Reviewer’s report

Title: Diet and exercise changes following direct-to-consumer personal genomic testing

Version: 1 Date: 16 Jan 2017

Reviewer: Laura M. Koehly

Reviewer's report:

The authors have been responsive to the majority of reviewer comments. However, a few questions remain based on the revised manuscript.

1. It is surprising that the authors do not present whether there are differences in key variables due to testing company or differentially response to risk feedback (i.e., modifying effects). Given that 23andMe and Pathways use different approaches for return of results, it seems reasonable to question whether consumers might respond similarly. Further, it appears from Table 1 that the samples themselves may differ on important participant characteristics, with the 23andMe sample comprised of a larger number of participants in the Very Good/Excellent SRH group than the Pathways sample; it is not clear whether these two samples differ on other key variables. What is the justification for merging the data across samples, given the potential for differential impact on lifestyle behaviors due to varied risk reporting approaches or differences in sample characteristics? Please add text to the methods providing your rationale and text to the discussion related to the potential issues of merging such variable samples. Finally, by not providing the parameter estimates for model covariates, including testing company, the reader is unable to evaluate for themselves the potential impact of these variables on outcome.

2. Please clarify what the R-squareds presented in Table 5 represent. Are these the total or adjusted R-squareds for the full model or incremental R-squareds for the variable of interest? If the latter, please double check your numbers as the magnitude does not match with the presented effects. If the former, then it would be helpful in interpretation of these values to provide a baseline R-squared for the covariate only model. Finally, please add some text to the results and discussion related to this added information. For example, if I interpret the presented R-squareds as total R-squareds, then there is no differences in variance in fruit servings per day explained for cardiometabolic genetic test score and total genetic risk score, however, there appears to be a significant effect for total genetic risk score - how should this be interpreted?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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