

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Development and validation of a multidimensional, culturally and socially inclusive Child Resilience Questionnaire (parent/caregiver report) to measure factors that support resilience: a community-based participatory research and psychometric testing study in Australia
AUTHORS	Gartland, Deirdre; Riggs, Elisha; Giallo, Rebecca; Glover, Karen; Stowe, Mardi; Mongta, Sharon; Weetra, Donna; Brown, Stephanie

VERSION 1 – REVIEW

REVIEWER	Julia Dray The University of Newcastle
REVIEW RETURNED	11-Nov-2021

GENERAL COMMENTS	<p>Thank you for the opportunity to review this study. Research incorporating consultation and engagement of Aboriginal and refugee people is extremely needed and important, especially in the space of resilience measures where the authors correctly note that research is limited. It was great to see that the original lengthy tool was condensed into 43 items, effectively a quarter of the length. However, this still remains a long tool, especially if included in school-based, parental or child report survey including other measures. Unfortunately, I think comparison of the CRQ to the SDQ is a fundamental flaw of the study. The first measures resilience, however the latter, the SDQ, is a measure of mental health problems, not resilience. Thus the authors are incorrectly validating a resilience measure against a mental health measure, and therefore I cannot recommend this paper for publication without substantial changes to the validation component of the study.</p> <p>Intro The first two paragraphs flow well. In the third paragraph I'd encourage the authors to soften the second sentence, as the listed causes of life stress are not definitive/exhaustive of every possible one but rather examples of some severe adversity or life stress. Similarly the sentence bringing in third Nations is somewhat surprising but could be integrated better if in the first sentence these are worked in e.g. 'Some communities such as First Nations people and refugees...'</p> <p>Methods Wondering if you are able to map the many working groups and their number and type of participants into a diagram to make this more digestible? It is clear many important consultations were had, however it is hard for the reader to tease apart the many groups, their participants and also possibly their purpose – would a reader know what a working group is, as opposed to an advisory group if</p>
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	<p>they had never utilized such terms in their own research? Such details would also be hugely helpful for other research groups to have enough detail to consider modelling the cultural review process utilized in this study.</p> <p>In your description of cous groups and the systematic review (ref 20) – I would more clearly note this as related or past work of the authors, as this is a strength of the study, to show that this is a thorough and linked body of work, as opposed to using other peoples pieces of work.</p> <p>In the section describing the four samples for the pilot study, it comes across clear that 1 and 2 were Aboriginal communities, however perhaps detail of whether 3 and 4 included Aboriginal and/or refugee participants would also strengthen this to demonstrate sensibility/relevance of the sample used. This similarly applies when describing samples 3 and 4 of the validation study. If they do not include Aboriginal and/or Refugee participants please note this and briefly state why they were still included in the sample of the study.</p> <p>The abstract notes that the original CRQ has 160 items, however in the methods this is noted as 169 items. Please align the values at each mention.</p> <p>Great to see participants were not excluded on English language proficiency and that translators were engaged to help NESB participants take part.</p> <p>The SDQ has been incorrectly identified as a measure of resilience, rather it is a measure of mental health problems. Therefore it is not an appropriate tool to validate the CRQ against. The authors need to remove validation from the study, or conduct validation with an appropriate resilience scale e.g. Resilience and Youth Development Module of the California Healthy Kids Survey.</p> <p>Discussion</p> <p>The above major change to study design may substantially change the discussion, therefore I have not commented on this section.</p> <p>Thank you.</p>
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REVIEWER	Peter B. Gray Univ Nevada
REVIEW RETURNED	07-Dec-2021

