

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	The Kids in Communities Study (KiCS) study protocol: A cross-sectional mixed-methods approach to measuring community-level factors influencing early child development in Australia
AUTHORS	Goldfeld, Sharon; Villanueva, Karen; Tanton, Robert; Katz, Ilan; Brinkman, Sally; Woolcock, Geoffrey; Giles-Corti, Billie

VERSION 1 - REVIEW

REVIEWER	Professor Jeffrey Braithwaite Centre for Healthcare Resilience and Implementation Science Australian Institute of Health Innovation Level 6, 75 Talavera Road Macquarie University, NSW 2109, Australia
REVIEW RETURNED	04-Oct-2016

GENERAL COMMENTS	<p>This manuscript is well-organised and reads generally well, and the authors should be commended on their attention to detail in the protocol. The mixed-method approach seems comprehensive and is a particularly attractive feature of the manuscript.</p> <p>There are some minor changes I can suggest are made:</p> <ul style="list-style-type: none">- In the introduction, pg 5 line 110, move the comma from after "children" to after "thus"- Be consistent with the use of initial caps in the title of Figure 1- on pg 7, around line 158, please explicitly state that the "off-diagonal" you are referring to in the study is the cohort who are below average, not above it. Please also be consistent with your use of hyphens in "off-diagonal" (e.g. see error on line 158)- In table 1 (page 11) please add a heading over "urban" and "regional" columns called "geographical region" or something of the like to increase readability- On page 12, lines 251-252, you state that the data collection has already started? Please verify as protocols are meant to be published before data collection begins, in line with BMJ Open policy- In Table 2, please add a heading over the data collection methodologies columns. However, overall the table is easy to understand and a useful addition to the document- For Table 3, perhaps add another column called "Domains covered" using some of the information from the "Purpose" column
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REVIEWER	Nazeem Muhajarine Department of Community Health and Epidemiology, U of Saskatchewan and Saskatchewan Population Health and Evaluation Research Unit (SPHERU) Canada
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GENERAL COMMENTS	<p>This is a protocol of a funded study titled, The Kids in Communities Study (KiCS). It is a cross-sectional study employing multiple methods including quantitative and qualitative approaches. The strengths of the intended study are that it focuses on further understanding how the context in which children live and play (community) effects their developmental health outcomes. This is an area that not just more research, but clearly defined, reasoned and measured studies are needed. Second, the design focus on understanding the nature of communities where children live that unexpectedly have better than average outcomes (in spite low SES) or worse than average outcomes (in spite of high SES) is a timely and potentially fruitful avenue for investigation. I have, however, a few questions that if addressed could further clarify for the reader some of the terminology and content of the protocol.</p> <p>First, lines 116-118 (and others), there is (first) mention of the use of the terms, neighbourhood and community. It would be helpful to know how these terms ("neighbourhood" and "community") are interchangeable--not only in terms of semantics but, importantly, the constructs represented by these terms. Where (and in what circumstances) does this interchangeability breaks down (exceptions are seen). How is neighbourhoods used in rural and remote context in Australia, or for that matter even in suburbs? Since, in line 167 "suburbs" are mentioned as the location/definition for the selected communities for this study--how does this idea of "suburbs" align with the definition of neighbourhoods or communities.</p> <p>Second, what theoretical propositions underpin the five domains selected? Why these domains and not others? What (social) theories are consistent with, or underpin, the characterization and the selection of these domains? How are they suppose to influence (change) developmental health outcomes?</p> <p>Third, lines 207-209, where the join measure of SEIFA and IRSD is mentioned. Can you expand what this measure is about? Why are there two measures of SES or deprivation at area level? How are they compatible? Why are they paired? What are all of the indicators constituting each of the measures--and what is the composition of the paired measure?</p> <p>Addressing these clarifying questions/issues will make the protocol more useful and potentially resonant with others who do similar work in other parts of the world.</p>
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VERSION 1 – AUTHOR RESPONSE

Manuscript ID bmjopen-2016-014047 entitled "The Kids in Communities Study (KiCS): A cross-sectional mixed-methods approach to measuring community-level factors influencing early child development in Australia"
Response to Reviewers

We sincerely thank the Editor and two reviewers for their positive feedback and comments about the paper. Below are our responses to specific queries and suggestions:

