## 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**

TITLE (PROVISIONAL)	Examining Protective and Buffering Associations Between Socio-
	Cultural Factors and Adverse Childhood Experiences among
	American Indian Adults with Type 2 Diabetes: A Quantitative,
	Community-Based Participatory Research Approach
AUTHORS	Brockie, Teresa; Elm, Jessica; Walls, Melissa

# **VERSION 1 – REVIEW**

REVIEWER	Soonhee Roh
	University of South Dakota in USA
REVIEW RETURNED	09-Mar-2018

GENERAL COMMENTS	Comments to the Author
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	This article has a great deal of potential. The purpose of this study was to determine the frequency of select Adverse Childhood Experiences (ACEs) among a sample of American Indian adults living with type 2 diabetes and to examine associations between ACEs, social support, cultural factors, and self-rated physical and mental health. This manuscript describes the results of quantitative surveys with 192 participants. The study is well thought out and carefully designed.
	The virtues of the article are as follows:  • It studies a society undergoing rapid social change especially American Indian population.
	<ul> <li>There is a need for research on diabetic American Indian adults in US since most studies on ACEs, social support, cultural factors are based on whites and other minorities.</li> </ul>
	It employs a CBPR approach and focused on resilience perspective of American Indians.
	To enhance your manuscript, I have some suggestions:
	<ol> <li>Need more strong discussions about the significance of the study.</li> <li>Need to elaborate implications /conclusions of practices based on the findings much more.</li> </ol>

REVIEWER	Richard Thompson Assistant Professor of Pediatrics Baylor College of Medicine, United States
REVIEW RETURNED	28-Mar-2018

GENERAL COMMENTS	This is a potentially very important article. Limited work has been

done on the long term impacts of adversities in this understudied group of people.

I think the authors somewhat sell themselves short in the objectives as described in the abstract. Presumably, the purpose goes beyond describing this particular sample (which is how it is framed) and the study is an attempt to make some broader suggestions about people in this circumstance more generally.

The authors report a relatively low rate of missing data per item, but it is not clear to what extent this missing data was distributed across different participants or concentrated. It is important for the authors to give a sense of how many participants had their data included in the multivariate analyses. The simplest way of doing so would be to have another row for "number of participants included in analysis appended to Table 2. it might also help the reader if the different models described in this table had substantive labels at the top of the column, like "ACEs and social support as moderators."

One additional limitation (or at least caveat) that the authors should mention is that the selection of particular ACEs to include in assessment is necessarily arbitrary. As the authors note in the introduction, a host of potential adversities besides the 9 examined here have been examined in other research, so the results should be understood with the particular adversities studied in mind. This more general statement would very smoothly lead into the authors' important point about culturally relevant (and implicitly, unmeasured) adversities.

Very minor point: the authors correctly note in the analysis section that they are testing moderation. The authors should use this term rather than "modification" in the statement of hypotheses at the end of the introduction.

REVIEWER	Catherine Burnette
	Tulane University, United States
REVIEW RETURNED	16-May-2018

# **GENERAL COMMENTS**

The article is strong, and includes important information on Al/AN populations that is lacking in extant research. Could you include in the analysis attention to sex/gender differences in the interpretation of results? I noticed that gender was significant for mental health. In the Intro, please place the citation for each claim right next to the respective text (e.g. p. 4 T2D, substance abuse, suicide...-place each citation next to each concept rather than at the end of the sentence).

There are current statistics through Indian Health Service on the prevalence of diabetes--include those 2017/2018 stats for a more compelling argument in the introduction.

Review closely for grammar and readability, paying attention to well-developed paragraphs, transition sentences etc.

In the discussion and/or background include the average ACEs in the general U.S. Population, and include a discussion of how your results compare. Unclear of whether the comparative research focused on AI/ANs or general population at the beginning of the discussion.

For the measures description, include example items for each measure, and whether they have been used with AI/AN samples with citations. A more clear picture of the content of each measure would help the reader assess face validity. Also include their psychometric properties.
I think even more can be said about the importance of results, in the conclusions section, identifying connections between social, physical, and mental health in relation to diabetes.

#### **VERSION 1 – AUTHOR RESPONSE**

## **Response to Reviewer 1:**

- a) The reviewer asked us to strengthen our discussion of significance of the study. Thus, we have revised both the introductory and concluding parts of the manuscript (see additional details in response to reviewers 2 and 3).
- b) We now provide more information about implications for both practice (including tribal-based practice) and policy in our discussion and concluding sections.

c)

## Response to Reviewer 2:

- a) We appreciate the suggestion to broaden the language re: implications of our work in the abstract, which is now revised.
- b) We now include N for each multivariate model in table 2 as suggested.
- c) The caveat regarding the necessarily arbitrary nature of ACE assessment is well taken, and we include new language in the limitations section to reflect this reviewers' points re: interpretation of the findings vis-à-vis the 9 measured adversities included in this particular study.
- d) Thank you for pointing out the typo in Hypothesis 3 this has been corrected at the end of the introduction section.

#### **Response to Reviewer 3:**

- a) We now include a more explicit reporting of results regarding both gender (as requested) and income. These findings are also interpreted in the discussion section.
- b) We have corrected the citation numbering throughout.
- c) This reviewer mentioned updated diabetes statistics from the IHS from 2017 and 2018. Two members of the authorship team did an extensive search and were unable to locate the referenced report/numbers. We also contacted collaborators doing research in the area of diabetes and they, too, were not aware of the report. We would be very grateful for additional assistance/citation to help us locate this report.
- d) We have done a thorough edit for punctuation, typos, and flow and worked to incorporate clearer transition sentences throughout.
- e) The comparison of prevalence findings for ACEs in this sample vis-à-vis prior research now more explicitly labels which samples focused on Al/ANs and which did not.
- f) We now include example items for our measures along with reliability coefficients. The methods section also includes new details about our measurement development process for achieving optimal validity with AIAN communities.
- g) We revised both the introduction an conclusions sections to say more about the impact/importance of these results.

## **Editorial Revisions:**

The Figure Legends are now included at the end of the manuscript.

Figure uploads are set to meet specified dpi.