

## **A Bibliography on Randomized Response: 1965 - 1987**

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### **ABSTRACT**

A comprehensive bibliography of books, research reports and published papers, dealing with the theory, application and development of randomized response techniques, includes a subject classification.

**KEY WORDS:** Survey; Sensitive issues; Confidentiality.

### **1. INTRODUCTION**

The recent increase in requirements for extensive data on sensitive issues, (such as the detailed information on sexual behavior, necessary to study the spread of the AIDS epidemic), has led to renewed examination of the techniques available for obtaining answers to sensitive questions. The difficulties of applying conventional survey techniques to obtain data on sensitive issues in a large-scale survey are well known and several alternative techniques have been proposed - Bradburn and Sudman (1979). The most prominent of these has been the randomized response technique, originally proposed by Warner (1965). The underlying idea is that the respondent uses a random mechanism to select the question to which he answers and the interviewer knows only the response itself, without knowing which question is being answered. This is supposed to reduce biases due to non-response and to response error, by assuring the respondent that his privacy is protected by the method (in that the question he is being asked is unknown to the interviewer) and thereby convincing him to cooperate more readily and to answer more truthfully than he might by a direct question.

Since 1965 a great deal of research into various aspects of the technique has been carried out. This includes theoretical developments, development of new randomization techniques and extensions to quantitative variables, to polytomous questions and to the multivariate case. Problems of estimation, optimization of design parameters and sample design, specific to randomized response, have also been dealt with. A large number of empirical studies using randomized response have been carried out in various application areas, such as studies of drug use, abortions, drunken driving and crime, many of them with some evaluation, often by validation studies. The experience in these studies is very divergent, with some showing marked gains due to the use of randomized response and others showing no gain at all in response rates or in response reliability. Respondents' attitudes to randomized response, their comprehension of the procedure, their perceptions of confidentiality and of the protection that the procedure provides have also been investigated, in attempts to understand the reasons for the differences in the empirical results.

This large body of research is scattered among over 250 theses, research reports, published papers and books, which have appeared, (in at least seven languages), over the last 20 odd years. These include many expository and survey papers and two bibliographies - Kim and

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Flueck (1976) and Daniel (1979) – the latter an annotated one. Three comprehensive books on the subject – Defaa (1982), Fox and Tracy (1986) and Chaudhuri and Mukerjee (1988) – have also appeared. Unfortunately none of these include a fully comprehensive and updated bibliography and the present one is an attempt to correct this lacuna.

Although an attempt has been made to be as comprehensive as possible, by including both published and unpublished papers, the latter are obviously covered only in as far as information about them was available from various sources. In addition, an attempt was made to reduce duplication by excluding unpublished reports or papers presented at meetings whose content is substantially included in a subsequently published paper. However, Ph.D. theses are generally included, since they usually have more detail than the papers derived from them. Papers about other survey methods for dealing with sensitive issues, which can be considered as alternatives to randomized response, are included only if they relate to a comparison of the alternative to randomized response. Papers dealing with randomization techniques to ensure confidentiality of data already collected (such as random rounding or encoding) are not included, unless they also relate to the use of randomization in the collection process itself.

The bibliography is arranged as an alphabetical listing, which gives full citation details in the standard way used for reference lists. Titles are given in the language of the paper or book, if known. Otherwise, for publications not in English, the title is given in English with a designation of the original language in parentheses. Most of the non-English papers include a summary or abstract in English. A series of letter codes on the right edge of the page, opposite each reference, indicates a classification by subject. The classification categories and codes are given below. An author index and a classified listing by subject, not included due to space limitations, are available from the author.

## 2. SUBJECT CLASSIFICATION CODES

- A – Applications and field experiments.
- B – Bibliographies and survey papers.
- C – Confidentiality, respondent comprehension, attitude and protection.
- E – Evaluation of alternative techniques or estimators.
- H – Hypothesis testing, estimation and analysis.
- M – Multivariate case.
- O – Optimization of design parameters.
- P – Polytomous questions.
- Q – Quantitative variables.
- R – Randomization devices and techniques.
- S – Sample design.
- T – Theoretical developments.
- V – Validation studies.
- X – Expository papers.

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