



Microdata User Guide

Post-secondary Education Participation Survey

2002



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1.0 Introduction

The Post-secondary Education Participation Survey (PEPS) was conducted by Statistics Canada in February and March 2002. This manual has been produced to facilitate the manipulation of the microdata file of the survey results.

Any questions about the data set or its use should be directed to:

Statistics Canada

Client Services

Centre for Education Statistics

Telephone: (613) 951-7608 or call toll-free 1 800 307-3382

Fax: (613) 951-9040

E-mail: educationstats@statcan.ca

2.0 Background

The initiative for a Post-secondary Education Participation Survey (PEPS) came from the Harmonisation Group of the Canada Student Loans Program (CSLP) of Human Resources Development Canada. The federal, provincial and territorial governments had agreed to develop and implement an accountability framework. The accountability framework developed by the Harmonisation Group of the CSLP identified four key indicators requiring annual monitoring: access to post-secondary education; persistence/completion at the post-secondary level; student indebtedness and capacity to pay; and loan default/delinquency rates. The PEPS measures two of these indicators, access to post-secondary education and persistence/completion at the post-secondary level. The primary goal of the accountability framework is to monitor and assess the provision of student loans. The information gained through the implementation of the accountability framework will provide data for policy and provide accountability to the Canadian public.

A substantial body of evidence suggests that participation in post-secondary education confers significant economic benefits to those who gain access. Governments have an interest in ensuring that access to the post-secondary education system is equitable, in as much as financial barriers associated with the cost of attendance do not unduly influence it. Given that the decision to pursue post-secondary studies is a defining moment for many individuals and has many future life-cycle implications, it is important that equality of financial opportunity exists across social classes.

To provide information relevant to the accountability framework, the PEPS has been developed to provide basic indicators on access to post-secondary education, persistence in post-secondary education and post-secondary financing.

3.0 Objectives

The primary objective of the Post-secondary Education Participation Survey (PEPS) is to provide performance indicators to assess the effectiveness and efficiency of the harmonised Canada Student Loans Program for those 18 to 24 years of age (17 to 24 in Quebec). To do so, it will be necessary to:

- Measure the impact of secondary school withdrawal/non-completion and marks during the final year in secondary studies on access to post-secondary;
- Measure access to post-secondary education;
- Measure the impact of student loans on accessibility of post-secondary education;
- Measure the impact of parental socio-economic status on post-secondary accessibility;
- Measure the characteristics of post-secondary programs pursued;
- Measure the rate of post-secondary withdrawal/non-completion;
- Measure the impact of student debt on completion rates;
- Identify the mechanisms through which students finance post-secondary education;
- Measure the accessibility of student loans, use of student loans and student indebtedness for those who have initiated post-secondary studies;
- Measure awareness of student loans program for those who never attended post-secondary studies;
- Evaluate the adequacy of student financing through examination of tuition fees, other education costs and major monthly expenses of current students;
- Measure the current labour-force activity of current students, post-secondary completers and non-completers and those not participating in post-secondary education;
- Profile the socio-demographic characteristics of those who are: not participating in post-secondary education, have/are participating in post-secondary and have/had a student loan or those who have/are participating in post-secondary and have not had a student loan.

4.0 Concepts and Definitions

This chapter outlines concepts and definitions of interest to the users. The concepts and definitions used in the Labour Force Survey (LFS) are described in Section 4.1 while those specific to the Post-secondary Education Participation Survey (PEPS) are given in Section 4.2. Users are referred to Chapter 12.0 of this document for a copy of the actual survey questionnaires used.

4.1 Labour Force Survey Concepts and Definitions

Labour Force Status

Designates the status of the respondent vis-à-vis the labour market: a member of the non-institutional population 15 years of age and over is either **employed, unemployed** or **not in the labour force**.

Employment

Employed persons are those who, during the reference week:

- a) did any work¹ at all at a job or business; or
- b) had a job but were not at work due to factors such as own illness or disability, personal or family responsibilities, vacation, labour dispute or other reasons (excluding persons on layoff, between casual jobs, and those with a job to start at a future date).

Unemployment

Unemployed persons are those who, during the reference week:

- a) were on temporary layoff during the reference week with an expectation of recall and were available for work, or
- b) were without work, had actively looked for work in the past four weeks, and were available for work²; or
- c) had a new job to start within four weeks from the reference week, and were available for work.

¹ Work includes any work for pay or profit, that is, paid work in the context of an employer-employee relationship, or self-employment. It also includes unpaid family work, which is defined as unpaid work contributing directly to the operation of a farm, business or professional practice owned and operated by a related member of the same household. Such activities may include keeping books, selling products, waiting on tables, and so on. Tasks such as housework or maintenance of the home are not considered unpaid family work.