GENERAL COMMENTS	<p>This manuscript reports on the development of a Child Resilience Questionnaire to be completed by parents/caregivers (CRQ-P/C). The manuscript is well-written, structured well, and conveys clearly the key steps in the questionnaire piloting and validating process. The manuscript has several key strengths. One is that it was developed with the inclusion of migrant and Aboriginal community involvement, helping make the questionnaire more inclusive and likely useful and generalizable. Another strength is that the rigorous steps for questionnaire design were pursued and shared, with those steps including confirmatory factor analysis and testing for construct validity with the Strengths and Difficulties Questionnaire. A third strength is that such questionnaires are wanting for children of the targeted middle childhood age range: 7-12 years of age. The methodological focus of the research is also contextualized well in the broader literature, both in the Introduction and Discussion. Due to the perceived quality of the work, I have few recommendations for revision, and feel this manuscript will make a useful contribution to the childhood and resilience literatures.</p> <p>I was surprised that findings were not also depicted by group</p>
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	<p>backgrounds (e.g., Aboriginals, migrants) and childhood age to help show the patterning of the CRQ-P/C. At the same time, the multiple recruitment methods for validation limit the value of direct comparisons by such characteristics, instead favoring future work with more targeted recruitment to show such patterning. Please comment on this briefly in the manuscript.</p> <p>A limitation is that there were no child self-report scores. While recognizing this might be easier for 12 year olds than 7 year olds, please add this as a limitation to the end of the Discussion preceding the Conclusion.</p> <p>Given other research recognizing the importance of peer relationships and friendships to middle childhood, it was notable that friends did not appear prominently in the piloting and validation processes of this questionnaire. The Friends element remained within School but not on its own. Perhaps citing a couple of references on middle childhood and peer relationships and friendships, please touch on this briefly in the Discussion, with an illustration of a relevant reference below.</p> <p>Also briefly in the Discussion, please touch on some other key aspects of resiliency. One issue is resiliency to what: to food insecurity, peer racism, family death, physical abuse, etc. and whether one would expect this questionnaire to be of equal use for the varied challenges facing children and for which resilience may help them respond. Another issue is the temporality of resilience--to the immediate challenge vs. perhaps part of life course "canalization" of variable downstream trajectories (e.g., the developmental set point model of Del Giudice, with reference below). Given that such facets are outside the immediate scope of the questionnaire development, but also relevant to the context for the questionnaire's use and value, a paragraph on these kinds of items in the Discussion may suffice.</p> <p>Minor edit: the sentence near the top of p. 8 that reads "Employment of Aboriginal staff and bicultural workers to conduct research in their communities and consult on the measure/scales/items and findings at each stage." is incomplete; please add something like "took place" before "at each stage."</p> <p>Maunder, R., & Monks, C. P. (2019). Friendships in middle childhood: Links to peer and school identification, and general self-worth. <i>British Journal of Developmental Psychology</i>, 37(2), 211-229.</p> <p>Del Giudice, M. (2018). Middle childhood: An evolutionary-developmental synthesis. <i>Handbook of life course health development</i>, 95-107.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1	
Intro	
The first two paragraphs flow well. In the third paragraph I'd encourage the authors to	We have softened the second sentence and revised the

<p>soften the second sentence, as the listed causes of life stress are not</p> <p>definitive/exhaustive of every possible one but rather examples of some severe</p> <p>adversity or life stress. Similarly, the sentence bringing in third Nations is somewhat</p> <p>surprising but could be integrated better if in the first sentence these are worked in e.g.</p> <p>'Some communities such as First Nations people and refugees...</p>	<p>paragraph as advised:</p> <p>Some communities including First Nations and refugee communities, experience a significantly higher cumulative load of early life stress and adversity. This can be linked to the impacts of colonisation, persecution, experiences of war, social disadvantage and intergenerational trauma. Despite these experiences, many of these communities demonstrate resilience, (16-19) but are poorly represented in the existing child resilience literature - as demonstrated in a systematic review conducted as part of this study.(20) ...</p>
<p>Methods</p>	
<p>Wondering if you are able to map the many working groups and their number and type</p> <p>of participants into a diagram to make this more digestible? It is clear many important</p> <p>consultations were had, however it is hard for the reader to tease apart the many</p> <p>groups, their participants and also possibly their purpose – would a reader know what a</p> <p>working group is, as opposed to an advisory group if they had never utilized such terms</p> <p>in their own research? Such details would also be hugely helpful for other research</p> <p>groups to have enough detail to consider modelling the cultural review process utilized</p> <p>in this study.</p>	<p>The paper is long and we were obviously too brief in this section. While a diagram would be very cumbersome due to the many consultations conducted throughout the study, we hope we have made it clearer by adding more detail as follows:</p> <p>Throughout every stage of the study, the following processes were used to embed community consultation, engagement and co-design. The study was conducted in partnership with the Aboriginal Health Council of South Australia, an Aboriginal family support unit at the hospital, and the lead provider of</p>

