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A new version of the Item Count Technique

Topic 2 – Learning more from what we already know

Keywords: indirect questioning, item count technique, protection of privacy

Introduction

Conventional survey methodology techniques on human populations give poor results if the issue under investigation is sensitive or stigmatizing. Issues such as tax evasion, sexual orientation, illegal drug use, etc, are generating increased nonresponse and even in cases when people agree to participate, misleading answers are given which seriously jeopardize the validity of the conclusions.

To overcome these difficulties, various indirect questioning techniques can be used. These are techniques, which protect the privacy of the participants. The information given by the participant is not enough to conclude if he/she has the stigmatizing characteristic. However, the investigator, by processing the information gathered from all participants is able to estimate the prevalence of the sensitive characteristic. Details of indirect questioning techniques can be found in Chaudhuri and Christofides (2013).

Although the most studied technique is the Randomized Response model first introduced by Warner (1965), another one, the Item Count Technique introduced by Raghavarao and Federer (1979) and Miller (1984) is gaining increasing popularity among social scientists. The method is easily understood by respondents and can be incorporated in structured questionnaires.

Methods / Problem statement

The original version of the Item Count Technique, does not fully protect the privacy of the participants. In some cases, the investigator is able to infer whether the respondent belongs to the stigmatizing category or not. Although various attempts in the past resulted in slightly improved versions of the technique, none of them is optimal. In this talk, we will present a new version which puts more emphasis on the protection of privacy of the participants without compromising the mathematical properties of the estimators.

Conclusions

The new version of the Item Count Technique to be presented in this talk, is a promising alternative to standard indirect questioning techniques which in many cases do not fully protect the privacy of the participants. This new version is easily understood by the participants, can be easily implemented and fully protects the privacy of the respondents.