

## **Abstract**

Have you ever abused drugs? Are you a gambling addict? Have you ever evaded taxes? It is often hard for respondents to provide a truthful response when faced sensitive questions like this. However, by blinding the surveyor from the respondent's actual answer, one allows the respondent to provide a truthful response to sensitive issues while maintaining confidentiality, granting data that are relatively free from response bias. Existing randomized response sampling methods has allowed us to obtain a population proportion estimate for such questions without respondents actually revealing their response. In this thesis, some existing methods of randomized response sampling will be explored and derivation of domain mean estimator under each sampling method will be made.

The author derived domain mean estimator under Huang's two phase sampling and Warner's randomized response sampling. Variance expression for each estimator are derived to make comparison of estimator under each sampling method. Generalization of the randomization portion of sampling under Franklin's Randomized response sampling is also applied to extend results to distributions outside Bernoulli distribution.