	<p>refugee counselling services in Victoria. These partners were involved in the funding application and study design as recommended in community consultation guidelines.(36-38)</p> <p>Working groups involving academic and non-academic (partner) study investigators were established to co-design research processes. The Aboriginal working group involved Aboriginal researchers, Aboriginal and non-Aboriginal study investigators, and representatives of partner organisations.</p> <p>The refugee working group involved study investigators,</p>
	<p>representatives of partner organisations, staff from the</p>
	<p>hospital's Immigrant Health Centre, refugee advocates and</p>
	<p>bicultural researchers employed on the study. Aboriginal</p>
	<p>researchers or bicultural workers were employed to work with</p>
	<p>their communities and networks to advertise the study and</p>
	<p>recruit families. As a member of the community, they ensured</p>
	<p>that the recruitment, consent and questionnaire</p>
	<p>administration were conducted in ways that promoted</p>
	<p>cultural safety and trust, including speaking to families in their</p>
	<p>preferred language.</p>

In your description of your groups and the systematic review (ref 20) – I would more	Thank you. We have added as follows:
clearly note this as related or past work of the authors, as this is a strength of the study,	Despite these experiences, many of these communities
to show that this is a thorough and linked body of work, as opposed to using other	demonstrate resilience, (16-19) but are poorly represented in
peoples pieces of work.	the existing child resilience literature - as demonstrated in a
	systematic review conducted as part of this study.(20)
In the section describing the four samples for the pilot study, it comes across clear that	The Child Resilience Questionnaire was developed for use in
1 and 2 were Aboriginal communities, however perhaps detail of whether 3 and 4	community and population-based studies and settings. We
included Aboriginal and/or refugee participants would also strengthen this to	included targeted over sampling of Aboriginal and refugee
demonstrate sensibility/relevance of the sample used. This similarly applies when	background families to expand the relevance of the
describing samples 3 and 4 of the validation study. If they do not include Aboriginal	questionnaire to families from diverse backgrounds, and
and/or Refugee participants please note this and briefly state why they were still	families that are often excluded from research as “hard to
included in the sample of the study.	reach”.
	We have attempted to make this clearer, by rewriting the
	start of the methods section as follows:
	The study was designed to develop a socially inclusive,
	multidimensional measure of resilience in children that was
	relevant to a range of contexts in which children may
	encounter adversity and show resilience. Two methodological
	approaches ensured participation by families with diverse

	social and cultural backgrounds, adversity exposures and
	resilience factors. 1) the questionnaire was co-designed with
	Aboriginal and refugee background communities; and 2)
	families were recruited from outpatient clinics in a large
	public tertiary hospital. Public hospitals provide free
	healthcare, and the clinics are attended by large numbers of
	families every day, including urban and rural based families,
	with significant variation in economic, cultural and social
	backgrounds.
The abstract notes that the original CRQ has 160 items, however in the methods this is	Typo has been corrected. Thank you.
noted as 169 items. Please align the values at each mention.	
Great to see participants were not excluded on English language proficiency and that	Thank you.
translators were engaged to help NESB participants take part.	
The SDQ has been incorrectly identified as a measure of resilience, rather it is a	We agree, this is a really important point.
measure of mental health problems. Therefore it is not an appropriate tool to validate	As noted in the paper, at the time of designing and conducting
the CRQ against. The authors need to remove validation from the study, or conduct	the study, there was no other measure of child resilience
validation with an appropriate resilience scale e.g. Resilience and Youth Development	available. Our review of the available literature (conducted to
Module of the California Healthy Kids Survey.	inform this study) is published in BMJ Open (Gartland D et al,
	2019) and is a very highly cited paper.
	Given the lack of a gold standard

