also be helpful to identify the background on what is known about the contexts of known reviews on programs (i.e., type of older adult, setting of intervention).</p> <p>METHODS</p> <p>Line 5: As I am not familiar, do realist methodologies require protocol registration such as with PROSPERO?</p> <p>Page 6 Line 50: what were the roles of the municipal and high school stakeholders? Specifically, were these councilors, non-governmental community organizations, teachers, etc.? These roles are helpful for a reader to understand the context of the stakeholder in generating theories.</p> <p>Page 7 Line 21: what was the protocol for searching grey literature? What is the list of governmental and non-governmental organizations that were searched, and how extensive was the search? Were search terms different for the grey search than the database search? Was the search strategy developed with a health sciences librarian?</p> <p>Page 7 Lines 41-47: was a program used to identify studies, and were these done independently? Similarly, how abstract/title screening, and full text screening completed for grey literature?</p> <p>Page 8 Table 1: can the authors clarify "study of grandparents"? Is this exclusively adolescents and their own family members who are grandparents, or would these include non-familial grandparents? Is there a control group in the PICO format? WHO also defines adolescent as age 10-19, why was 13-19 used here? What were the outcomes of interest?</p> <p>Page 8 Quality appraisal: which components of the CASP tools were used? These should be identified. Similarly, were these done in independently by separate reviewers? How were conflicts managed?</p>
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Page 9 Synthesis: given that stakeholders were an important part in identifying the a priori themes, were they also consulted during the synthesis?

Page 10 Results: a narrative summary of the results of the 9 studies would be valuable - since this study is interested in social connectedness, how many of these studies showed improvement in that specific outcome?

Figure 1: Reasons for exclusion and associated number of studies should be described in the flow diagram. Studies identified from grey literature should also be identified.

Box 1: Was there a reason Subject Heading (i.e., MeSH) terms were not used? All except the Aged term seem to be search terms alone. The adolescent term could further be expanded with many other criteria (young adult, teenager, teen, etc.).

Table 2: It would be helpful to know some details of the intervention such as the frequency of contact, duration of sessions, the presence of a control group (if applicable); these are mentioned in some studies but not others. If not present, "N/A" would also be helpful. Findings with respect to social outcomes (specifically loneliness, social isolation, social connectedness, social support),

Page 13: Quality assessment: consider also adding quality assessment as a supplementary table for each of the questions used as well as overall assessment.

Page 15, CMOC 2: what kind of pedagogical frameworks were used in these studies? On my brief screen, there are many types of theories that are identified, and I wonder if this falls into experiential education. It would be helpful to have this expanded on, especially for a policymaker or institution to incorporate as a component important to the development of these programs. Were there studies that were not done in pedagogical settings? What were those results?

Page 16, CMOC 4: it is mentioned about community connections, what is the nature of these connections? Do they help to recruit volunteers, older adults, adolescents? Is the community connection the program itself? I see this noted in CMOC 7 in the one study on Girl Scouts but wonder about other types of organizational support. Further, how does this differ between different settings for older adults (long-term care, assisted living, retirement home, community-dwelling)?

Figure 2: I think an alternative model that incorporates the features of multiple layers and components should be considered for a scientific publication, particularly if the intention is a logic model.

Discussion:

I'm not sure the psychosocial/mental health and physical and cognitive health components add to the purpose of this review.

What might be considered instead would be a brief overview of the components that make for a successful model looking specifically at social connectedness as the outcome, as many similar themes arise. How does this compare to other existing models in the literature? How does this compare to qualitative reviews on intergenerational programs? How does it compare to different age groups and settings? Outcomes

	<p>such as psychosocial/mental and physical/cognitive health may be more appropriately studied in a quantitative review.</p> <p>Are there differences in the program design and structures in other studies that have led to different results? What is the extent required for community engagement and how can that be implemented in healthcare and social systems?</p> <p>What differences might exist in this heterogeneous population with respect to improving social connectedness? Areas such as sex, gender, culture, and language play a large role in social health. Being in different facility settings plays a large role. Were these identified in the CMOC or in other studies?</p> <p>Is there a reason a limitations section was not described in the primary body of the text? I note as well that the limitation of rural settings and in those with cognitive impairment is not mentioned elsewhere in the text.</p> <p>SUPPLEMENTARY A checklist is usually submitted with a review that includes the reporting item and the location it can be found, for example: https://www.ncbi.nlm.nih.gov/books/NBK355723/</p> <p>OTHER In the future, it would be helpful to have the page numbers continuous throughout pages as opposed to by each page.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Dr. M Poppe, University College London

