IMPROVING RESPONSE BY STUDYING CITIZEN PARTICIPATION IN SOCIAL SURVEYS

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ABSTRACT

Like other national statistical agencies Statistics Canada faces many challenges, including a downward trend in response rates to social surveys. Over the years several strategies, tools and methods have been implemented to address the issue of reduced response rates. Statistics Canada plans to explore avenues that go beyond the traditional framework of prioritization during collection and methodological adjustments using auxiliary data during estimation. The research initiative, labelled as the Project to study citizen participation, encompasses qualitative studies to improve our understanding of the motivations to respond, quantitative studies to improve our estimation and to reduce nonresponse error, and quantitative studies aimed at improving the estimation methods in place, using auxiliary data or follow-up surveys. This paper will outline Statistics Canada's multi-year plan to seek solutions that prevent nonresponse, to manage nonresponse and to correct for nonresponse.

KEY WORDS: Nonresponse follow-up, Nonresponse bias, Mixed mode collection

RÉSUMÉ

Comme d'autres agences statistiques nationales, Statistique Canada fait face à de nombreux défis, y compris des taux de réponse décroissants aux enquêtes sociales. Au fil des années, plusieurs stratégies, outils et méthodes ont été mis en place pour remédier à cette situation. Statistique Canada veut explorer des pistes qui vont au-delà du cadre traditionnel de priorisation lors de la collecte et de l'exploitation de données auxiliaires lors de l'estimation. Cette initiative, le projet d'étude de la participation citoyenne, comprend des études qualitatives permettant de mieux comprendre les motivations à répondre, des études quantitatives servant à améliorer nos estimations et à réduire l'erreur de non-réponse, et des études quantitatives visant à améliorer les méthodes d'estimation en place, en utilisant des données auxiliaires ou des enquêtes de suivi. Cet article exposera le plan pluriannuel de Statistique Canada qui cherche des solutions pour prévenir, gérer et corriger la non-réponse.

MOTS CLÉS : Suivi de la non-réponse; biais de non-réponse; modes de collecte mixtes

1. INTRODUCTION

Statistics Canada's response rates to social statistical programs have been declining for many years. The trend in response rates has been observed not only for voluntary surveys but also for the Labour Force Survey (LFS), a mandatory survey. Nonresponse can impact the estimates of key outcomes, where the propensity to respond is related to those outcomes. For Statistics Canada's social statistical programs, logistic regression is regularly used to create response propensity classes of homogeneous groups, and then the weights are adjusted for use with estimation. Population counts, based on the quinquennial Census of Population and updated using demographic projections, serve to calibrate the weights.

Declining response rates is the primary motivation for Statistics Canada's initiative, the Project to study citizen participation, although other reasons have arisen. Statistics Canada has recently been mandated to provide more disaggregated results. To meet this mandate, Statistics Canada's multi-year action plan involves ensuring more granular results from intersectional analyses. Particular emphasis is placed on obtaining results by Indigenous status, by gender, for persons in racialized populations, and for persons with disabilities.

Response rates to social statistical programs have also dropped due to the suspension of computer-assisted personal interviews (CAPI) during the COVID pandemic. The decision to suspend CAPI was necessary in order to obey government-mandated health and safety rules. Usually, if a sampled unit is deemed to have lower quality contact

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information, Statistics Canada's first attempt to contact that unit is via CAPI. However, there is a risk that a unit with low quality contact information might be related to specific outcomes of the statistical programs.

With these motivating factors in mind, Statistics Canada has taken a wide-encompassing approach to identify the causes of nonresponse and to mitigate their impact. To this end, Statistics Canada has identified a series of studies at different stages of the survey process including pre-collection, collection, and post-collection.

2. PRE-COLLECTION

Statistics Canada conducted a series of focus groups and one-on-one discussions to better understand the phenomenon of nonresponse to social statistical programs. The participants were members of the general public, and the interviewers were experts in questionnaire design with experience moderating and facilitating discussions of this nature. The approach was designed to apply the Theory of Reasoned Action (Azjen and Fishbein, 1980) whereby behaviour is expressed as a function of the relative importance of competing expectations. Among the themes explored using interview questions were:

i. Understanding the role and purpose of Statistics Canada
ii. Willingness to answer questions of a sensitive nature
iii. Key factors in deciding whether to participate in a survey
iv. Whether people are more likely to respond to a mandatory survey than to a voluntary survey.

