
Sex at birth and gender: Technical report on changes for the 2021 Census



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1. Introduction

The census is the country's storyteller. Through good and difficult times, the census has been providing a detailed picture of Canada's changing mosaic—giving Canadians facts on where we came from, to where we are, and guiding decisions on where we want to be. To respond to the country's needs and write the next chapter of Canadians' data foundation, Statistics Canada conducted country-wide engagements. We also conducted a census test with over 135,000 households to determine whether new or revised questions under consideration can be easily understood and correctly answered. We listened to Canadians, because we know that this is about your census, your community, your future.

This series of technical reports provides an in-depth view of the changes in content for the 2021 Census of Population, as the census process is ever changing to reflect changes in the Canadian population and its demographic characteristics. To remain relevant, census content must be adjusted to the current social and economic climate to ensure the census data respond to the data needs of decision makers.

In recent years, the public awareness and sensitivity towards LGBTQ2 communities has grown substantially. Limited reliable data exist currently in Canada on transgender and non-binary populations. Before 2016 Census collection began, Statistics Canada started receiving comments from Canadians stating that they would be unable to answer the question on sex, which included only two response categories (male and female), as neither of these two categories reflected their reality.

During the 2016 Census collection period, Statistics Canada instructed Canadians that were unable to answer, to leave the sex question blank and instead provide a comment at the end of the questionnaire explaining why they left the question unanswered. Following the 2016 Census, Statistics Canada studied these comments and engaged with experts, academics, and LGBTQ2 communities in order to understand the needs and challenges associated with producing reliable data on the transgender and non-binary populations living in Canada, then made recommendations on changes to the 2021 Census.

Changing census content is a complex process that involves many steps, including holding consultations and conducting tests. This document provides information on the steps taken by Statistics Canada to formulate recommendations on changes to the question on sex and the introduction of a question on gender in the 2021 Census.

2. Canadian context

In recent years in Canada, the legislative environment related to gender has changed. In June 2017, Bill C-16 was formally adopted by Parliament. This bill amended the *Canadian Human Rights Act* to add gender identity and gender expression to the list of prohibited grounds of discrimination. It also amended the *Criminal Code* to include gender identity and expression to the definition of identifiable groups in section 318 of the code. Sections 318 and 319 use these identifiable groups to define genocides and hate crimes.

In 2017, the Government of Canada created the LGBTQ2 Secretariat to strengthen diversity and inclusion, promote LGBTQ2 equality, protect the rights of members of this community, and fight discrimination. The Government of Canada also reinforced the message that all Canadians have the right to participate fully in Canadian society.

More recently, in September 2018, the Treasury Board Secretariat—in collaboration with the Department of Justice and Statistics Canada—produced a report titled [Modernizing the Government of Canada's Sex and Gender Information Practices](#), which provides recommendations for the collection and use of sex and gender information. This document states that the collection of gender information, which should include a gender-inclusive option in addition to the male and female gender options, should be the default for all federal organizations, while the collection of information on sex (biological sex) should be an exception for specific reasons or needs, such as the need for health and demographic-related programs and statistics.

Lastly, Budget 2018 stated that “in order to obtain more inclusive data on sex and gender, Statistics Canada officials have been working with LGBTQ2 organizations to adjust Census of Population questions and response options to better reflect how people identify themselves, for example, by allowing respondents to answer in a non-binary fashion. This will provide critical information to help understand and meet the needs of LGBTQ2 Canadians.”

Budget 2018 also allocated funds to Statistics Canada to create a new Centre for Gender, Diversity and Inclusion Statistics, with the mandate of developing a Gender-Based Analysis Plus (GBA+) data hub to support evidence-based policy development and decision making, both within the federal government and beyond.

Canadian provinces and territories have also made changes in recent years to allow citizens to change the sex designation on some official documents, such as birth certificates.

3. International context

Taking the national context into consideration, Statistics Canada makes every possible effort to follow the United Nations Economic Commission for Europe’s (UNECE) recommendations for censuses and is a key player in working groups that regularly revise these recommendations.

Currently, there are no official international standards on gender identity or gender expression. However, some national statistical agencies have started developing collection tools and methods to measure gender.

In 2019, at the request of the Conference of European Statisticians of the UNECE, Statistics Canada — along with the United Kingdom’s Office for National Statistics — wrote an [In-Depth Review of Measuring Gender Identity](#) in which they summarized the issues and challenges related to measuring gender identity. Statistics Canada continues to work closely with its international partners to develop international standards on sex and gender, as well as to provide recommendations on how to measure these variables in censuses, surveys and administrative files.