² Persons are regarded as available for work if they:

- i) reported that they could have worked in the reference week if a suitable job had been offered; or if the reason they could not take a job was of a temporary nature such as: because of own illness or disability, personal or family responsibilities, because they already have a job to start in the near future, or because of vacation (prior to 1997, those on vacation were not considered available).
- ii) were full-time students seeking part-time work who also met condition i) above. Full-time students currently attending school and looking for full-time work are not considered to be available for work during the reference week.

Not in the Labour Force

Persons not in the labour force are those who, during the reference week, were unwilling or unable to offer or supply labour services under conditions existing in their labour markets, that is, they were neither employed nor unemployed.

Industry and Occupation

The Labour Force Survey provides information about the occupation and industry attachment of employed and unemployed persons, and of persons not in the labour force who have held a job in the past 12 months. Since 1997, these statistics have been based on the North American Industry Classification System (NAICS) and the Standard Occupational Classification (SOC-91). Prior to 1997, the 1980 Standard Industrial Classification and the 1980 Standard Occupational Classification were used.

Reference Week

The entire calendar week (from Sunday to Saturday) covered by the Labour Force Survey each month. It is usually the week containing the 15th day of the month. The interviews are conducted during the following week, called the Survey Week, and the labour force status determined is that of the reference week.

Full-time Employment

Full-time employment consists of persons who usually work 30 hours or more per week at their main or only job.

Part-time Employment

Part-time employment consists of persons who usually work less than 30 hours per week at their main or only job.

4.2 Post-secondary Education Participation Survey Concepts and Definitions

Eligibility for post-secondary

Eligibility for post-secondary is based on two criteria:

- 1) Available to enroll in post-secondary - This means that respondents must no longer have been enrolled in high school at the time of the survey.
- 2) Interested in post-secondary - Respondents who have not taken post-secondary must have stated they were interested in pursuing post-secondary education (refer to the derived variable INTPS in the Main Codebook). Respondents who were enrolled in a post-secondary program at some point in time are considered to be interested in post-secondary.

Post-secondary

A respondent was considered to have taken post-secondary only if she/he had been enrolled in an eligible post-secondary program.

Eligible post-secondary program

A program is comprised of the courses taken to receive a certificate, diploma and/or degree and must take three months or longer to complete if taken full-time. The program must be above the high school level in order to be considered post-secondary.

Distinction between post-secondary programs

Post-secondary programs are distinguishable in terms of:

- 1) Name of the post-secondary program. For example a certificate in Beef Management is a different program than a certificate in Agriculture Production; or a Bachelor's of Arts in Linguistics is a different program than a Bachelor's of Science in Chemistry.
- 2) The type of credentials received upon successful completion of the post-secondary program. For example a certificate in Health Information Services is a different program than a diploma in Health Information Services.

However, post-secondary programs are not distinguishable in terms of:

- 1) Specialty or major of the post-secondary program. A change in major in the process of obtaining a certificate, diploma or degree is not a change of program. For example a Bachelor's of Arts in History is not a different program than a Bachelor's of Arts in Psychology.
- 2) The type of institution. A change in the type of institution attended in the process of obtaining a certificate, diploma or degree is not a change of program. For instance, if a respondent starts taking a Bachelor of Nursing at a technical institute and continues to take it at a university, these would not count as two separate programs.

Current post-secondary student/non-current post-secondary student and current post-secondary program/most recent post-secondary program

A respondent is a current post-secondary student if she/he was attending a school, college or university during the week prior to the interview (B_Q01B = yes). The respondent is considered to be enrolled in a program, even if in a non course phase such as writing a thesis or in the working phase of his/her co-op program during collection period. Detailed information is collected for the post-secondary program in which the respondent is currently enrolled.

A respondent is a non-current post-secondary student if she/he was not attending a school, college or university during the week prior to the interview (B_Q01B = no). Detailed information is collected for the post-secondary program the respondent last took, i.e. the most recent program. (This information is determined by the dates given in BR_Q06A and BR_Q06B). The non-current student can either be a dropout or a graduate of her/his most recent post-secondary program (determined in B_Q17).

Recent or non-recent leaver

The non-current post-secondary student is further classified as a recent or non-recent leaver, which depends on the date the respondent was last enrolled in his/her most recent program. A recent leaver is someone who graduated or left her/his most recent post-secondary program after June 2001. A non-recent leaver is someone who graduated or left her/his most recent post-secondary program before July 2001.

Sources of funds and expenses for a post-secondary academic year

Sources of funds and expenses are only captured for current post-secondary students for their current academic year and for the recent leavers for their most recent academic year.

Academic year

Calculated using the month and year the respondent's current or most recent academic year started and the month and year in which the respondent's current or most recent academic year will end or has ended. Usually a traditional academic year begins in September and finishes in April or May, depending on the institution where the respondent is enrolled. Co-op work terms (or other kinds of on the job training) are included in the academic year.