Reviewer comment		Author response
1	It would be useful to know how where they involved? Did you have meetings, conducted focus groups with them? If so, did you use prompts or any particular structure. How many stakeholders were involved, and did they also provide their views on the resulting logic model?	Thank you for seeking further clarification of this important methodological element. We have added some additional information on the top of page 8 including who the stakeholders were and their level of involvement.
2	I would mention that these searches were limited to English language only as a limitation	Thank you for highlighting this important search element. This information can be found in Box 1

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Reviewer 2: Dr. Peter Hoang, University of Toronto Faculty of Medicine

Reviewer comment		Author response
1	I think there are number of over-arching concerns regarding this article: 1) the search methodology is missing several important factors,	1) Thankyou for highlighting these omissions from the

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	<p>including a comprehensive search strategy, screening, extraction, and quality assessment. A sample protocol from the same journal has an extensive methodology https://bmjopen.bmj.com/content/11/4/e048937</p> <p>2) if the intention is understanding improved social connectedness, salient social outcomes should be the forefront in the inclusion of articles (the outcome) and their results. How do these programs affect social domains of health (i.e., loneliness, social support, social isolation) in the realm of social connectedness?</p> <p>3) while important to identify that adolescents are an under-studied area, how do programs with adolescents differ or share similarities with other programs? As in this study, (https://www.tandfonline.com/doi/abs/10.1080/15350770.2018.1477650), contrasting to known models would be of interest to policymakers and service providers.</p>	<p>paper. We have updated the search methodology content, and this can be found in Box 1 and Figure 1. Information relating to the quality assessment and more detail about the search strategy and extraction can be found in the methods section and in the supplementary file – data extraction form.</p> <p>2) The intention was understanding social connectedness as an umbrella concept. The studies in some cases did address other social health domains, and where relevant we have included the additional impact of the programs on these domains in the results.</p> <p>3) The more commonly studied group in the intergenerational program literature is that of pre-schoolers. According to Erikson theory, adolescent groups are experiencing a similar psychological and developmental crossroad to adults of retirement age. In our initial scoping and study design we familiarised ourselves with the work conducted with pre-schoolers and as such identified that looking into the adolescent group was yet to be done in detail. Intergenerational programs that involve pre-schoolers are not too dissimilar to those that involve adolescents and often take place in educational settings using trained facilitators (teachers, early childhood educators)</p>
2	Methods: the databases searched and the inclusion/exclusion should	Thank you for

	be included.	highlighting this. This information is located in Box 1. The inclusion and exclusion criteria for study selection can be found in Table 1.
3	Results: number of studies that were identified and screened should be included.	Thank you for drawing this to our attention. This can be found in Figure 1: Flow diagram
4	Line 15: while medical incidents can be a reason for moving into residential facilities, this may not distinguish between long-term care, assisted living, and independent living. The pathways towards these may be different, as well as the opportunity for social connection (i.e., retirement homes may have a more independent group with scheduled programs).	Thank you for providing this perspective. On review of the sentence, we have removed the reference to medical incidents as a mechanism for relocating to a residential aged care facility. As you highlight, there are multiple reasons and mechanisms by which this occurs, and we did not have the space in the paper to provide them all in depth. Please refer to page four.
5	Line 57 onwards: it would be helpful to know what reviews of intergenerational programming have been completed, and what evidence is known on program models and age groups. What is still missing from these reviews? I understand that the adolescent group may have limited information, but previous research on the components and circumstances that make a successful model as identified as an objective of this study can be further described. It would also be helpful to identify the background on what is known about the contexts of known reviews on programs (i.e., type of older adult, setting of intervention).	Many thanks for this helpful suggestion. We have provided an overview of several recently conducted reviews on intergenerational programming. Within this new section (on Pages 4-5) we have endeavoured to address the points requested.
6	Line 5: As I am not familiar, do realist methodologies require protocol registration such as with PROSPERO?	No, realist reviews do not require registration with PROSPERO. A pre-specified protocol was prepared for this review, however. We have made the protocol available as a supplementary file that has been included with the re-submission of this paper.
7	Page 6 Line 50: what were the roles of the municipal and high school stakeholders? Specifically, were these councillors, non-governmental community organizations, teachers, etc.? These roles are helpful for a reader to understand the context of the stakeholder in generating theories.	Thank you for seeking further clarification of this important methodological element. We have added some additional information on the top of page 8 including who the stakeholders were and

