Reviewer’s report

**Title:** The clustering of Health Behaviours and their relationship with Mental Health, Self-Rated Health and Quality of Life

**Version:** 1  **Date:** 11 April 2011

**Reviewer:** Susan Picavet

**Reviewer's report:**

The topic of this research paper is very important: the clustering of unhealthy behaviours and given the limited publication additional studies are needed. National survey data for Ireland were used to analyse: a number of clusters of health behaviours by cluster analyses, how these clusters associated with health and how these clusters are distributed over age, sex and SES.

My main comment is that nothing is presented on the ‘quality’ of the cluster analyses and the comparisons with other countries. It is mentioned that similar clusters as other studies were found, please present these and discuss these. And is this cluster analyses the appropriate method to get comparative data?

I have the following additional comments:

- abstract: please add country name of the study and please be more concise in the conclusion, referring mainly to your own results.

- introduction: please be more clear why this study should be done, what is already known and what does this particular study add to the knowledge.

- Method: why were more than 3000 deleted, did they had missings on one of the items? What were the ‘problem’ variables? Please elaborate on this.

- describe also the classification of physical activity in the method section and how it should be interpreted.

- in the text the description of classes for alcohol consumption differed from those in the tables: please make it the same.

- the ‘quality of life’- question is only used in Ireland, given only the Irish references, please give information on the validity and reliability.

- mental health how were the scores defined and interpreted?

- Statistical analyses: what stands BIC for? I do not understand how the multinomial log regression was carried out, in particular because the results were not presented.

- results: the text on naming the clusters should be part of the method section.

- more should be said on the statistical(?) quality of the clusters.

- results of the regression should be in the table with 95% confidence limits;

- page 11 is the presented OR correct? i.e. OR=.999, p<.00001


- Discussion; more attention should be paid to discuss the findings relative to others (are better, easier clusters found in Ireland? Do health behaviours cluster the same or slightly different? Are the numbers of clusters the same, Is there difference in the size of clusters?) Or otherwise: present the data in a way to invite others to do the same.

-references: check on typos and doubles, e.g. ref 5 and ref 42 are the same.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
I declare that I have no competing interests