Duration of a post-secondary program

Refers to the number of academic months or years required by a full-time student to complete the program. It does not refer to the length of time it took the respondent to complete the program.

Length of time in a post-secondary program

The actual amount of time a respondent spent taking a program. It can be calculated using the date when a respondent first enrolled in a program (BR_Q05A and BR_Q05B) and the date when a respondent last enrolled in a program (BR_Q06A and BR_Q06B).

Year in a post-secondary program

A measure as to how much of a post-secondary program a respondent has completed. This refers to the program year and not how many years the respondent has been enrolled in a program. For example a respondent has been enrolled in a Bachelor's of Engineering program for four years (the program is four years in duration). This year three of his classes are 3rd year classes (the courses are at the 300 level) and two of his classes are 4th year classes (the courses are at the 400 level). Since the majority of the respondent's classes are 3rd year classes we consider the respondent to be in his 3rd year of the program.

Government student loans

Government student loan refers to federal, territorial and provincial student loans.

A student loan is a loan sponsored by the federal government or any provincial/territorial government which enables the respondent to finance his/her studies.

Living arrangement

There are three different living arrangements for respondents.

Living arrangement 1:

The respondent lives in the same household as his/her parents or guardians. (J_Q05A = 1, RELREF = 3 and MOM_EDUC and/or DAD_EDUC equals response).

Living arrangement 2:

The respondent does not live with his/her parents or guardians because she/he is away at school. (J_Q05A = 2, RELREF = 3 and MOM_EDUC and/or DAD_EDUC equals response).

Living arrangement 3:

The respondent no longer lives with his/her parents or guardians. (J_Q05A = 2, RELREF not equal to 3 and MOM_EDUC and DAD_EDUC equals valid skip).

5.0 Survey Methodology

The Post-secondary Education Participation Survey (PEPS) was administered in February and March of 2002 to a sub-sample of the dwellings in the Labour Force Survey (LFS) sample, and therefore its sample design is closely tied to that of the LFS. The LFS design is briefly described in Sections 5.1 to 5.4³. Sections 5.5 and 5.6 describe how the PEPS departed from the basic LFS design.

5.1 Population Coverage

The LFS is a monthly household survey of a sample of individuals who are representative of the civilian, non-institutionalised population 15 years of age or older in Canada's ten provinces. Specifically excluded from the survey's coverage are residents of the Yukon, Northwest Territories and Nunavut, persons living on Indian Reserves, full-time members of the Canadian Armed Forces and inmates of institutions. These groups together represent an exclusion of approximately 2% of the population aged 15 or over.

5.2 Sample Design

The LFS has undergone an extensive redesign, culminating in the introduction of the new design at the end of 1994. The LFS sample is based upon a stratified, multi-stage design employing probability sampling at all stages of the design. The design principles are the same for each province. A diagram summarizing the design stages can be found in the document LFS_AppendixA.pdf.

5.2.1 Primary Stratification

Provinces are divided into economic regions (ER) and employment insurance economic regions (EIER). ERs are geographic areas of more or less homogeneous economic structure formed on the basis of federal-provincial agreements. They are relatively stable over time. EIERs are also geographic areas, and are roughly the same size and number as ERs, but they do not share the same definitions. Labour force estimates are produced for the EIERs for the use of Human Resources Development Canada.

The intersections of the two types of regions form the first level of stratification for the LFS. These ER/EIER intersections are treated as primary strata and further stratification is carried out within them (see Section 5.2.3). Note that a third set of regions, census metropolitan areas (CMA), is also respected by stratification in the current LFS design, since each CMA is also an EIER.

³ A detailed description of the LFS design is available in the Statistics Canada publication entitled *Methodology of the Canadian Labour Force Survey*, Catalogue no. 71-526-XPB.

5.2.2 Types of Areas

The primary strata (ER/EIER intersections) are further disaggregated into three types of areas: rural, urban, and remote areas. Urban and rural areas are loosely based on the Census definitions of urban and rural, with some exceptions to allow for the formation of strata in some areas. Urban areas include the largest CMAs down to the smallest villages categorized by the 1991 Census as urban (1,000 people or more), while rural areas are made up of areas not designated as urban or remote.

All urban areas are further subdivided into two types: those using an apartment list frame and an area frame, as well as those using only an area frame.

Approximately 1% of the LFS population is found in remote areas of provinces which are less accessible to LFS interviewers than other areas. For administrative purposes, this portion of the population is sampled separately through the remote area frame. Some populations, not congregated in places of 25 or more people, are excluded from the sampling frame.

5.2.3 Secondary Stratification

In urban areas with sufficiently large numbers of apartment buildings, the strata are subdivided into apartment frames and area frames. The apartment list frame is a register maintained for the 18 largest cities across Canada. The purpose of this is to ensure better representation of apartment dwellers in the sample as well as to minimize the effect of growth in clusters, due to construction of new apartment buildings. In the major cities, the apartment strata are further stratified into low income strata and regular strata.

