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## The History and Impact of the *Survey Methodology* Journal

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### Abstract

*Survey Methodology* is a peer-reviewed statistical journal that was founded in 1975 at Statistics Canada to provide a venue for discussing practical issues arising from the implementation of sample surveys. After a brief introduction, I will describe the historical context in which the journal was established, its evolution over the years and then its impact on survey practice in Canada and around the world. I will conclude by announcing some special discussion papers and special issues that are currently being planned for publication in forthcoming issues.

*Keywords:* History, *Survey Methodology*.

### 1 Introduction

*Survey Methodology* is a biannual peer-reviewed statistical journal founded in 1975 at Statistics Canada. As currently stated on its website ([www.statcan.gc.ca/surveymethodology](http://www.statcan.gc.ca/surveymethodology)), the journal aims to publish innovative theoretical or applied research papers, and sometimes review papers, that provide new insights on statistical methods relevant to National Statistical Offices and other statistical organizations.

*Survey Methodology* was initially established to provide a venue for discussing practical issues arising from the implementation of sample surveys. Indeed, the editorial policy of the very first issue of the Journal states:

*“The objective of the Survey Methodology Journal is to provide a forum in a Canadian context for publication of articles on the practical applications of the many aspects of survey methodology. The Survey Methodology Journal will publish articles dealing with all phases of methodological development in surveys, such as, design problems in the context of practical constraints, data collection techniques and their effect on survey results, non-sampling errors, sampling systems development and application, statistical analysis, interpretation, evaluation and inter-relationships among all of these survey phases. The emphasis will be on the development strategy and evaluation of specific survey methodologies as applied to actual surveys.”*

The scope of the journal has significantly expanded over the years. It now covers a wide range of topics of interest to survey methodologists and statisticians around the world, including more modern topics such as the use of multiple data sources, statistical data integration, as well as research, development and application of machine learning methods for the production of official statistics. A current list of topics of interest is provided on the [Survey Methodology website](http://www.statcan.gc.ca/surveymethodology). The journal would not have flourished without the contribution of dedicated Associate Editors who provide invaluable

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recommendations for determining the suitability of papers submitted to *Survey Methodology*. Like the scope, the Editorial Board has significantly expanded over time, starting with three internal members in 1975 and now including over 30 internationally renowned Associate Editors whose fields of expertise cover the diversity of topics included in the journal's scope.

The first issue of *Survey Methodology* appeared in June 1975. It has been published every year, in June and December, ever since. From June 1975 to December 2022 inclusively, a total of 909 papers were published, including 8 discussion papers, 6 special issues and 23 special sections of an issue. In recent years, between 50 to 70 papers are submitted annually, mostly from authors outside Statistics Canada, with an acceptance rate around 30%. Authors are welcome to submit their paper in either French or English. Starting with the December 1981 issue, all accepted papers have been translated and published in both languages.

## 2 Historical context

Research and development in survey methods was booming at Statistics Canada at the end of the 1960s and early 1970s (Platek, 1999; Platek, 2009) and also throughout the world (Kalton, 2000). Some of the research efforts undertaken by Canadian methodologists at the time led to publications in well-known mainstream peer-reviewed statistical journals (e.g., Beynon, Ostry and Platek, 1970; Fellegi, 1972; Fellegi, 1973; Fellegi, 1974; Fellegi and Holt, 1976; Fellegi and Sunter, 1969; Gray and Platek, 1968; and Ostry and Sunter, 1970) such as the *Journal of the American Statistical Association*. However, there was no international journal dedicated to methodological issues arising when conducting sample surveys (Kalton, 2000), except for the brief existence of *Sankhya C* from 1974 to 1978, which covered survey sampling theory and methods (Rao, 2023). There was a growing need for such a venue, which would allow survey methodologists, not only those from Statistics Canada but also in other statistical organizations, to disseminate their theoretical and empirical research findings in this field. The time was ripe for the launch of a new journal; *Survey Methodology* was thus established in 1975 by Richard Platek. Its first editor was Mangala Prasad Singh, known as M.P. Singh, who remained in this position for 30 years until his death in 2005. The [June 2006 issue](#) of *Survey Methodology* contains a special article, with testimonials by a few colleagues and friends, to honour the memory of M.P. Singh and recognize his numerous accomplishments during his career at Statistics Canada, in particular those related to *Survey Methodology*.