	Comment/Suggestion	Reviewer	Response
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1	In the introduction, pg 5 line 110, move the comma from after "children" to after "thus"	1	Done
2	Be consistent with the use of initial caps in the title of Figure 1	1	Done
3	on pg 7, around line 158, please explicitly state that the "off-diagonal" you are referring to in the study is the cohort who are below average, not above it.	1	Off-diagonal communities is not about communities being above or below average – it is about communities that have educational outcomes that are the opposite of what we would expect, given the socio-economic status of the community. The text in the paper refers to communities that are either doing better than expected, or worse.
4	Please also be consistent with your use of hyphens in "off-diagonal" (e.g. see error on line 158)	1	Done – Lines 233, 270, 439, 460, 588 have been corrected to include hyphens for on- and off-diagonal terminology.
5	In table 1 (page 11) please add a heading over "urban" and "regional" columns called "geographical region" or something of the like to increase readability	1	Thank you for your suggestion. We have added the heading 'geographic region' to Table 1
6	On page 12, lines 251-252, you state that the data collection has already started? Please verify as protocols are meant to be published before data collection begins, in line with BMJ Open policy	1	Thank you. We have disclosed in our cover letter to the Editor that the selection of communities was completed in 2014 and data collection has commenced. However, the project is ongoing, including data collection and analysis. We believe that the study protocol is highly beneficial for all future research papers related to this project and will be cited. We have reviewed BMJ policies on publishing study protocols; our initial understanding is that studies that have completed data collection are ineligible to be published as a study protocol, rather than data collection not having commenced.
7	In Table 2, please add a heading over the data collection methodologies columns. However, overall the table is easy to understand and a useful addition to the document	1	Thank you for your suggestion, we have added a heading called 'Methodologies'

8	For Table 3, perhaps add another column called "Domains covered" using some of the information from the "Purpose" column	1	Thank you for your suggestion, we have added a heading called 'Domains' and shifted some information from the 'Purpose' column.
<p>For comments 11-14, a conceptual paper on the theories contributing to the KiCS' study design has been published (Goldfeld S, Woolcock G, Katz I, et al. Neighbourhood Effects Influencing Early Childhood Development: Conceptual Model and Trial Measurement Methodologies from the Kids in Communities Study. <i>Soc Indic Res</i> 2015;120(1):197-212). The paper outlines the constructs of 'neighbourhood' and 'community' in the Australian context. Moreover, the paper discusses the conceptual thinking behind the selection of the five community domains – socioeconomic, service, physical, social, and governance.</p>			
9	First, lines 116-118 (and others), there is (first) mention of the use of the terms, neighbourhood and community. It would be helpful to know how these terms ("neighbourhood" and "community") are interchangeable--not only in terms of semantics but, importantly, the constructs represented by these terms. Where (and in what circumstances) does this interchangeability break down (exceptions are seen).	2	From Goldfeld et al 2015: "there are some definitional differences between the terms neighbourhood and community. Community generally refers either to a place or a group of people with something in common, while neighbourhood concerns the concept of geographical proximity (Barry 1994). In the Australian context, the term community tends to refer to the geographic construct of neighbourhoods. Thus, the terms neighbourhood and community are used interchangeably". We have included a version of this explanation in the revised text on page 9, lines 204-205: "While the term 'community' may refer to a place or group of people with something in common, and 'neighborhood' concerns the geographic construct or boundaries, for this study, our definition of 'local community' aligns with the AEDC nomenclature and geographic boundaries. At first mention (lines 116-118), we have included "(these terms are further defined on page 9)."
10	How is neighbourhoods used in rural and remote context in Australia, or for that matter even in suburbs? Since, in line 167 "suburbs" are mentioned as the location/definition for the selected communities for this study--how does this idea of "suburbs" align with the definition of neighbourhoods or	2	Thank you. <i>Suburb alignment with definition of local communities</i> : The AEDC results are publicly-reported as an area-level aggregate termed 'local community'; ¹ the size of which equates to a 'suburb', approximately 10,000 persons per area on average, as defined by the Australian Bureau of Statistics (ABS) Australian Statistical Geography Standards (ASGS). ² The ASGS suburb boundaries are commonly understood geographies in Australia. While AEDC local communities usually align with ASGS suburb boundaries, this is not necessarily the case in rural and