Where it is possible and/or necessary, the urban area frame is further stratified into regular strata, high income strata, and low population density strata. Most urban areas fall into the regular urban strata, which, in fact, cover the majority of Canada's population. High income strata are found in major urban areas, while low density urban strata consist of small towns that are geographically scattered.

In rural areas, the population density can vary greatly from relatively high population density areas to low population density areas, resulting in the formation of strata that reflect these variations. The different stratification strategies for rural areas were based not only on concentration of population, but also on cost-efficiency and interviewer constraints.

In each province, remote settlements are sampled proportional to the number of dwellings in the settlement, with no further stratification taking place. Dwellings are selected using systematic sampling in each of the places sampled.

5.2.4 Cluster Delineation and Selection

Households in final strata are not selected directly. Instead, each stratum is divided into clusters, and then a sample of clusters is selected within the stratum. Dwellings are then sampled from selected clusters. Different methods are used to define the clusters, depending on the type of stratum.

Within each urban stratum in the urban area frame, a number of geographically contiguous groups of dwellings, or clusters, are formed based upon 1991 Census counts. These clusters are generally a set of one or more city blocks or block-faces. The selection of a sample of clusters (always six or a multiple of six clusters) from each of these secondary strata represents the first stage of sampling in most urban areas. In some other urban areas, census enumeration areas (EA) are used as clusters. In the low

density urban strata, a three stage design is followed. Under this design, two towns within a stratum are sampled, and then 6 or 24 clusters within each town are sampled.

For urban apartment strata, instead of defining clusters, the apartment building is the primary sampling unit. Apartment buildings are sampled from the list frame with probability proportional to the number of units in each building.

Within each of the secondary strata in rural areas, where necessary, further stratification is carried out in order to reflect the differences among a number of socio-economic characteristics within each stratum. Within each rural stratum, six EAs or two or three groups of EAs are sampled as clusters.

5.2.5 Dwelling Selection

In all three types of areas (urban, rural and remote areas) selected clusters are first visited by enumerators in the field and a listing of all private dwellings in the cluster is prepared. From the listing, a sample of dwellings is then selected. The sample yield depends on the type of stratum. For example, in the urban area frame, sample yields are either six or eight dwellings, depending on the size of the city. In the urban apartment frame, each cluster yields five dwellings, while in the rural areas and EA parts of cities, each cluster yields 10 dwellings. In all clusters, dwellings are sampled systematically. This represents the final stage of sampling.

5.2.6 Person Selection

Demographic information is obtained for all persons in a household for whom the selected dwelling is the usual place of residence. LFS information is obtained for all civilian household members 15 years of age or older. Respondent burden is minimized for the elderly (age 70 and over) by carrying forward their responses for the initial interview to the subsequent five months in the survey.

5.3 Sample Size

The sample size of eligible persons in the LFS is determined so as to meet the statistical precision requirements for various labour force characteristics at the provincial and sub-provincial level, to meet the requirements of federal, provincial and municipal governments as well as a host of other data users.

The monthly LFS sample consists of approximately 60,000 dwellings. After excluding dwellings found to be vacant, dwellings demolished or converted to non-residential uses, dwellings containing only ineligible persons, dwellings under construction, and seasonal dwellings, about 54,000 dwellings remain which are occupied by one or more eligible persons. From these dwellings, LFS information is obtained for approximately 102,000 civilians aged 15 or over.

5.4 Sample Rotation

The LFS follows a rotating panel sample design, in which households remain in the sample for six consecutive months. The total sample consists of six representative sub-samples or panels, and each month a panel is replaced after completing its six month stay in the survey. Outgoing households are replaced by households in the same or a similar area. This results in a five-sixths month-to-month sample overlap, which makes the design efficient for estimating month-to-month changes. The rotation after six months prevents undue respondent burden for households that are selected for the survey.

Because of the rotation group feature, it is possible to readily conduct supplementary surveys using the LFS design but employing less than the full size sample.

5.5 Modifications to the Labour Force Survey Design for the Post-secondary Education Participation Survey

The PEPS used five of the six rotation groups in the February 2002 LFS sample, the birth rotation being excluded. For the PEPS, the coverage of the LFS was modified to include only members of the household aged 17 to 24 in Quebec and 18 to 24 in the other provinces. Unlike the LFS where information is collected for all eligible household members, the PEPS only collected information from one eligible household member, randomly selected by the computer-assisted interview application if more than one was present in the household. Proxy responses were not permitted for the PEPS: data collected by the PEPS was always obtained from the sampled individuals themselves, i.e. the PEPS collection was 0% proxy, 100% non-proxy. However, data obtained from the LFS about individuals sampled for the PEPS was obtained by a different person almost two thirds of the time, i.e. the LFS collection for the PEPS sample was 65% proxy, 35% non-proxy.

