

A New Family of Quantiles Estimators with P-Auxiliary Information in Successive Sampling

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In this paper, we have suggested a new family of quantiles estimators using p-auxiliary information in successive sampling. We have found the bias and mean square error (MSE) expressions to compare the efficiency over other quantiles estimators in the sampling literature. To illustrate the efficiency of suggested estimator with the existing estimators we use a real data. This data set uses 40 stick-figure cartoons to investigate the structure of cartoons covered a range of social situations. Most of the cartoons portrayed negative acts representing physical and verbal aggression and social exclusion. We use bullying as study variable and injury, threat, annoyance as auxiliary variables. It has been shown that suggested family of estimator is more efficient than existing estimators.

Key Words: Successive sampling, ratio estimator, auxiliary information, mean square error