Reviewer's report

Title: Individualized and institutionalized residential place-based discrimination and self-rated health: a cross-sectional study of the working-age general population in Osaka city, Japan

Version: 1 Date: 14 January 2014

Reviewer: Naoki Kondo

Reviewer's report:

This study investigated individual and area-level perceived place-based discriminations (PBD), and area-level deprivation as potential determinants of individual self-rated health. The topic is important for public health. The manuscript is very well-written. I have several comments on its argument.

Major Compulsory Revisions

#1 The authors wanted to evaluate “institutionalized” PBD and measured it by aggregating individual responses on PBD by area and called it “area-level PBD”. I understand the authors’ this intention but I think there is still substantial distance between the concept of institutionalized PBD and area-level aggregate of individual PBD. It is good that the authors clearly defined these terms in the main text but in abstract it is confusing. Please clarify. Potential alternative interpretations of measured area-level PBD and SRH should be discussed more (perhaps in limitation section?). In addition, when using the term institutionalized PBD, it should be defined clearly at the first place it used (Currently the definition came first at methods section).

#2 It is misleading to evaluate the strengths of associations based on statistical significance or the width of credible intervals. I think it should be done mainly by the magnitude of point estimates. I recommend to modify the interpretations of the results based on this.

#3 The comparisons of the magnitude of area-level PBD and deprivation should be careful as the ranges of these measurements should be different. As this is conducted in Japan where I think severe poverty issue and areal segregations based on living standards are not highly likely, the range of areal deprivation may be narrower than those in other places with wider social disparities (such as downtown areas in the US). Please mention about these in discussion.

#4 Bring some of explanations on “buraku” and “nishinari” from supplement to the main text, as they are important concepts in this paper’s argument. Especially it seems to me very important to understand “the fifth pathway” on discrimination/health associations.

#5 Concepts for the authors hierarchical modeling approach is not clear. What is the key model to evaluate the association between area-level PBD on SRH?
What is additional models to evaluate those potential pathways? For example, I agree to the authors on the point that social relationships may possibly be the mediator on the association between area-level PBD and health. So what is the role of the fully adjusted models in the authors’ data evaluation? These consideration may better be shown in methods section, when introducing their modeling approach.

#6 Page 12, the discussion on institutionalized discrimination is somehow difficult to follow. What are the authors mean by “small measures”?

#7 Page 14: Drawing policy makers’ attitude: this part may exceed the scope of this paper.

Minor Essential Revisions
#8 better to explain the definitions of area-level measures using different data sources in each tables, making them self-explanatory. (it is difficult to understand the meanings of “aggregated” and “census” in the current status.

#9 minor point: model 4 in table 4: CI is incomplete for individual PBD.

Level of interest: An article of outstanding merit and interest 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 do not have any financial and non-financial COI on this paper.