5.6 Sample Size by Province for the Post-secondary Education Participation Survey

The following table shows the number of households in the LFS sampled rotations that were eligible for the PEPS supplement. This table includes only households where the PEPS attempted collection. There were three types of households where the PEPS did not attempt collection despite the presence of individuals eligible to the PEPS:

- 1) households that were non-respondents to the LFS;
- 2) households that were discarded from the PEPS sample due to possible sample overlap with the Youth In Transition Survey, another Statistics Canada survey;
- 3) households that had their LFS data collection done in person.

These three types of households are excluded from the following table and represented 13% of the total number of households available from the LFS from the five sampled rotations.

Province	Sample Size
Newfoundland and Labrador	246
Prince Edward Island	159
Nova Scotia	382
New Brunswick	333
Quebec	1,434
Ontario	1,790
Manitoba	455
Saskatchewan	464
Alberta	579
British Columbia	614
Canada	6,456

6.0 Data Collection

Data collection for the Labour Force Survey (LFS) is carried out each month during the week following the LFS reference week. The reference week is normally the week containing the 15th day of the month.

6.1 Interviewing for the Labour Force Survey

Statistics Canada interviewers are employees hired and trained to carry out the LFS and other household surveys. Each month they contact the sampled dwellings to obtain the required labour force information. Each interviewer contacts approximately 75 dwellings per month.

Dwellings new to the sample are usually contacted through a personal visit using the Computer-assisted personal interview (CAPI). The interviewer first obtains socio-demographic information for each household member and then obtains labour force information for all members aged 15 and over who are not members of the regular armed forces. Provided there is a telephone in the dwelling and permission has been granted, subsequent interviews are conducted by telephone. This is done out of a centralized Computer-assisted telephone interviewing (CATI) unit where cases are assigned randomly to interviewers. As a result, approximately 85% of all households are interviewed by telephone. In these subsequent monthly interviews, the interviewer confirms the socio-demographic information collected in the first month and collects the labour force information for the current month.

In each dwelling, information about all household members is usually obtained from one knowledgeable household member. Such “proxy” reporting, which accounts for approximately 65% of the information collected, is used to avoid the high cost and extended time requirements that would be involved in repeat visits or calls necessary to obtain information directly from each respondent.

If, during the course of the six months that a dwelling normally remains in the sample, an entire household moves out and is replaced by a new household, information is obtained about the new household for the remainder of the six-month period.

At the conclusion of the LFS monthly interviews, interviewers introduce the supplementary survey, if any, to be administered to some or all household members that month.

6.2 Supervision and Quality Control

All LFS interviewers are under the supervision of a staff of senior interviewers who are responsible for ensuring that interviewers are familiar with the concepts and procedures of the LFS and its many supplementary surveys, and also for periodically monitoring their interviewers and reviewing their completed documents. The senior interviewers are, in turn, under the supervision of the LFS program managers, located in each of the Statistics Canada regional offices.

6.3 Non-response to the Labour Force Survey

Interviewers are instructed to make all reasonable attempts to obtain LFS interviews with members of eligible households. For individuals who at first refuse to participate in the LFS, a letter is sent from the Regional Office to the dwelling address stressing the importance of the survey and the household's cooperation. This is followed by a second call (or visit) from the interviewer. For cases in which the timing of the interviewer's call (or visit) is inconvenient, an appointment is arranged to call back at a more convenient time. For cases in which there is no one home, numerous call backs are made. Under no circumstances are sampled dwellings replaced by other dwellings for reasons of non-response.

Each month, after all attempts to obtain interviews have been made, a small number of non-responding households remain. For households non-responding to the LFS and for which LFS information was obtained in the previous month, this information is brought forward and used as the current month's LFS information. No supplementary survey information is collected for these households.

6.4 Data Collection Modifications for the Post-secondary Education Participation Survey

The Post-secondary Education Participation Survey (PEPS) was administered to one randomly selected individual, 18 to 24 years of age (17 to 24 in Quebec), per household. The random selection was carried out at the time of the interview by the computer-assisted program.

Upon completion of the Labour Force Survey interview, the interviewer asked to speak to the selected person for the PEPS. If the selected person was not available, the interviewer arranged for a convenient time to phone back. If the selected respondent was temporarily living away from the household, but it was still considered to be his/her usual place of residence, then the interviewer asked for his/her telephone number and contacted him/her to obtain an interview. Proxy response was not allowed. That is, only the selected respondent was permitted to be interviewed.

6.5 Non-response to the Post-secondary Education Participation Survey

For households responding to the LFS and comprising one or more PEPS eligible individuals, the next stage of data collection was to administer the PEPS. However, the following households were excluded from the PEPS collection:

- 1) households that were pre-identified as possibly involved in the Youth In Transition Survey, another Statistics Canada survey;
- 2) households that had their LFS data collection done in person.

