Author's response to reviews

Title: Using latent class analysis to develop a model of the relationship between socioeconomic position and ethnicity: cross-sectional analyses from a multi-ethnic birth cohort study

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Author's response to reviews: see over
Dear Editor

Thank you again for reviewing our manuscript. Please find detailed below our response to your further comments.

Lesley Fairley (on behalf of all authors)

Can one issue be addressed before we accept the manuscript? It isn't clear how the heavily imbalanced ethnic groups [e.g. 2.3% Bangladeshi vs. 39.6% white British] were compared in the analysis. The issue of imbalance groups is fairly common in health research and needs a little more attention in this manuscript that advocates for an analytic model. Also I can't find any good rationale for the addition in the title 'and implications for health research' and suggest to drop this addition from the title to avoid any confusion.

We acknowledge that there is a large imbalance in the ethnic groups in our study, however, there were sufficient numbers in each of the ethnic groups used in our analyses to provide meaningful interpretation; each group had a minimum of 180 women. While reporting our results we have focused on the magnitude of the point estimates and not only confidence intervals and p-values. We felt it was important to include as many ethnic groups as possible rather than group women into the "Other" category which is made up of a heterogeneous sample making it difficult to interpret. As our sample was predominantly made up of two ethnic groups we further explored the relationship between SEP indicators within these two groups only.

We have added the following text to the methods section on page 11, lines 1-3:

As our sample was predominantly made up of two ethnic groups (40% White British and 45% Pakistani) we further explored the relationship between SEP indicators within these two groups only as the other six ethnic groups contained too few participants for robust analyses.

We have removed the additional text from the title.