

Challenges and Strategies in Dealing with Non-probability Survey Samples

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Abstract

Statistical analysis of non-probability survey samples faces three major challenges: the unknown sample participation mechanism; the unknown population represented by the sample; and the dearth of suitable internal and external data for valid and efficient estimation. We discuss strategies proposed in the recent literature and the strengths and weaknesses of these methods in dealing with specific challenges.

Keywords: Calibration techniques; Double robustness; Inverse probability weighting; Model-based prediction; Nonparametric method; Participation probability; Pseudo maximum likelihood; Undercoverage.

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