**Multiple imputation and selection of predictors in multilevel models for analysing the relationship between student ratings and teacher beliefs and practices**

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*Abstract*:
We analyse the relationship between student ratings of university courses and several characteristics of the student, the course and the teacher. The data are obtained from a survey collecting information about teacher beliefs and practices at the University of Padua in academic year 2012/13. Student ratings are nested into teachers, calling for multilevel modelling. However, due to survey non-response, about half of the teachers have missing values on practices (10 binary items) and beliefs (20 ordinal items on a seven-point scale). The problem is challenging due to the high percentage of missing values and the large number of categorical variables involved. We handle missing values through multiple imputation by chained equations, exploiting information at all hierarchical levels (level 2 covariates and summaries of level 1 covariates). Moreover, the predictors about practices and beliefs need to be selected, thus we exploit regularization techniques for ordinal predictors and devise a strategy to combine multiple imputation and variable selection.