

Generalized Least Squares in Non-Monotone Missing Data

Caleb Leedy

Iowa State University

Non-monotone missingness occurs when there is no sequential pattern of missing variables in a dataset. This makes the imputation procedure challenging because there is no definitive order for how the variables should be imputed. One common setting in which to have non-monotone missing data is when combining information from different surveys or data sets. While there is not closed form for the optimal estimator for the general non-monotone imputation problem, we consider combining design consistent estimators using generalized least squares, which is optimal in the class of linear estimators. We demonstrate the effectiveness of this approach via simulation and apply this work to estimation of the National Resources Inventory (NRI).

Co-author: Jae-Kwang Kim