The 1970s also saw the emergence of several professional associations for survey methodologists (Kalton, 2000), such as the International Association for Survey Statisticians (IASS), founded in 1973 and celebrating its 50<sup>th</sup> anniversary this year, and the Survey Research Methods Section of the American Statistical Association (ASA), established in 1978. Subsequently, other journals focussed on sample surveys were launched for the greatest benefit of the community of survey methodologists and statisticians around the world (among others, *The Survey Statistician* in 1978, the newsletter of the IASS, the *Journal of Official Statistics* in 1985, published by Statistics Sweden, and the *Journal of Survey Statistics and Methodology* in 2013, sponsored by the ASA and the American Association for Public Opinion Research). Rancourt (2023) provides a portrait of the history of *The Survey Statistician* and points out the close connections between the IASS and *Survey Methodology* at the end of the 1970s; *Survey Methodology* was distributed at a preferential rate to IASS members and used as the prime vehicle for the publication of papers presented at the International Statistical Institute conference.

## 3 Milestones through the years

Papers published in the first issues of *Survey Methodology* were mainly written by authors from Statistics Canada, but the journal flourished rapidly under the leadership of M.P. Singh. Within 15 years or so, authors from all over the world, including famous statisticians such as Wayne Fuller (e.g., Fuller, 1990), Graham Kalton (e.g., Kalton, 1986), Leslie Kish (e.g., Kish, 1988), Danny Pfeffermann (e.g., Pfeffermann and Burck, 1990), J.N.K. Rao (e.g., Rao, 1985; and Rao, Wu and Yue, 1992), Don Rubin (e.g., Rubin, 1986) and Carl-Erik Särndal (e.g., Särndal, 1992), were

submitting their papers for consideration in *Survey Methodology*. This allowed the journal to acquire an international stature and become a key source of information for survey methodologists at Statistics Canada and around the world.

M.P. Singh implemented many initiatives to raise the profile of the journal and make it more interesting to readers. For instance, he would frequently arrange for the publication of discussion papers or special issues/sections on important topics such as the special section of the June 2001 issue on composite estimation for the Canadian Labour Force Survey. He also initiated the short notes section, which allowed authors to submit shorter papers without the full development of a regular paper and with a streamlined review process. The first short notes section following his initiative was published in the June 2005 issue; it contained three short articles. To be more accurate, a short communications section had already appeared once, in the December 1987 issue, but this idea was never repeated until it was reinstated permanently in 2005.

A major initiative taken by M.P. Singh, in collaboration with the American Statistical Association and Westat, was the introduction of the [Waksberg Award](#) in 2001 in honour of Joseph Waksberg, who made outstanding contributions to survey statistics and methodology. Since 2001, this prestigious Award is given annually to a prominent survey statistician chosen by a four-person committee appointed by *Survey Methodology* and the American Statistical Association. The recipient of the Award writes a review paper for *Survey Methodology* and usually presents it at Statistics Canada's Symposium.

The journal continued to thrive under subsequent editors, namely, John Kovar (2006-2009), Mike Hidiroglou (2010-2015), Wesley Yung (2016-2020) and myself since 2021, with the publication of other discussion papers and special issues/sections, among others, the special section of the [December 2011 issue](#) on alternative survey sampling designs organized in collaboration with the U.S. Census Bureau. More recently, a special discussion paper on statistical inference with non-probability survey samples (Wu, 2022), a topic that has increasingly been drawing attention of survey statisticians in the past 20 years, was published in the [December 2022 issue](#). The paper was accompanied with five discussions by international experts in the field. It is also worth mentioning the joint special issue with the *International Statistical Review*, published in [May 2019](#), in honour of Prof. J.N.K. Rao's contributions. Incidentally, Prof. Rao is by far the most prolific author for *Survey Methodology*, as he has written or co-written an impressive number of 31 papers during the period covering the first issue in June 1975 to the December 2022 issue. This includes a recent invited review paper on the major developments in sample survey theory and methods covering the past 100 years (Rao and Fuller, 2017), which was discussed by four eminent survey statisticians.

In 2006, the journal became available online and completely free of charge. The printed version continued to be produced and made available via a paid subscription until December 2012. Historical issues have then been gradually added to the free online catalogue. In 2019, *Survey Methodology* adopted the Scholar One system for a more efficient management of papers submitted to the journal.

