Reviewer's report

Title: Health differentials in the older population of England: An empirical comparison of the materialist, lifestyle and psychosocial hypotheses.

Version: 2 Date: 6 September 2010

Reviewer: Panayotes Demakakos

Reviewer's report:

06/09/10


This is an interesting and well-written paper that I enjoy reading. It focuses on the contribution of three pathways (i.e. material, psychosocial and behavioural/lifestyle) to health inequalities in older ages and shows that the examined pathways are significant and explain the association between socioeconomic position (SEP) and older people’s health. It also suggests that SEP is more strongly related to the outcome measures via the material and behavioural pathways than via the psychosocial pathway. The authors have used sophisticated methods of statistical analysis to “decompose the effect of later–life SEP on health”, have grounded their work on a sound theoretical basis and have adequately discussed the implications as well as the limitations of it.

I think that this work adds to our knowledge about the mechanisms through SEP might affect health and is useful for a wider academic audience interested in health inequalities. However, as with every work, there is room for improvement and I hope that the authors will find my comments below constructive.

Discretionary Revisions:

(1) Page 3 (last line) and p.4 (first line): intermediate path from material resources to psychosocial factors: It is not clear why the authors have decided to selectively include this intermediate path in their model and not others. If they aim at exploring the interrelationships between the mediating factors, then they need to do that in a systematic way (based on theory and empirical evidence) and examine other paths, which are also plausible, for example the paths from the psychosocial and material factors to the behavioural factor. But given the cross-sectional nature of this work and its complexity, I think, examining any such intermediate paths is rather unnecessary and obscures the clarity of the results. For example is it because of the inclusion of the intermediate path from the material to the psychosocial factor that the association between the latter and SEP appears weaker than the associations between SEP and the other mediators? My suggestion is to report a main model without the intermediate path from material factor to the psychosocial factor. This is particularly important
given that the coefficient of this path (i.e. from the material factor to the psychosocial factor) is greater than the coefficient of the main path from SEP to psychosocial factor and this raises questions about the validity of the structural model.

(2) Methods: Data source: How missing values were dealt with in the analysis?

(3) Methods: Data source: Missing at random: Please see the ELSA wave 2 technical report http://www.ifs.org.uk/elsa/report06/w2_tech.pdf. Neither attrition nor module non-response are at random. This is limitation that the authors need to acknowledge and discuss.

(4) Methods: Mediators: Material resources: “problems experienced in the neighbourhood as an indicator of neighbourhood affluence” – please give more information on this. Why this is a binary variable? In the Appendix this variable is described as: “problems in accommodation”, this is somewhat different from problems with the neighbourhood.

(5) Methods: Mediators: Material resources: Ownership of durables: The categorisation of this variable (as presented in the Appendix) needs justification.

(6) Methods: Mediators: Psychosocial path: I think this is the weakest point of the paper. The psychosocial pathway is exclusively related to perceived control. Although this was decided because of the lack of appropriate stress data in ELSA, still this is a major limitation and its consequences should be discussed. Also it is not entirely clear (a) how the constituent variables of the control factor were selected (b) which variables were selected from the autonomy dimension of CASP-19 and why and (c) why only variables about control at home were selected from the sense-of-control measure?

(7) Methods: Mediators: Health related behaviour-lifestyle: Frequency of exercise: Has the intensity of physical activity been taken into consideration? Please give some additional information on this.

(8) Methods: Mediators: Health related behaviour-lifestyle: Using waist-to-hip ratio as a proxy for dietary habits. I think the use of a measure of central adiposity transforms, to a certain extent, this pathway to a stress-related one given the association between stress and central adiposity. BMI would be a better measure to use here.

(9) Methods: Outcomes: Somatic health: Self-reported health measures: long-standing illness: this might also refer to non-somatic long-standing health problems or problems that the respondents had since birth.

(10) Methods: Outcomes: Well-being: Given that this is a separate outcome, it needs to be presented in a separate paragraph.

(11) Methods: Statistical analysis: CFA: Please describe the CFA in greater detail. Perhaps it would be useful to present all the parameters of the final model in an Appendix. Also, a presentation of the factors loadings in an Appendix would contribute to a better understanding of the results.

(12) Methods: Was there any indication (i.e. a significant interaction term in preliminary analyses) for stratifying the analysis by gender or age group and performing multi-group analysis?
(13) Results: It is very useful that the authors explain the results in detail. But it is not necessary to repeat all the results shown in the tables/figures in this section.

(14) Discussion: First paragraph: Reference 29: It would be very useful to cite here previous works that have explored health inequalities in older age using the same data and therefore are directly relevant to this work. For example: Demakakos et al. (2008) in Social Science and Medicine have presented a very detailed account of the associations between SEP measures and health outcomes using ELSA wave 2.

(15) Discussion: Second paragraph: “Our findings support the neo-materialist and lifestyle hypotheses, since the material and lifestyle paths had the most prominent mediating role in the association between SEP and later life health”. I think that this conclusion is not entirely supported by the data because: (a) the psychosocial pathway is significant, (b) perhaps it has not been measured appropriately (the psychosocial factor was only about self-perceived control), (c) the lifestyle pathway is to a certain extent a stress pathway as it includes waist circumference, and most importantly (d) it is unknown how the final results would look like if the intermediate path between material resources and control was not included in the final model.

(16) Discussion: Page 9: “We note the effect of the material path on the three health outcomes remained strong even in a model where the added effect of its mediation via the psychosocial path (perceived control) was not estimated”. I think this should be the main model of this paper.

(17) Discussion: Excellent discussion of the limitations of the study.

(18) Discussion: Page 10: “All direct effects were negligible, suggesting that the three paths were captured adequately by the latent summary indices”. This is major. Have parameters for the direct effects of SEP on the outcome measures been included in the main model? Please elaborate on this.

(19) There is need to acknowledge in the discussion the consequences of using a less well measured psychosocial factor that did not included stress. Also, that this is a cross-sectional work and thus no causal inferences can be drawn regarding the temporal order between the predictors (especially the mediating factors) and outcomes.

(20) Table 3: Please also consider reporting the total effects of SEP on the three outcome measures.

**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