The findings (Tremblay et al., 2022) indicated that survey participants are more motivated to respond to Statistics Canada and to studies conducted by researchers or university scholars. If the questions posed by Statistics Canada broach a sensitive topic, survey participants are more willing to respond if a justification is provided. The participants in the study also asserted that they are more motivated to respond to a mandatory survey than to a voluntary survey. Survey fatigue and length were cited as reasons that reduced the motivation to respond, as well as not offering incentives to complete the survey. Participants also noted that their willingness to share personal information on social media does not imply a willingness to share it with Statistics Canada. Statistics Canada has already implemented many of the recommendations specified in this study. The authors recommended that Statistics Canada enable respondents to verify that a survey is really being conducted by Statistics Canada. To that end, Statistics Canada provides an introductory letter about the sample survey along with a toll-free telephone number and other means to contact Statistics Canada. The introductory letter also indicates, "Your participation matters because your answers represent the experiences of thousands of people across the country." This approach is consistent with the recommendation to underscore the importance of every answer. Finally, having determined the attitudes of respondents toward different response mechanisms, the authors recommended that surveys offer a variety of modes of collection including asynchronous modes to improve the response rates of social surveys. In fact, most social surveys conducted by Statistics Canada now offer electronic questionnaires.

Statistics Canada also conducted a parallel study in which focus groups of professional survey interviewers discussed the willingness of respondents to provide answers to questions that concerned sensitive topics. The interviewers who participated in the focus group indicated that respondents perceived value in the data that are collected, although the respondents need assurance that each sensitive question is relevant to the survey topic. The focus group participants also believed that prior to asking a question of a sensitive nature, both the preceding question and the lead-in statements matter when respondents decide whether or not to answer the question. Interviewers who participated in the focus groups tied the willingness of respondents to answer the survey questions to concerns that arise from the respondents' own beliefs and behaviours. Taken together, the series of focus groups and one-on-one discussions provided valuable information to guide the planning and activities during the design and build phases of the survey process.

3. COLLECTION

Several recent studies conducted by Statistics Canada have identified improvements to use with the collection strategy of social statistical programs. Studies emphasized the use of different modes of contact and collection, either before or during the recent COVID pandemic.

In assessing the impact of different approaches to encourage response to social surveys, Statistics Canada tested six follow-up strategies with selected participants of the National Travel Survey who had still not responded one or more

weeks after the initial invitation (Doering, 2018). Using a randomized block design, nonresponding participants were contacted using reminder letters and courtesy telephone calls, by an interviewer to complete a computer-assisted telephone interview (CATI) immediately or through some combination of the three modes. The most successful approach involved a mailed reminder letter and a CATI contact, which yielded a 42% weighted response rate. This approach was statistically significantly better than every other, but the next most effective option, two mailed reminder letters, was substantially more cost-effective.

In another study, Statistics Canada observed the impact of prioritizing the follow-up of nonresponding units using different approaches (Dufour et al., 2019). One approach involved assigning relatively more collection resources to collect responses from the units that were expected to be classified into domains with lower anticipated response rates, based on available frame and auxiliary information prior to collection. This approach served to help achieve the targeted precision of the estimates and to align with Statistics Canada's mandate to provide more results at disaggregated levels. The second approach prioritized the sampled units of a cycle of Statistics Canada's General Social Survey according to an algorithm that used the outcomes of contact attempts to-date as inputs. This approach served to find efficiencies by following up with the units that were most likely to respond.

Due to the COVID pandemic, during which regular CAPI operations were not used, Statistics Canada adjusted its use of modes of contact and collection for use with Labour Force Survey (LFS). Statistics Canada staff delivered introductory letters by hand to dwellings, thereby retaining one aspect of the personal contact that CAPI offers. Statistics Canada also increased the scope of eligibility to respond using the LFS electronic questionnaire. Finally, Statistics Canada sought to obtain more telephone contact information to improve the contact rate among units that were selected for collection using CATI.