#### 4 Impact

The journal has had a significant impact on Statistics Canada's programs over the years. For instance, the stratification method of Lavallée and Hidiroglou (1988) is still implemented in many business surveys. It allows for efficient stratification that improves the quality of survey estimates for skewed variables typically encountered in economic surveys. Another example is the method of Rao, Wu and Yue (1992) for computing bootstrap weights. It is used in a large number of social surveys and allows for estimating the variability of survey estimates for stratified multistage sampling designs. A third example is the method of Särndal (1992) for estimating the precision of survey estimates in the presence of imputation. It is the methodological foundation of the System for Estimation of Variance due to Nonresponse and Imputation (SEVANI), which was developed between 2005 and 2010 (Beaumont and Bissonnette, 2011). There are many other examples where papers published in *Survey Methodology* had a direct influence on methods implemented in statistical programs of Statistics Canada and certainly other statistical organizations.

The journal has also been an important learning source for methodologists at Statistics Canada. A number of papers have long been known to be key readings for young methodologists, either learning on the job or preparing for competitive processes. The papers by Brackstone (1987) on the use of administrative data and the discussion paper by Singh, Gambino and Mantel (1994) on small area estimation have probably been the most circulated among them, especially during the 10 to 15 years following their publication.

The international impact of *Survey Methodology* is perhaps more difficult to assess without further investigation. Platek (1999) states: "In a number of countries, the journal, almost from the beginning, provided a base for teaching and training new statisticians." It is also my perception, strengthened by a few conversations with survey methodologists or statisticians from different countries, working in National Statistical Offices, universities or other statistical organizations, that *Survey Methodology* has been known to be an essential tool for showcasing and sharing innovative ideas and experiments related to sample surveys. This is confirmed by the yearly number of views (about 50,000 per year) and downloads (about 20,000 per year) of *Survey Methodology* papers (excluding views and downloads from Statistics Canada's network) and by noting that authors come from different countries in the world. Another useful indicator is the number of citations for papers that had a significant impact in the survey practice. For example, according to Google Scholar, Kalton (1986) and Rao, Wu and Yue (1992), two of the most influential papers published in *Survey Methodology*, had both been cited 699 times as of May 1, 2023.

## 5 Conclusion

*Survey Methodology* is recognized as a high-quality journal in the international community of survey statisticians. This is not taken for granted and efforts are continuous to keep the journal relevant, attractive and increase its readership. For instance, the review process has recently been revised and streamlined to remain competitive and attractive for authors considering *Survey Methodology* to showcase their research findings. I am sincerely grateful for the cooperation and commitment of all the Editorial Board members and referees who have made tremendous efforts to keep the review process as efficient as possible.

Over the next few years, we plan to increase the frequency of special discussion papers and special issues, as well as continue the publication of the yearly Waksberg Award paper. For instance, in the June 2023 issue, a special paper by Natalie Shlomo on statistical disclosure control and privacy will be published to honour the memory of Chris Skinner, a giant in survey statistics. Chris was the winner of the 2019 Waksberg Award, but could not write his paper and present it before he passed away in 2020. Shlomo's paper will be accompanied with testimonials from Danny Pfeffermann, J.N.K. Rao and Jae-Kwang Kim. The paper and testimonials were presented at Statistics Canada's 2021 International Methodology Symposium.

Another special paper, by Pascal Ardilly, David Haziza, Pierre Lavallée and Yves Tillé, is being planned for the December 2023 issue to honour the memory of another giant in survey statistics, Jean-Claude Deville, who passed away in 2021. The paper will review the most important of his contributions to the field, which include among others, calibration and cube sampling. It will be followed by discussions/testimonials from colleagues and friends. The December 2023 issue will also feature a special section with a few selected papers presented at the 2021 Colloque francophone sur les sondages. The Guest Editor for this special section is Alina Matei.

In 2024, a special issue is planned for three papers that were presented at the 2022 Morris Hansen Lecture event on the use of non-probability samples. All three papers will be discussed by international experts in the field. An introduction by Partha Lahiri, the Guest Editor for this special issue, will precede the papers. A special discussion paper by Carl-Erik Särndal, entitled "Progress in survey science: yesterday – today – tomorrow", is also currently being planned for publication in a future issue in 2024 or 2025 along with discussions from eminent survey statisticians. Finally, the June 2025 issue will be dedicated to celebrate the 50<sup>th</sup> anniversary of *Survey Methodology*. Stay tuned!

At last, I would like to express my sincere gratitude for the kind invitation to write this article from Danuté Krapavickaité and Eric Rancourt, the Editors of *The Survey Statistician*. Let me conclude by taking this opportunity to thank all the readers as well as all the authors who considered *Survey Methodology* for the publication of their research papers. It goes without saying that the journal would not have been the same without their contributions and continuous interest in its content.

I look forward to reading your future submissions to *Survey Methodology*!

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