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Strategies for handling missing outcomes in longitudinal questionnaire surveys

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Missing data is a pervasive issue in data collection, particularly in questionnaire data. Questionnaire is a tool for obtaining data from individuals, and commonly a (predefined) function of these data (i.e., sum scale or mean scale) is considered to be analyzed. Having, even one unanswered item (question) leads to a missing score. Not tackling this issue may result in biased parameter estimates and misleading conclusions. Although, numerous methods have been developed for dealing with missing data, comparing their performance on questionnaire data has received less attention. In the current study, the performance of different missing data methods were investigated via simulation. We used maximum likelihood and multiple imputation approaches either at item level or at scale level. Furthermore, we implemented a hybrid approach that uses the advantages of both aforementioned methods. Parameter estimates were examined in terms of bias and Mean Square Error (MSE) relative to an analysis of the full data set.

Biography

Nazanin Noorae has completed her PhD in 2015 from University of Groningen, the Netherlands. Her main interest is in applied statistics with longitudinal analysis orientation. Currently, she is a Postdoctoral Research Fellow at Eindhoven University of Technology, the Netherlands.

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