*Since June 2020, Alex Imbrogno has been a methodologist in Census Weighting and Estimation at Statistics Canada. He holds an M.Sc. in Statistics, as well as a Bachelor’s in Sociology, both from Carleton University in Ottawa.*

Dear Alex, please accept my warmest congratulations on this prize.

**SJIAOS**: As a starter for this interview Alex, can you tell us why you chose to join Statistics Canada as a fresh university graduate?

*Alex: During graduate school, I participated in a 4-month internship as a methodologist at Statistics Canada. It was during this time that I recognized Statistics Canada as a place where I would want to work after graduation. I found that I really enjoyed doing statistical research, which I have been lucky enough to continue pursuing at Statistics Canada. As well, I felt proud to be able to contribute to the numerous statistical programs which positively impact Canadians. The majority of my work tasks are centred around the weighting process for the Census Long-Form Sample Survey.*

**SJIAOS**: Your prize-winning manuscript is on *Including Non-Binary Gender in the Calibration Strategy for the Canadian Long-Form Sample Survey Weights*. Can you tell us a bit more about the motivation for your research? Did your double training as both a statistician and a sociologist influenced your motivation?

*Alex:**The initial motivation I had to work on this research was driven by some of my past research working on distributed optimization problems for model fitting. With calibration being framed through the lens of a numerical optimization, I was keen to apply my past experience to solve such a pertinent problem. As I progressed on the research, I began to see more and more the importance of such work on gender diversity, and this further contributed to my motivation. I received a lot of satisfaction from both the methodological and potential societal benefits of the work.*

**SJIAOS**: How were you informed about the YSP prize and what finally stimulated you to write the paper?

*Alex:**I first heard about the YSP prize from my former co-op supervisor who also received a prize for a paper she submitted. However, it wasn’t until after attending a seminar given by past YSP winners from StatCan that I was motivated to write the paper for my submission. The timing happened to work out that my research was coming to an end just as the YSP prize was being announced. After hearing about the positive experiences of past participants, I was eager to write my submission.*

**SJIAOS**: Did you experience good coaching and support from your team and management?

*Alex:**Yes, the YSP prize is highly promoted and supported within the Methodology Branch at Statistics Canada. After the 2024 YSP prize was officially launched, a seminar took place where past YSP prize winners (within the agency) shared their experiences and gave advice for submitting a paper. I also had a lot of support from my immediate supervisor, who allowed me the time to work on this project and from many of my colleagues and director who provided valuable comments and feedback on the work.*

**SJIAOS**: Can you give us more details about the Canadian Long-Form Sample Survey and its use for analysis and policies, as this is a very specific to Canada?

*Alex:**For starters, the Census of Population (including the Long-Form Sample Survey) is the primary source of sociodemographic data for specific population groups such as lone-parent families, indigenous peoples, immigrants, and seniors. As well, Census information has many other important uses in the day-to-day lives of Canadians. Local governments use the census to develop programs and services such as planning for schools and health services. Businesses analyze census data to make critical investment decisions, and social services agencies depend on the census to understand the evolving needs of members of their communities.*

*For the 2021 Census Program, Canadian households were enumerated using two main types of questionnaires: the short-form questionnaire and the long-form questionnaire. The long-form questionnaire included the same questions as the short form, as well as a set of additional questions aimed at providing a more comprehensive portrait of the Canadian population and Canadian households. For example, some long-form questions ask about: any disabilities or impairments a person may have, first nations status/ancestry, religion and education, to name a few. The long-form questionnaire was distributed to a sample of the population.*

**SJIAOS**: Marginalized groups and specifically gender diversity is an important item in official statistics. How do you personally perceive and in general how in Statistics Canada the topic is on the statistical program?

*Alex:**In the years prior to the 2021 Census, a data gap on the transgender and non-binary populations was identified. Information on these groups was needed by governments, service providers and other institutions to develop programs and policies that address the concerns and needs of these populations. Because the transgender and non-binary populations are small, the 2021 Census was the statistical tool of choice to get reliable counts at disaggregated levels such as municipalities. Furthermore, since 2018, surveys at Statistics Canada have started collecting and disseminating gender information by default instead of sex at birth. The wealth of statistical information released by these surveys these last few years on various sociodemographic aspects of the Canadian society have helped close the data gap on gender minorities.*

**SJIAOS**: Apart from calibration issues, what are the specific problems that Statistics Canada has to address when conducting surveys on these questions?

*Alex:**In my view, from a total survey error perspective, to be useful a survey concept must be faithful to the underlying social construct and yet be understandable to the typical respondent when asked about it. Indeed, respondents are not specialists of a given topic (some of which are complex, with many and subtle nuances to it), nor can they be expected to spend a lot of their time and energy reading lengthy descriptions accompanying survey concepts to answer a question properly. For example, a very small proportion of the population could be born with both male and female biological characteristics; these people are often referred to as intersex. While there is a need to learn more about them, it is challenging to come up with a concise yet clear definition that intersex people would relate to, all the while acknowledging that Canadians would be asked in a general survey about a concept most of them have never heard of. It is not as simple as adding an ‘intersex’ category to the sex at birth variable.*

**SJIAOS**: Are you aware of UK Statistics, and maybe other NSOs also asking questions on gender diversity in its census, and how would you compare it with what Statistics Canada does?

*Alex: The 2021 Canadian Census of Population was the first international census to collect information on the transgender and non-binary populations. Personally, however, I’m not aware of the gender diversity situation in other NSOs. I understand that Statistics Canada’s experts in this area have been actively collaborating with their colleagues around the world, comparing social contexts, and sharing common challenges and best practices.*

**SJIAOS**: What do you see as the most challenging features of the research on gender diversity issues?

*Alex:**Even though my IAOS paper touched upon gender, I am not a specialist in the matter. In fact, the coming years may very well take me away from gender-related topics as I’ll be devoting my time and efforts to other methodological challenges. Still, in line with my previous answer about surveying social constructs, I believe it will be challenging to develop survey questions and definitions that are well understood by everyone. In my view, it is important to spend a lot of time and energy on getting those survey concepts right, because the success of the surveying activities certainly depend on those.*

**SJIAOS**: Has your research been used by Statistics Canada for the Long-Form Survey, do you expect it to be for this survey of for others?

*Alex: We are currently still in the process of evaluating whether or not the research will be used in the upcoming Census. However, we have received a lot of interest from our internal subject matter analysts in the Social Determinants of Health Section within the Centre for Health Data Integration over the possibility of calibrating on the non-binary group. As well, methodologists in the demography simulation project are interested in using the calibration method to include certain smaller indigenous groups in their calibration constraints.*

**SJIAOS**: Last question, how do you see your work as a young researcher, and would you encourage young colleagues to follow your path?

*Alex:**I personally feel like at times, it can be overwhelming to be a young person interested in doing statistical research. There are many great papers, statisticians and ideas in existence, and it can feel daunting to step foot into the ocean that is statistical research. I feel the important thing is to work on a problem which you find interesting and important no matter how small it may seem in comparison to the work of others. Everyone has to start somewhere! For me, research has never been a linear process. There may be days/weeks/months without progress and then voila, a solution appears. Sometimes you may work hours at your desk with nothing to show and other times you may have a great idea while out for a walk. Embrace the process!*

The winning manuscript will be published in SJIAOS Vol 40/4 (December 2024).

**Thank you for this interview and success in your career.**