4. Current data gaps

Currently, there is very limited statistical information about the transgender community—including the non-binary population—in Canada. Most of these statistics come from academic studies conducted in specific fields (e.g., health) and they cannot be easily disaggregated by sociodemographic characteristics or geographic areas.

The lack of data on gender minorities is perceived by many experts—such as those from the Williams Institute in the United States, as well as Canadian academics—as a limitation for governments, non-governmental organizations and researchers in understanding the experiences of this population. Without data on this population, it is difficult for governments, service providers and other institutions to develop programs and policies that address the concerns and needs of this community.¹

Statistical information on the transgender community is needed to develop inclusive policies, programs and laws at the federal, provincial, territorial and municipal levels in many areas (e.g., justice and crime, social discrimination, violence, housing, social isolation, access to services, labour market activity, immigration and well-being). Federal departments and secretariats, such as the LGBTQ2 Secretariat, the Treasury Board Secretariat, Employment and Social Development Canada, Indigenous Services Canada, Health Canada, the Public Health Agency of Canada, the Canadian Human Rights Commission, the Public Service Commission, the Department of Justice, Public Safety Canada, and the Department for Women and Gender Equality, are likely to use data on the transgender community extensively when they become available.

1. A recent article, “[How universal health care fails queer communities](#),” which was published in *The Walrus* in February 2020, reported on the lack of data from LGBTQ Canadians and how this impacts the country’s health care system.

Given that the transgender community is a very small population, the census is the only statistical tool that allows for reliable counts at the local level (e.g., for municipalities). This is important because municipalities are responsible for providing a number of services directly to the population.

5. Development of questions on sex at birth and gender

Following the 2016 Census and subsequent legislative changes, Statistics Canada investigated ways to measure the transgender population, including the non-binary population, living in Canada through its various statistical programs, including the census.

One of the first steps of this process was to engage with experts in the field of gender identity. As early as 2016, consultations and focus groups were held with members of the transgender community, including with non-binary individuals, to get a better understanding of the concepts and issues related to measuring this population through statistical programs. These activities were also conducted to develop precise questions for Statistics Canada's social surveys.

Between winter 2017 and summer 2018, qualitative tests were conducted with members of the transgender (people whose gender is different than their sex at birth) and cisgender (people whose gender aligns with their sex at birth) communities to validate the understanding of the questions on sex at birth and gender.

In April 2018, Statistics Canada published new standards on [sex at birth](#) and [gender](#) to help clarify the concepts and classifications to be used in its statistical programs.

After these standards were published, social statistics programs at Statistics Canada were asked to progressively incorporate a standardized question on gender as a default, sometimes in combination with sex at birth when there is a need either to measure the transgender population or to derive health or demographic indicators from the data.

In 2019, Statistics Canada conducted a national census test that included questions on sex at birth and gender.

6. 2019 Census Test

6.1 Methodology

In preparation for the 2021 Census, Statistics Canada conducted the 2019 Census Test from May to June 2019. This test evaluated changes to the wording and flow of some of the questions, as well as the potential addition of new questions. It also tested new census communications material and variations in collection methods.

In an effort to ensure that the census measures important trends in society, many changes to content for the 2021 Census were proposed. To quantitatively assess the impact of content changes, different versions of the census questionnaire were tested in 2019. The control version was the 2016 Census questionnaire with a question on religion added (asked every 10 years). This was the benchmark version of the census questionnaire and is what the 2021 Census questionnaire would look like if no changes were made from the previous cycle. Alternate versions of the questionnaire were developed to test new and modified content. Comparisons between the various versions helped assess which questions, wording, skips, verification messages and other features should be included in the 2021 Census.

Both the short-form (Form 2A) and long-form (Form 2A-L) questionnaires, and both the online—or electronic—questionnaire (EQ) and paper questionnaire (PQ), were tested. This process was followed because the EQ and PQ have different flows and skips, and also because the demographic profiles of EQ and PQ respondents differ.

In total, the content test component of the 2019 Census Test used a sample of nearly 135,000 households, required different test and control questionnaires to be developed—in English and in French—and was distributed among nine analysis panels. To adequately meet the test objectives, responding to the 2019 Census Test was mandatory for respondents.