In total, excluding the above mentioned households, 6,456 individuals were selected for the supplementary survey; the PEPS interview was completed for 5,141 of these individuals for a response rate of 79.6%. More detailed information on response rates is presented in Chapter 8.0 (Data Quality).

7.0 Data Processing

The main output of the Post-secondary Education Participation Survey (PEPS) is a "clean" microdata file. This chapter presents a brief summary of the processing steps involved in producing this file.

Before discussing how the PEPS data was processed it is important to understand how the PEPS data has been stored. The PEPS data is stored on three files: one main file and two rosters.

The **MAIN** file is a flat ascii file. This file contains one record per respondent and includes the data from the following modules:

- A - High School and Highest Degree
- B - Most Recent Program
- C - Financing for Post-secondary Students
- E - Post-secondary Intentions
- F - Student Loan Awareness
- G - Post-secondary Financial Planning
- J - Socio-economic Status

Other data found on the Main file are all the derived variables except one (COMPS which is found on the BR file) and the respondent's Labour Force Survey (LFS) data.

The second file, the **BR** file, consists of data about the education programs taken by the respondent. It is a roster which means it will contain one to six records per respondent, depending on the number of programs taken.

The third file, the **JR** file, consists of data about the respondent's parents. It is also a roster and will contain one to four records per respondent depending on the number of parents or guardians the respondent lived with during most of high school. The parent information on this file (i.e. education, North American Industry Classification System (NAICS) and Standard Occupational Classification (SOC)) is for respondents who were not living with their parents at the time of the PEPS interview.

There is one additional file for researchers to use called the **LFSREL** file, or the Labour Force Survey relationship to respondent file. It also consists of data about the respondent's parents as well as the respondent's spouse. The parent information on this file is for respondents who were living with their parents (and spouse) at the time of the PEPS interview.

Each file has a respondent identifier (SEQID) with which the files can be merged together. When merging to the rosters the researcher will get multiple records per respondent as mentioned above.

7.1 Data Capture

Responses to survey questions are captured directly by the interviewer at the time of the interview using a computerized questionnaire. The computerized questionnaire reduces processing time and costs associated with data entry, transcription errors, and data transmission. The response data are encrypted to ensure confidentiality and sent via modem to the appropriate Statistics Canada Regional Office. From there they are transmitted over a secure line to Ottawa for further processing.

Some editing is done directly at the time of the interview. Where the information entered is out of range (too large or small) of expected values, or inconsistent with previous entries, the interviewer is prompted, through message screens on the computer, to modify the information. However, interviewers have the option of bypassing the edits, and of skipping questions if the respondent does not know the answer or refuses to answer. Therefore, the response data are subjected to further edit and imputation processes once they arrive in head office.

7.2 Editing

The editing and imputation phases of processing involve the identification of logically inconsistent or missing information items, and the modification of such conditions. Since the true value of each entry on the questionnaire is not known, the identification of errors can be done only through recognition of obvious inconsistencies. If a value is suspicious but reasonable, the erroneous value will find its way into the surveys statistics. For that reason emphasis must be placed on quality controls and interviewer training to ensure that errors are both minimal in number and non-systematic in nature.

Where errors or omissions are detected, the erroneous or missing items are replaced by the imputation of logically consistent values. Such changes are made automatically by the edit and imputation system or through intervention of experts. These changes are based on pre-specified criteria, and may involve the internal logic of the questionnaire, reference to earlier month's information (if available), or the use of similar records to impute one or more values.

In all cases, editing changes are recorded and this information is used to assess various aspects of survey performance. These records of errors are also used to advise interviewers of mistakes made in the past in order to avoid repetition of these mistakes in the future.

7.3 Coding of Open-ended Questions

The coding process assigns standard codes to open-ended questions so that the data can be better analyzed.

There were two types of coding performed:

Classification of instructional programs (CIP)

The CIP coding was performed on questions relating to instructional programs. The CIP variables can be found on the BR file.

Industry and Occupation

The North American Industry Classification System (NAICS) was used to code questions relating to the respondent's parent's employer and kind of business while the Standard Occupational Classification (SOC-91) was used to code questions relating to the respondent's parent's kind of work and main activity. The NAICS and SOC variables can be found on the JR file. These variables only pertain to the parents of those respondents who were not currently living with the same parents they lived with during most of high school.

A third type of coding performed is called "Other – Specify" coding. Questions which contain a list of answer categories often contain "Other - Specify" as the final category. The text from these questions is captured. These write-ins are examined and may be recoded into one of the existing categories. If the write-in is reflected in one of the existing categories to the question, the appropriate category is set to "Yes" and the "Other - Specify" is set to "No". Also, new categories may be added if there is a large number of write-ins which can be categorized together.