	communities.		remote areas in particular. For the revision, we have removed all mentions of the word 'suburb' from the manuscript. While 'suburb' is commonly used terminology in Australia, it is not necessarily the case internationally thus it may be confusing to readers. For consistency, we have used the term 'local community' throughout the manuscript.
11	Second, what theoretical propositions underpin the five domains selected? Why these domains and not others? What (social) theories are consistent with, or underpin, the characterization and the selection of these domains?	2	<p>We have added the following text and references in the <i>Introduction</i>, Page 6, Lines 137-145:</p> <p>"It was designed to wholly encompass community-level processes that take into account conceptual thinking to date including seminal work from Sampson et al 2002,³ and Leventhal and Brooks-Gunn.⁴ Beyond the socio-demographic characteristics of residents, such theoretical models include elements of social ties/interaction (e.g. social capital and ties between neighbors), institutional resources (e.g. availability and accessibility of affordable, quality services), routine activities (e.g. patterns of land use and daily routine activities such as the location of schools). Further information about the theoretical underpinnings of the KiCS framework and the description of the five community domains, is described in Goldfeld et al. 2015".</p>
12	How are they supposed to influence (change) developmental health outcomes?	2	<p>Overall, there is sufficient research to suggest that the neighbourhoods and communities in which children live and grow have an important influence on child outcomes. The five identified domains were derived from the literature (some evidence health and development outcomes)—physical, social, service, socio-economic, and governance—may potentially interact to facilitate or hinder positive outcomes for children.</p> <p>We have added the following text:</p> <ul style="list-style-type: none"> • <i>Introduction</i> page 6, Lines 137-145: please see response above. • <i>Introduction</i> page 6, Lines 45-46: "The five community domains that form the KiCS framework is derived from the literature and recognizes the community platform as a potential point of intervention" • <i>Discussion</i> page 32, Lines 549-552:

			<p>“Working towards healthy environments for young children and families requires input from a range of stakeholders across multiple disciplines including practitioners and policy-makers from urban planning to pediatrics and education sectors. Moreover, community input is vital if communities are to use the findings”.</p> <ul style="list-style-type: none"> • <i>Discussion</i> page 32, Lines 555-556: “As such, communities may use these findings and indicators to develop more effective programs and interventions”.
13	Third, lines 207-209, where the join measure of SEIFA and IRSD is mentioned. Can you expand what this measure is about?	2	<p>The text describes SEIFA as a measure of disadvantage. Further information has been added on how it is calculated (Page 10, Lines 219-229): “The SEIFA indexes are a set of indexes of disadvantage produced by the ABS every 5 years using data from the Australian Census. A total of four indexes are produced, and the index used for this analysis was the Index of Relative Socio-economic Disadvantage (IRSD). This index is on a scale of high disadvantage (low values) to low disadvantage (high values). In this index, no indicators of advantage are used, so only indicators like low income, low education, low occupation, and public housing are used. These indicators are then combined into one weighted index using a statistical method called principal components analysis to derive the weights for each indicator. More information on the calculation of the SEIFA index can be found in publications from the ABS.”</p>
14	Why are there two measures of SES or deprivation at area level? How are they compatible? Why are they paired? What are all of the indicators constituting each of the measures and what is the composition of the paired measure?	2	<p>We apologise for any confusion in the text. The ‘pairing’ refers to using SEIFA-IRSD data and AEDC 2012 data to identify on- and off-diagonal local communities as study sites. We believe the Reviewer’s query may refer to SEIFA-IRSD. These are in fact one measure (i.e. IRSD is a specific area-level indicator constructed around relative disadvantage). Some further details have been added into the manuscript to clarify as per the comment in response to Reviewer Query 15 above.</p>

References:

1. Commonwealth of Australia Department of Education and Training. The Australian Early Development Census 2015 [Available from: <https://www.aedc.gov.au/> accessed 22 August 2016.

2. Australian Bureau of Statistics. The Australian Statistical Geography Standard (ASGS) 2013
[Available from:
[http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+\(ASGS\)](http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+(ASGS)) accessed 09 May 2014.
3. Sampson R, Morenoff J, Gannon-Rowley T. Assessing "Neighbourhood Effects": Social Processes and New Directions in Research. *Annu Rev Sociol* 2002;28:443-78.
4. Leventhal T, Brooks-Gunn J. The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes. *Psychol Bull* 2000;126(2):309-37.