		their level of involvement.
8	<p>Page 7 Line 21: what was the protocol for searching grey literature? What is the list of governmental and non-governmental organizations that were searched, and how extensive was the search? Were search terms different for the grey search than the database search? Was the search strategy developed with a health sciences librarian?</p>	<p>The protocol for searching grey literature was via reference list searching, google scholar and known government and non-government agency websites. These included Australian state and federal government department of health websites, Council on the ageing (COTA), Municipal Association of Victoria (MAV), Beyond Blue, Aids Council of NSW (ACON- LBGTIQ+ health advocacy), Australian Association of Social Workers (AASW), the New South Wales Council of Social Service (NCOSS), National Youth Affairs research scheme, VicHealth, University of Melbourne,</p> <p>International grey literature was found via the UK National Health Service (NHS), NHS Scotland, University of Manchester, American Association of retired persons (AARP), Local Government Association and Generations United.</p> <p>The World Health Organization was also used as source of grey literature.</p> <p>The search strategy was developed with the support of a university librarian. We have added this to the manuscript, as well as further detail around grey literature search strategy in Box 1.</p> <p>We have also included the full search strategy</p>

		as a supplementary file.
9	Page 7 Lines 41-47: was a program used to identify studies, and were these done independently? Similarly, how abstract/title screening, and full text screening completed for grey literature?	<p>A formal program to identify studies was not used. Traditional search and review methods were used to screen studies.</p> <p>Title and abstract screening and full text review was undertaken by JS and DA, with support of HV.</p> <p>There were no grey literature sources that met the inclusion criteria.</p>
10	Page 8 Table 1: can the authors clarify “study of grandparents”? Is this exclusively adolescents and their own family members who are grandparents, or would these include non-familial grandparents? Is there a control group in the PICO format? WHO also defines adolescent as age 10-19, why was 13-19 used here? What were the outcomes of interest?	<p>Thank you for your questions around the age range inclusions. The familial grandparents of participants were excluded, but not those who were grandparents. For example, if a study included older adults and their grandchildren this was not included.</p> <p>The PICO framework was not used; thus, no comparator was defined. Rather we, used the SPIDER framework to devise the review question. Further information on this can be found in the review protocol supplementary file.</p> <p>Thank you for raising the question around adolescent age ranges. It was a topic of detailed discussion in early review design. We chose 13-19 years for the adolescent group as these age ranges are agreed as defining older adults and adolescents in early theories from Erikson on psychological development. Other studies addressing intergenerational programs use Erikson theory, so this was</p>

		chosen to align with the current literature. See page 7 in the revised manuscript for this change.
1 1	Page 8 Quality appraisal: which components of the CASP tools were used? These should be identified. Similarly, were these done in independently by separate reviewers? How were conflicts managed?	<p>Thank you.</p> <p>Supplementary file 3 has been updated to include additional references to the CASP Checklists for qualitative and cohort studies that were reviewed and incorporated into our bespoke tool. Within the data extraction form, specific questions relating to study design were included to account for the heterogeneity of our included studies.</p> <p>We have amended the supplementary file “Data extraction tool” to reflect this and support future reproducibility.</p> <p>Quality appraisal was conducted by JS and DA with any conflicts managed via team discussion.</p>
1 2	Page 9 Synthesis: given that stakeholders were an important part in identifying the a priori themes, were they also consulted during the synthesis?	Stakeholders were not consulted in the synthesis of the review findings. This review was limited by time and as such we hope that this may form subsequent phases of this research e.g. when using a 6SQUID intervention development framework. See last paragraph of the discussion for this detail.
1 3	Page 10 Results: a narrative summary of the results of the 9 studies would be valuable - since this study is interested in social connectedness, how many of these studies showed improvement in that specific outcome?	Thank you for this question. The summary findings for the nine included studies are located in the study characteristics table (Table 2) - many of which highlight outcomes in the social health domain.
1 4	Figure 1: Reasons for exclusion and associated number of studies should be described in the flow diagram. Studies identified from grey literature should also be identified.	Thank you for highlighting this required detail. It has been added to the Figure 1 flow