More details can be found in [2019 Census Content Test: Design and methodology](#).

6.2 Questions tested on sex at birth and gender

The following questions were tested during the 2019 Census Test:

Q3. What was this person's **sex at birth**?

Sex refers to sex assigned at birth.

- Male
- Female

This question measures sex at birth, which is determined by a person's biological characteristics. This question is likely very close to what Canadians were referring to when answering the question on sex in previous censuses. Therefore, it is important to ask this question, not only to measure the transgender population (when asked alongside the gender question), but also to ensure historical comparability.

It should be noted that 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. The standards released by Statistics Canada in 2018 contain a provision for this response category under the sex at birth question. However, in the 2019 Census Test, this response category was not included in the questionnaire, as only a very small population group has these biological characteristics, and many intersex people are not aware that they are intersex, as this is often discovered later in life.

Q4. What is this person's **gender**?

Refers to current gender which may be different from sex assigned at birth and may be different from what is indicated on legal documents.

- Male
- Female
- Or please specify this person's gender (space for a typed or handwritten answer)

This question measures the gender of the respondent, which is a multidimensional concept that includes psychological, social and behavioural aspects. Gender reflects how individuals describe themselves at the time of collection and can change over time. A person's gender may differ from what is indicated on their legal documents.

This two-question approach allows Statistics Canada to:

- keep the sex variable and preserve the continuity of the time series with the previous sex question
- measure the transgender population by comparing answers from both questions
- address the data gap on the transgender and non-binary population
- fulfill the need for gender-inclusive questions.

The new questions are intended to provide reliable, consistent and high-quality information about the transgender and non-binary population in Canada.

6.3 Results of the 2019 Census Test

Methodology note:

For analysis purposes, the rest of this document is divided into two parts: the first one presents an analysis of the response from the electronic questionnaire, and the second one analyzes responses from the paper questionnaire. The analysis of the paper version is not very representative of the Canadian population because of the significant bias caused by the higher tendency of the older population to fill out the paper questionnaire compared with the younger population.

The figures in the following section can only be used to determine whether the proposed questions are properly understood by the population, whether they provide satisfactory response rates, and whether they can provide estimates of acceptable quality for a census.

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Therefore, it is important to note that the figures analyzed below can in no way be used as an estimate of the transgender and non-binary populations living in Canada.

6.3.1 Electronic questionnaire

The question about gender worked well in the electronic questionnaire because the combined rate of non-responses and invalid responses was very low, around 0.10%.

Also, the distribution by gender is fairly close to the one produced by sex at birth (if we exclude invalid responses and non-responses), as shown in the following tables:

Table 1
Sex at birth, 2019 Census Test

Sex at birth	Percent
Female	50.7
Male	49.3
Total	100.0

Source: 2019 Census Test.

Table 2
Gender, 2019 Census Test

Gender	Percent
Female	50.64
Male	49.29
Non-binary	0.07
Total	100.0

Source: 2019 Census Test.

The proportion of non-binary gender individuals of all ages is 0.07%. The proportion of non-binary gender individuals is three times higher among those under 35 years (0.11%) than those 35 years or older (0.02%).

According to the results of the 2019 Census Test, the estimated percentage of the transgender population, including non-binary individuals, is 0.35%, which seems realistic, given results from other sources (both national and international).

First, these results can be compared with the results from the Survey of Safety in Public and Private Spaces (SSPPS) conducted by Statistics Canada in 2018, which also contained questions about sex at birth and gender. According to that survey, 0.24% of the Canadian population was comprised of transgender men, women or non-binary individuals. When applying the 95% confidence interval, this population ranges between 0.16% and 0.36%. The results of the 2019 Census Test are also within this range.

Second, the 2019 Census Test results closely match what has been observed in some American studies, such as [How many LGBT people are there in the U.S.?](#) published by the Williams Institute in 2011 (0.35%), and [Transgender Population Size in the United States: a Meta-Regression of Population-Based Probability Samples](#), published in the *American Journal of Public Health* in February 2017 (0.39%; 95% confidence interval: 0.16% to 0.62%).

Other studies have shown a slightly higher proportion (0.58%), such as the one by the Williams Institute in 2016 entitled [How Many Adults Identify as Transgender in the United States?](#)

The 2019 Census Test results also show that the proportion of transgender men (0.15%) is slightly higher than the proportion of transgender women (0.13%). The ratio is very close to the SSPPS estimate (unpublished).