	measure, we chose the SDQ
	as it was (and is) the most commonly used measure of child
	wellbeing, and because it is frequently used as a proxy for
	identifying resilience.
	We provide a detailed rationale for this decision in the paper
	discussion and methods and acknowledge it both as a
	limitation and an area for further investigation in the
	discussion. The Resilience and Youth Development Module
	(2007) and the recent publication of the Child and Youth
	Resilience Measure are potential candidates for criterion
	testing. However, both measures were developed with
	secondary school students, and neither was inclusive of First
	Nations or refugee families. So, while these measures will be
	used for future validation, there remains no 'gold standard'
	comparison measure for our unique socially inclusive
	resilience measure for primary school students.
	To make the point more strongly, we have revised the
	mention in the limitations as follows:
	While we were able to assess criterion validity using the SDQ

	as a proxy measure of resilience, this is not a measure of
	resilience. No such measure existed at the time of the study.
	Further assessment against new child resilience measures will
	enable more rigorous assessment.
Reviewer: 2	
I was surprised that findings were not also depicted by group backgrounds (e.g.,	Yes we will be investigating this aspect in future analyses of
Aboriginals, migrants) and childhood age to help show the patterning of the CRQ-P/C.	these data. It was beyond the scope of this already long and
At the same time, the multiple recruitment methods for validation limit the value of	complicated paper to describe our development processes.
direct comparisons by such characteristics, instead favoring future work with more	
targeted recruitment to show such patterning. Please comment on this briefly in the	In reference to examining patterning by group backgrounds
manuscript.	and age etc, we have added the following in the discussion:
	Availability of the multidomain Child Resilience Questionnaire
	will facilitate investigation of the importance of specific
	resilience factors, such as friends, in different contexts (e.g.
	Aboriginal families) or adversities (e.g. family violence
	exposure) to advance our understanding of child resilience
	and how to support positive outcomes in the face of adversity.
A limitation is that there were no child self-report scores. While recognizing this might	This is the first paper describing the CRQ-P/C report. A second
be easier for 12 year olds than 7 year olds, please add this as a limitation to the end of	paper has also been submitted describing the self-report

the Discussion preceding the Conclusion.	version for children aged 7-12 years. It was not possible to
	include both in a single paper.
	We have added this to the limitations and attempted to make
	this clearer in the method's CRQ development section:
	Limitations
	It was beyond the scope of this paper to also report on the
	child report CRQ (CRQ-C) against the CRQ-P/C, but this is
	underway.
	Methods
	...While space limits this paper to describing the CRQ-P/C,
	publication of the CRQ-C and CRQ-S will follow.
Given other research recognizing the importance of peer relationships and friendships	We have explored this in more detail in the CRQ-C paper, and
to middle childhood, it was notable that friends did not appear prominently in the	agree it is a gap here. Thank you for bringing these resources
piloting and validation processes of this questionnaire. The Friends element remained	to our attention, particularly Del Giudice (2018). We have
within School but not on its own. Perhaps citing a couple of references on middle	referred to them in the introduction (Del Giudice, M. 2018)
childhood and peer relationships and friendships, please touch on this briefly in the	and discussion (both).
Discussion, with an illustration of a relevant reference below.	
Maunder, R., & Monks, C. P. (2019). Friendships in middle childhood: Links to peer and	We have added:
school identification, and general self-worth. British Journal of Developmental	Finally, the friends scale was not strongly consistent across
Psychology, 37(2), 211-229.	the revisions but showed excellent scale reliability with three