		diagram.
1 5	Box 1: Was there a reason Subject Heading (i.e., MeSH) terms were not used? All except the Aged term seem to be search terms alone. The adolescent term could further be expanded with many other criteria (young adult, teenager, teen, etc.).	“Aged” and “Intergenerational relations” were MeSH terms and this detail has been added to Box 1.
1 6	Table 2: It would be helpful to know some details of the intervention such as the frequency of contact, duration of sessions, the presence of a control group (if applicable); these are mentioned in some studies but not others. If not present, “N/A” would also be helpful. Findings with respect to social outcomes (specifically loneliness, social isolation, social connectedness, social support).	Thank you for asking these questions around the study findings. In Table 2 there is detail about the study intervention frequencies. The only study that had a control group was Kessler et al study. The review focused on social connectedness as an umbrella social health concept. The included studies did utilise a small number of psychometric assessment measures that contributed to the findings and we have included this in Table 2.
1 7	Page 13: Quality assessment: consider also adding quality assessment as a supplementary table for each of the questions used as well as overall assessment.	Thank you, a great suggestion that we have taken on board. A table with ticks and comments has been added to the supplementary file 3 that outlines the quality assessment tool.
1 8	Page 15, CMOOC 2: what kind of pedagogical frameworks were used in these studies? On my brief screen, there are many types of theories that are identified, and I wonder if this falls into experiential education. It would be helpful to have this expanded on, especially for a policymaker or institution to incorporate as a component important to the development of these programs. Were there studies that were not done in pedagogical settings? What were those results?	The included studies did not specifically outline a pedagogic framework. This concept was included in the results and discussion given the high number of included studies that developed and implemented intergenerational programs in service learning, education or pedagogic contexts. Pedagogic frameworks represent the “how” of learning and education and in the context of this review help describe the act of the two generational groups coming together to share and learn a skill or task. Without this overlay, the programs might have

		been simple meet and greet scenarios in which participants may not have felt a sense of purpose, not had the process of generativity triggered. The only study not done in a pedagogic setting was the RCT.
1 9	Page 16, CMOC 4: it is mentioned about community connections, what is the nature of these connections? Do they help to recruit volunteers, older adults, adolescents? Is the community connection the program itself? I see this noted in CMOC 7 in the one study on Girl Scouts but wonder about other types of organizational support. Further, how does this differ between different settings for older adults (long-term care, assisted living, retirement home, community-dwelling)?	Please refer to page 17 in the manuscript for addition information of the community connections. Again, it was not possible, due to word count, to list them extensively, however we feel that these minor additions may support the reader to understand the kind of community connections that may positively impact and support intergenerational programs.
2 0	Figure 2: I think an alternative model that incorporates the features of multiple layers and components should be considered for a scientific publication, particularly if the intention is a logic model.	Thank you for suggesting an alternative logic model representation in the context of a scientific journal. The original cake analogy was developed given the concept of sharing afternoon tea refreshments a common theme in many of the programs studied. However, the logic model has been re-worked and included in a supplementary file.
2 1	I'm not sure the psychosocial/mental health and physical and cognitive health components add to the purpose of this review. What might be considered instead would be a brief overview of the components that make for a successful model looking specifically at social connectedness as the outcome, as many similar themes arise. How does this compare to other existing models in the literature? How does this compare to qualitative reviews on intergenerational programs? How does it compare to different age groups and settings? Outcomes such as psychosocial/mental and physical/cognitive health may be more appropriately studied in a quantitative review.	Many thanks. We have considered this suggestion carefully but respectfully feel that the psychosocial/mental health and physical and cognitive health components are intrinsic to the findings of this review. We feel that we have endeavoured to ensure that the review has met its core objective of understanding the circumstances that promote social connectedness in older adults participating in

		<p>intergenerational programs with adolescents. We are somewhat unsure how an additional overview section such as that suggested will add to the work as existing models from other reviews are based on findings focusing on other populations from those focused on here. In addition, we are unaware of any relevant qualitative reviews to undertake comparison. We would very much like to reiterate our thanks to the reviewer for these suggestions, however.</p>
2 2	<p>Are there differences in the program design and structures in other studies that have led to different results? What is the extent required for community engagement and how can that be implemented in healthcare and social systems?</p>	<p>Many thanks for these observations. In terms of differences in design and structures in other studies, we feel unable to address this as to the best of our knowledge there are no other studies focused on adults and adolescents beyond the included studies. Community engagement is central to the success of these programs as described in the CMOC and logic model. Future research will be grounded in a co-creation methodology guided by an established intervention development such as 6SQUID, as mentioned in the manuscript.</p>
2 3	<p>What differences might exist in this heterogeneous population with respect to improving social connectedness? Areas such as sex, gender, culture, and language play a large role in social health. Being in different facility settings plays a large role. Were these identified in the CMOC or in other studies?</p>	<p>Thank you for raising these important queries. We have addressed these by adding in additional details around strengths and limitations on pages 24 and 25.</p>
2 4	<p>Is there a reason a limitations section was not described in the primary body of the text? I note as well that the limitation of rural settings and in those with cognitive impairment is not mentioned elsewhere in the text.</p>	<p>Thank you for highlighting this. We have included some additional detail in the</p>

		body of the text, in the discussion section, outlining key strengths and limitations.
SUPPLEMENTARY		
2 5	A checklist is usually submitted with a review that includes the reporting item and the location it can be found, for example https://www.ncbi.nlm.nih.gov/books/NBK355723/ .	Many thanks for highlighting this. The checklist has been completed and is available as a supplementary file.
OTHER		
2 6	In the future, it would be helpful to have the page numbers continuous throughout pages as opposed to by each page.	We believe that the numbering in the document was applied by the submission portal. We have been sure to check each page in the revised manuscript has a number on it.

