Estimating the Probability of Missing Values

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Abstract:

Missing values in a variable of interest, Y, are common in datasets, and the mechanism behind them may depend on the missing value itself or on other variables. We consider the case of a Missing Not At Random (MNAR) mechanism, assuming that the distribution of Y is known from another source without missing data. In this realistic setting, it becomes possible to estimate the probability that a value is missing based on the characteristics of an individual. A numerical study demonstrates the effectiveness of this approach.