Reviewer’s report

Title: Independent associations of childhood and current socioeconomic status with risk of self-reported doctor-diagnosed arthritis in a family-medicine cohort of North-Carolinians

Version: 2 Date: 19 August 2013

Reviewer: Emma Gearon

Reviewer’s report:

This paper attempts to discern the role of childhood socioeconomic status (SES) on development of arthritis independently and combined with the role of current SES. The study question is relevant, well defined and methods used are sound. The paper is very well written and points made are clear, particularly the way in which creation of the SES summary score and trajectory variables are explained. However, the paper could be improved by a more thorough interpretation of results which focus more directly on the aim of the paper. Doing so would mean the novel finding of this paper, that childhood SES is associated with arthritis development independently of current SES, is more clearly conveyed.

Minor Essential Revisions

1) Results paragraph of the abstract, please revise sentence “… both childhood and current SES with the reporting of arthritis across.”

2) As the abstract should stand alone from the manuscript, terms such as “mutually adjusted models” used in the results paragraph of the abstract, which rely on definitions specified only in the manuscript, should be avoided. Additionally, the phrasing of “summary childhood SES” and “summary current SES” used in the results paragraph of the abstract should be changed to include the word “score” to align with the terms used in the methods section of the abstract.

3) In both the abstract and conclusion, reference is made to the superseding role of current SES over childhood SES on the odds of arthritis development. These points are relevant, but could be better articulated and more thoroughly discussed throughout the paper. Given this is such an interesting finding, you may consider including it in the first paragraph of the discussion.

4) In the last sentence of the first introductory paragraph, “… health behaviors and environmental exposures commonly regarded as likely pathways” please provide an appropriate reference.

5) It is unclear exactly what the authors mean by the term “participant-parental pairs” which is used in the first logistic regression approach (and hence repeated throughout the Methods and Results sections).

6) The discussion needs to include a comment on how the three approaches to answering the aim can be synthesized and should be interpreted. What does each of the approaches tell us? The discussion seems to instead focus around
which is the best measure of SES, which although interesting, is not in line with the aim of the paper.

Discretionary Revisions

7) Within the Methods, you may consider explicitly stating the response rate of the survey. A discussion of the limitations associated with how representative the participants of the current study are may also be useful.

8) The proportion of each type of arthritis present in the arthritis group may be of interest to some readers. You could consider including this statistic in Table One.

9) The role that reverse causation may play in determining the relationship between current SES and arthritis development is not currently addressed, and may be an important limitation if those with arthritis which developed at an early age were unable to complete higher education, or attain a higher level occupation or own their own home.

10) Given this is a journal of interest to a broad readership, not just epidemiologists, the authors could clarify why results displayed in Table 2, where lowest childhood SES remains associated with arthritis after adjusting for current SES, may seem contradictory to those of Table 3, where those of the low/lowest childhood SES who attained a high current SES are no longer at an increased risk of arthritis development compared to those who had always had a high SES.

11) An interesting and optimistic finding of this paper (Table 3) is that those who had an upward social mobility, and hence attained a level of SES higher than that of their parents, had decreased odds of arthritis development compared to those who attained the same level of SES as their parents. The authors could consider including a discussion around this point.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.