Reviewer’s report

Title: Spatio-temporal Rasch analysis of quality of life outcomes in the French general population. Measurement invariance and group comparisons

Version: 1 Date: 16 July 2012

Reviewer: Marie Claude Simeoni

Reviewer’s report:

The objective of the paper is clearly defined. IRT models have been increasingly used for item reduction and validation of HRQL measurements; however, the approach proposed by the authors is original: the purpose is to account for DIF for certain covariates to obtain invariance of measurement for comparisons between groups of interest in a latent regression model.

One interest of this paper is to show how these models could be used when analyzing datasets (once DIF is detected). The choice of dataset analyzed adds to the interest of this paper since it focuses on a large representative population-based sample and it allows the comparison with a work already published using the same dataset but an alternative method based on Classical Test Theory.

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.