Institut für Arbeitsmarkt- und Berufsforschung
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Einladung
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Proxy Pattern-Mixture Analysis for Survey Nonresponse

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We consider assessment of nonresponse bias for the mean of a survey variable Y subject to nonresponse and assume that there are a set of covariates observed for nonrespondents and respondents. To reduce dimensionality and for simplicity we reduce the covariates to a proxy variable X that has the highest correlation with Y, estimated from a regression analysis of respondent data. We consider adjusted estimators of the mean of Y that are maximum likelihood for a pattern-mixture model with different mean and covariance matrix of Y and X for respondents and nonrespondents, assuming missingness is an arbitrary function of a known linear combination of X and Y. We propose a taxonomy for the evidence concerning bias based on the strength of the proxy and the deviation of the mean of X for respondents from its overall mean, propose a sensitivity analysis, and describe Bayesian versions of this approach. We propose using the fraction of missing information from multiple imputation under the pattern-mixture model as a measure of nonresponse bias. Methods are demonstrated through simulation and data from the Ohio Family Health Survey (OFHS).

Donnerstag, 2. September
11:00 Uhr

Sitzungssaal 126a