VERSION 2 – REVIEW

REVIEWER	Hoang, Peter University of Toronto Faculty of Medicine
REVIEW RETURNED	03-May-2023

GENERAL COMMENTS	<p>Thank you for the opportunity to review the article, Circumstances that promote social connectedness in older adults participating in intergenerational programs with adolescents: a realist review, which provides a review of intergenerational programs to synthesize the components that promote social connectedness in older adults based on context, mechanism, and outcomes.</p> <p>I have left minor comments that can be addressed, but I do not believe require further reviews.</p> <p>I would first like to highlight the strengths of this study: 1) The review highlights an important area of future study - understanding the components that make for successful interventions in the context of intergenerational programs. I particularly liked the use of the realist methodology (context, mechanism, and outcome configurations, which is not only easy to understand, but practical). 2) The authors incorporated important stakeholders (namely educators), to help to synthesize a priori hypotheses. 3) This was an excellent revision and improves the methodological rigor of the study where possible.</p> <p>Major Comments: None.</p> <p>Minor Comments: Flow Diagram: typically, the number of studies for each reason for exclusion at full text are reported, if available.</p>
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	<p>Results: there is usually a sentence at the beginning of the results on the number of items found in the search, the number included in full text, and the number for full review. There is usually also a summary sentence on the types of study (i.e. x studies were quantitative, y studies were qualitative, and z studies were mixed methods), and a summary sentence on the typical participant (age, gender, living setting, duration of program, frequency of visits).</p> <p>Limitations: if the study selection and critical appraisal were not done independently, then it may be important to note the limitation. This can be potentially be justified in a similar setting to Rapid Review methodology (albeit more recently suggesting $\geq 20\%$ done by independent reviewers in pairs), with a relatively narrow question and time constraints (as mentioned in the response letter).</p> <p>Supplementary File 3: Search Strategy: Please also list the sources for grey literature, unless I missed it in the file (as documented in the response letter). Please also report the number of pages searched (may only be possible for Google Scholar), if this was tracked. I'm also not sure I understand what is meant at the bottom of the table "Search two: added 'adolescent to each search". Is this for all the searches or just the Google Scholar searches? If for all, please list the numbers found accordingly.</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer 2: Dr. Peter Hoang, University of Toronto Faculty of Medicine

Reviewer comment Author response

1 Flow Diagram: typically, the number of studies for each reason for exclusion at full text are reported, if available.

The number of studies for each reason have been added to the flow chart

2 Results: there is usually a sentence at the beginning of the results on the number of items found in the search, the number included in full text, and the number for full review. There is usually also a summary sentence on the types of study (i.e. x studies were quantitative, y studies were qualitative, and z studies were mixed methods), and a summary sentence on the typical participant (age, gender, living setting, duration of program, frequency of visits).

A sentence as suggested has been added to the results section in the manuscript

3 Limitations: if the study selection and critical appraisal were not done independently, then it may be important to note the limitation. This can be potentially be justified in a similar setting to Rapid Review methodology (albeit more recently suggesting $\geq 20\%$ done by independent reviewers in pairs), with a relatively narrow question and time constraints (as mentioned in the response letter).

Both study selection and critical appraisal were undertaken independently by two reviewers, JS and DA. This is explained in the manuscript on Page 8.

4 Supplementary File 3: Search Strategy: Please also list the sources for grey literature, unless I missed it in the file (as documented in the response letter). Please also report the number of pages searched (may only be possible for Google Scholar), if this was tracked. I'm also not sure I understand what is meant at the bottom of the table "Search two: added 'adolescent to each search".

Is this for all the searches or just the Google Scholar searches? If for all, please list the numbers found accordingly.

Thankyou for these questions.

The grey literature sources are included in the search strategy section of the manuscript on page 8. Additional information was provided in the previous response letter. Number of pages searched was unfortunately not tracked.

We have added additional information into the Supplementary file 3 to explain the addition of the “adolescent” search term.