Del Giudice, M. (2018). Middle childhood: An evolutionary-developmental synthesis.	items. While friendships in middle childhood have been
Handbook of life course health development, 95-107.	highlighted as developmentally important (DelGuidice, 2018)
	and associated with positive self-worth and school
	engagement(Maunders & Monks, 2019), most investigation in
	terms of resilience has been with adolescents(Pawelby et al,
	1997, Lansford et al, 2003, Haddow, 2021). Availability of the
	multidomain Child Resilience Questionnaire will facilitate
	investigation of the importance of specific resilience factors,
	such as friends, in different contexts (e.g. Aboriginal families)
	or adversities (e.g. family violence exposure) to advance our
	understanding of child resilience and how to support positive
	outcomes in the face of adversity.
Also briefly in the Discussion, please touch on some other key aspects of resiliency. One	We have added more detail about how we see the
issue is resiliency to what: to food insecurity, peer racism, family death, physical abuse,	questionnaire to be useful across varied challenges and how
etc. and whether one would expect this questionnaire to be of equal use for the varied	resilience may be conceptualized using the measure.
challenges facing children and for which resilience may help them respond. Another	
issue is the temporality of resilience--to the immediate challenge vs. perhaps part of life	Conclusion
course "canalization" of variable downstream trajectories (e.g., the developmental set	Resilience was originally seen as a static characteristic of an
point model of Del Giudice, with reference below). Given that such facets are outside	individual – unique heroic figures achieving remarkable things

the immediate scope of the questionnaire development, but also relevant to the	despite tragic childhoods. It is now better conceptualized as a
context for the questionnaire's use and value, a paragraph on these kinds of items in	more 'ordinary magic'.(Masten, 2013) A dynamic process of
the Discussion may suffice.	drawing on internal and external resources to adapt, recover
	or thrive despite adverse experiences. Thus children who have
	access to resilience factors within themselves, and in their
	family, school and community will fare better in the face of
	adversity, than children who are not similarly resourced. The
	CRQ-P/C is the first culturally and socially inclusive, multi-
	domain measure of child resilience that reflects this paradigm
	shift. The measure will facilitate investigation of a child's
	strengths or vulnerabilities across different aspects of their
	socio-ecological world. Availability of the first
	developmentally appropriate child measure with
	demonstrated content, construct validity, reliability and
	criterion validity will facilitate understanding of resilience
	across settings, contexts, adversities, and countries.
Minor edit: the sentence near the top of p. 8 that reads "Employment of Aboriginal	We have revised this sentence as follows (reviewer 1 also
staff and bicultural workers to conduct research in their	requested greater detail in this section):

communities and consult on	
the measure/scales/items and findings at each stage." is incomplete; please add	Aboriginal researchers or bicultural workers were employed
something like "took place" before "at each stage."	to work with their communities and networks to advertise the
	study and recruit families. As a member of the community,
	they ensured that the recruitment, consent and questionnaire
	administration were conducted in ways that promoted
	cultural safety and trust, including speaking to families in their
	preferred language.

VERSION 2 – REVIEW

REVIEWER	Lucy Griffiths Swansea University, Swansea University Medical School
REVIEW RETURNED	21-Mar-2022

GENERAL COMMENTS	<p>Thank you for the opportunity to review this manuscript. This study, and tool, will clearly be of relevance to those working with Aboriginal and refugee background children and interested in resilience.</p> <p>The authors have comprehensively addressed the comments from both previous reviewers - the manuscript has been improved.</p> <p>Two minor points:</p> <p>'Pilot study to test draft CRQ-P/C' section - 'the pilot follow-up questionnaire completed by mothers/carers of children aged 5-7 years' - the abstract states 5-12 years. Please amend if incorrect in the methods.</p> <p>The reference list needs to be checked - e.g. I do not think the hyperlink for the Kalmakis & Chandler (2015) reference is working (the first takes me to an Ovid login), and the Kaplan (2020) reference needs one adding.</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer 1.	
Two minor points:	
'Pilot study to test draft CRQ-P/C' section - 'the pilot follow-up questionnaire completed by mothers/carers of children aged 5-7 years' - the abstract states 5-12 years. Please amend if	This is correct – the cohort was followed up as the children were 5-7 years of age.

incorrect in the methods.	
The reference list needs to be checked - e.g. I do not think the hyperlink for the Kalmakis & Chandler (2015) reference is working (the first takes me to an Ovid login), and the Kaplan (2020) reference needs one adding.	We have checked all references and revised.