Although the trend in the past seemed to lean more toward transgender women—but with LGBTQ2 groups claiming that the ratio was closer to 50/50—it has been observed in the literature that this trend now appears to be reversed, especially among young people. This trend seems to confirm the results of the 2019 Census Test, given that among people under 35 years, the proportion of transgender men is 33% higher than the proportion of transgender women (0.20% versus 0.15%) whereas the ratio is nearly 50/50 among people over 35 years (0.12% versus 0.11%).

Gender by language of questionnaire

Differences are also observed when the results are analyzed by language of the questionnaire.

The proportion of non-binary individuals from the French questionnaires is lower than the proportion from the English questionnaires. At this time, it is hard to know why this difference exists. It could reflect a different reality within the francophone and anglophone populations. The French word *genre* can also have a number of meanings, and a certain proportion of binary gender francophones may not fully understand the concept of *genre*. However, the consultations and qualitative tests showed that the concept was well understood by non-binary individuals, which tends to show that this low number would not stem from respondents' lack of understanding.

6.3.2 Paper questionnaire

The analysis of the paper questionnaires must be interpreted with caution because there is a bias caused by the age of the respondents. There is a strong correlation between the likelihood to use paper questionnaires and the age of the respondents: the older the respondents, the more they tend to use the paper questionnaire.

Non-response to the question on sex in the paper questionnaire was around 1%, compared with about 8% for the question on gender. When looking at the respondents whose age it was possible to determine, we note that this non-response is mostly concentrated among people over the age of 70. Although non-response to the question on gender is relatively high for older people, it should not significantly affect the quality of the results, since non-response to sex is relatively low, which would make it possible to use sex at birth as an auxiliary variable to impute gender in non-response situations.

The proportion of non-binary gender individuals, if we do not factor in non-response, is roughly half of the estimate for the electronic questionnaire. Since the sample is biased by the high proportion of seniors, this result was expected.

Lastly, the proportion of transgender individuals from the paper questionnaire is higher than the estimate measured from the electronic questionnaire. Since the paper questionnaire does not have a confirmation screen that appears if the response to the question on gender differs from the response to the question on sex at birth, this percentage is probably overestimated due to false positives.

In addition, since the written response box on the paper questionnaire asks “please specify your gender”, respondents could have entered their own gender when responding for other household members. The questionnaires of all these respondents will be examined more closely to better understand their behaviour. A processing strategy to correct these possible false positives will be developed at a later date, if necessary.

In conclusion, this analysis shows that the new questions on gender and sex at birth generally work well in a census that targets the entire Canadian population. However, special attention must be paid to estimating the transgender population using the paper questionnaire because of the lack of steps to confirm the responses to sex at birth and gender when they differ.

7. Analysis and dissemination of the 2021 Census data

Since the transgender and non-binary population estimates are expected to be relatively low statistically, Statistics Canada will have to develop a special dissemination strategy to ensure the confidentiality of the responses provided by Canadians.

However, Statistics Canada is committed to disseminating these estimates as long as they are of acceptable quality. The dissemination strategy and the analysis framework for these data will be developed in the months leading up to the 2021 Census.

Statistics Canada is also gradually introducing the concept of gender into its social survey programs. This process considers the importance of adapting to the Treasury Board Secretariat's new directive, while maintaining historical comparability with the data previously published by those programs. Introducing the concept of gender into the census questionnaire will make it easier to weight the data from those programs when they are collected using samples.

Finally, having questions on sex at birth and gender will enable Statistics Canada's Demographic Estimates Program to produce data by these two variables, which will expand the possible range of uses for those estimates, based on user needs. However, analyses and feasibility studies must be done to determine whether two sets of demographic estimates should be produced and how they will be produced based on the available resources.

Conclusion

This document presented the context, data needs, results from the 2019 Census Test as well as the next steps associated with the inclusion of a question on gender in the 2021 Census. The question on sex is also being modified, to add precision by asking sex at birth. This two-step approach was identified by Statistics Canada as an efficient way to measure the transgender and non-binary populations living in Canada, which are likely to be quite small populations. Measuring small populations such as these is always a challenge from a statistical point of view, and the census provides many advantages in this regard. Further discussions and thinking are left to be done on how the agency will disseminate such statistical data, while ensuring the confidentiality of the answers provided by Canadians.