7.4 Creation of Derived Variables

The derived variable (DV) process creates new variables based on existing ones. A derived variable may be based on one survey question (regrouping/collapsing categories) or based on several questions combined together to define a new concept. Specifications for the DVs may be defined as Decision Tables using LogiPlus, in specially defined formats in a spreadsheet, or in the case of complex DVs, as algorithms which the programmer codes.

For the PEPS various questions on the microdata file have been combined to derive additional variables in order to facilitate data analysis. When creating the derived variable, if any question was missing a value (i.e. the response was “Don’t know”, “Refused” or “Not stated”), the code assigned to the derived variable was “Not stated”.

The following is a list of the derived variables that have been created. See the codebook for a complete description of the variables and their values.

Population types and eligibility

Secondary status (SECSTAT)
Post-secondary status (PSSTAT)
Education status (EDSTAT)
Non-current student status (NCURSTAT)
Interested in post-secondary education (INTPS)

Age at time of education events

Age at time of leaving secondary (or elementary) (AGELFSEC)
Age at the time of commencing post-secondary (AGECOMPS)

Time elapsed between education events

Number of months between completing secondary or leaving secondary (or elementary) and starting post-secondary (MOSECPS)
Number of months between leaving elementary/secondary and time of the survey (for those who have not yet started post-secondary) (MOLFSEC)

Time spent in studies

Enrolment status in the first year of post-secondary program (i.e. enrolment status in the first year of the first post-secondary program) (ENYR1PG1)
Number of hours worked per week during the academic year (HREM)

Post-secondary program variables

Date commencing post-secondary in months (COMPS)
Type of post-secondary program (TYPEPG)

Government student loan

Government student loan status (GOVSTAT)
Number of years receiving a government student loan (GOVYR)
Total government student loans for current school year (TOTGOV)

Expenditures

Total educational expenses for academic year (TOTEDEX)
Total regular monthly living expenses for academic year (TOTMOEX)
Total regular living expenses and miscellaneous expenses for academic year (TOTANEX)

Sources of funding

Total income from employment and investments for academic year (TOTINCENM)
Total repayable sources of funding for academic year (TOTRE)
Total non-repayable sources of funding for academic year (TOTNONRE)

Demographic information

Visible minority (J_Q05DV)

Parent information

Family structure – present (FAMSTRPR)
Family structure – past (FAMSTRPA)

Miscellaneous

Reasons for not continuing education, (i.e. reasons for not attending or applying to post-secondary education) (RNNOCNED)

7.5 Weighting

The principle behind estimation in a probability sample such as the LFS is that each person in the sample "represents", besides himself or herself, several other persons not in the sample. For example, in a simple random 2% sample of the population, each person in the sample represents 50 persons in the population.

The weighting phase is a step which calculates, for each record, what this number is. This weight appears on the microdata file, and **must** be used to derive meaningful estimates from the survey. For example, if the number of individuals aged 18 to 24 enrolled in full-time programs at a university is to be estimated, it is done by selecting the records referring to those individuals in the sample with that characteristic and summing the weights entered on those records.

Details of the method used to calculate these weights are presented in Chapter 11.0.

8.0 Data Quality

8.1 Response Rates

The following table summarizes the response rates to the February 2002 Labour Force Survey (LFS) and to the Post-secondary Education Participation Survey (PEPS).

Province	LFS Selected Households	LFS Responding Households	LFS Response Rate (%)	PEPS Selected Individuals	PEPS Respondents	PEPS Response Rate (%)
Newfoundland and Labrador	1,987	1,895	95.4	246	199	80.9
Prince Edward Island	1,387	1,316	94.9	159	123	77.4
Nova Scotia	3,576	3,403	95.2	382	310	81.2
New Brunswick	2,988	2,818	94.3	333	280	84.1
Quebec	10,756	9,980	92.8	1,434	1,106	77.1
Ontario	15,942	15,011	94.2	1,790	1,398	78.1
Manitoba	3,880	3,655	94.2	455	382	84.0
Saskatchewan	3,958	3,729	94.2	464	383	82.5
Alberta	4,124	3,884	94.2	579	486	83.9
British Columbia	5,293	4,931	93.2	614	474	77.2
Canada	53,891	50,622	93.9	6,456	5,141	79.6

Note: The LFS counts are in terms of households while the PEPS counts are in terms of selected individuals within households (only one individual is selected per household). The LFS responding households include respondents carried forward from the previous month.

8.2 Survey Errors

The estimates derived from this survey are based on a sample of households. Somewhat different estimates might have been obtained if a complete census had been taken using the same questionnaire, interviewers, supervisors, processing methods, etc. as those actually used in the survey. The difference between the estimates obtained from the sample and those resulting from a complete count taken under similar conditions is called the sampling error of the estimate.