4. POST-COLLECTION

Some recent studies at Statistics Canada have focused on obtaining a better understanding of the characteristics of nonrespondents. Different approaches have been used to build profiles of nonrespondents to social statistical programs. In one study, the participants who responded to a social survey only after the 3rd or 4th reminder letter were considered to be relatively similar to the nonrespondents. In another study using Statistics Canada's post-censal Failed-Edit Follow-Up (FEFU) program, the Census characteristics of persons who responded to the FEFU were compared with those persons who did not respond. Other studies examined the demographic and outcome profiles of persons who responded to social survey questionnaires only after having been sent reminders, either as telephone messages or via email or via the Short Message Service (i.e., text messaging) to cellular telephones.

To mitigate the impact of nonresponse on survey results, Statistics Canada has sought to improve its response modelling by incorporating additional information. In one study, Statistics Canada used auxiliary data as inputs to its nonresponse model. Using record linkage, administrative data were linked to the units in the sample of a social survey, and the profiles of respondents were compared with those of nonrespondents. In another study, imputation classes were constructed for use with the post-collection methodology of the Census of Population (Statistics Canada, 2022). Among the imputation classes with higher response rates, missing data were directly replaced by administrative data for the age and sex at birth variables. Using imputation classes that were associated with lower response rates, imputation models used administrative data as auxiliary information only. A third study involved comparing two approaches to creating homogeneous groups based on response propensity. One approach involved the use of logistic regression, while the other approach involved the use of random forests. Both approaches to modelling response propensity yielded similar estimates and confidence intervals.

5. NONRESPONSE FOLLOW-UP INITIATIVE

In light of the decline in response rates, Statistics Canada is implementing an ongoing nonresponse follow-up (NRFU) initiative for its social statistical programs. This multi-year initiative seeks to facilitate the analyses that compare respondents to nonrespondents, as well as to measure the error due to nonresponse in the estimates of key domains. This initiative is timely in that it serves to help Statistics Canada fulfil its mandate to publish more disaggregated results. In addition, the NRFU initiative seeks to improve upon its descriptions of groups of persons who may be unequally represented in the estimates published for social statistical programs, and to provide the researchers and analysts of these

programs with information about these groups. Finally, the feedback from the NRFU initiative to the social statistical programs will lead to improved methodology and collection strategy.

Statistics Canada will implement this initiative in three steps. The first step involves a small-scale survey to assess the effectiveness of various modes of contact and collection. The main outcomes include the contact rate, the response rate, and the collection effort required given that Statistics Canada is following up with nonrespondents to a survey that was already conducted. The second step involves one or more pilot surveys that apply the lessons learned from the small-scale survey, and to set benchmark estimates of the nonresponse error and assess the precision of these estimates. The third step is to set up and manage an ongoing program of NRFU surveys to Statistics Canada's major social statistical programs including the LFS. To meet Statistics Canada's mandate to publish data with greater disaggregation, the sample design used with the pilot surveys will be adjusted in order to obtain greater precision for the domains of interest.

6. DISCUSSION

Response rates have declined over many years, a phenomenon evidenced in Canada and elsewhere such as the U.S., for example reported in Brick and Williams (2013). Alarmingly, Williams and Brick (2018) reported an increase in the rate of non-contacts and suggest that barriers to contact are increasing.

For a number of its statistical programs, Statistics Canada has assessed the potential impact of nonresponse, typically on an ad hoc basis. Recent studies have focused on improvements at the pre-collection stage of social statistical programs as well as to collection strategy. Improvements to post-collection methodology to mitigate the impact of nonresponse error continue to be sought as well, even though post-collection adjustments have been studied and refined for many years.

Using a more proactive approach, Statistics Canada proposes to administer regularly scheduled (such as annual) NRFU surveys. These will enable the nonresponse error to be quantified for Statistics Canada's major social statistical programs, as well as inform researchers and analysts of the representativity of the results for various groups of persons in Canada.

DISCLAIMER

The content of this article represents the position of the authors and may not necessarily represent that of Statistics Canada.

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