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# Targeting key survey variables at the unit nonresponse treatment stage

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## Abstract

In the presence of nonresponse, unadjusted estimators are vulnerable to nonresponse bias when the characteristics of the respondents differ from those of the nonrespondents. To reduce the bias, it is common practice to postulate a nonresponse model linking the response indicators and a set of fully observed variables. Estimated response probabilities are obtained by fitting the selected model, which are then used to adjust the base weights. The resulting estimator, referred to as the propensity score adjusted estimator, is consistent provided the nonresponse model is correctly specified. In this talk, we propose a weighting procedure that may improve the efficiency of propensity score estimators for survey variables identified as key variables by making a more extensive use of the auxiliary information available at the nonresponse treatment stage. Results from a simulation study suggest that the proposed procedure performs well in terms of efficiency when the data are Missing At Random but also achieves an efficient bias reduction when the data are Not Missing At Random.

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