Errors which are not related to sampling may occur at almost every phase of a survey operation. Interviewers may misunderstand instructions, respondents may make errors in answering questions, the answers may be incorrectly entered on the questionnaire and errors may be introduced in the processing and tabulation of the data. These are all examples of non-sampling errors.

Over a large number of observations, randomly occurring errors will have little effect on estimates derived from the survey. However, errors occurring systematically will contribute to biases in the survey estimates. Considerable time and effort was made to reduce non-sampling errors in the survey. Quality assurance measures were implemented at each step of the data collection and processing cycle to monitor the quality of the data. These measures include the use of highly skilled interviewers, extensive training of interviewers with respect to the survey procedures and questionnaire, observation of interviewers to detect problems of questionnaire design or misunderstanding of instructions, procedures to ensure that data capture errors were minimized and coding and edit quality checks to verify the processing logic.

8.2.1 The Frame

Because the PEPS was a supplement to the LFS, the frame used was the LFS frame. Any non-response to the LFS had an impact on the PEPS frame. The quality of the sampling variables in the frame was very high. The PEPS sample consisted of five rotation groups from the LFS. The criteria used for the PEPS selection (rotation group, province, age of individuals) were not missing for any LFS records.

Note that the LFS frame excludes about 2% of all households in the 10 provinces of Canada. Therefore, the PEPS frame also excludes the same proportion of households in the same geographical area. It is unlikely that this exclusion introduces any significant bias into the survey data.

Some variables on the sampling frame may play a critical role with respect to the software application used in the survey. For example, in a computer-assisted telephone interview (CATI) application, each record must have an accurate province code. Moreover, it requires accurate coding of the time zone field corresponding to province and each of the telephone number fields. These variables are always of very high quality each month in the LFS.

8.2.2 Data Collection

Interviewer training consisted of reading the PEPS Procedures Manual and Interviewers' Manual, practicing with the PEPS training cases on the computer, and discussing any questions with senior interviewers before the start of the survey. A description of the background and objectives of the survey was provided, as well as a glossary of terms and a set of questions and answers. Interviewers collected the PEPS information after the LFS information was collected. The collection period ran from the week of February 17th to March 16th, 2002.

8.2.3 Data Processing

During data processing it was discovered that some respondents provided invalid program information. Respondents were asked if they had taken any full-time program or training above the high school level that took three months or more to complete. Respondents were to provide information on programs of study and not individual courses. Approximately 4% of the responses captured were invalid based on the type of program (not above the high school level) or the length of time it took to complete the program (less than three months). These invalid responses were deleted from the file.

It was also discovered that there were some inconsistencies in the data. For example, approximately 11% of respondents said they were current students but the date they gave as last enrolled did not indicate this. For these respondents, their date last enrolled was edited to indicate the current date. Approximately 3% of respondents who indicated they had taken a program above the high school level, but did not have a post-secondary degree, were not current students but had completed their program. For these

respondents, their answer of having completed a program was set to “Not stated”. Finally, approximately 0.5% of respondents 19 years of age or less said that the highest degree, certificate or diploma they had obtained was a bachelor’s degree or university degree or certificate above bachelor’s degree. For these respondents their highest level of education was set to “Not stated”.

8.2.4 Non-response

A major source of non-sampling errors in surveys is the effect of non-response on the survey results. The extent of non-response varies from partial non-response (failure to answer just one or some questions) to total non-response. Total non-response occurred because the interviewer was either unable to contact the respondent, the respondent refused to participate in the survey, or the questionnaire was insufficiently completed. For the PEPS, there were 65 records that were coded as non-response because they had insufficient data. Total non-response was handled by adjusting the weight of individuals who responded to the survey to compensate for those who did not respond.

In most cases, partial non-response to the survey occurred when the respondent did not understand or misinterpreted a question, refused to answer a question, or could not recall the requested information. During data processing, more unknown answers were generated due to data inconsistencies or, more often, due to a path of the questionnaire that was skipped during collection.

After data processing, unknown answers may be grouped in three categories: “Don’t know”, “Refused” and “Not stated”. On average, there were 51 items collected per respondent (“Mark all that apply” questions being treated as one item), 0.9 of which were “Don’t know” (1.8%), 0.1 “Refused” (0.2%) and 1.1 “Not stated” (2.1%), for a total of 2.1 unknown items per record (4.1% of collected items). The number of items collected per record varied from 5 to 118, and the number of unknown items from 0 to 79. Of the respondents, 52% had 0 unknown items and 5% had more than 10. Section G was the module most affected by unknown answers with 32% of records having one or more unknown items, mostly “Don’t know’s”.

Despite sometimes large item non-response rates, particularly for continuous variables, there was no imputation done on the PEPS files. Careful analysis of items presenting high non-response rates is recommended.

8.2.5 Measurement of Sampling Error

Since it is an unavoidable fact that estimates from a sample survey are subject to sampling error, sound statistical practice calls for researchers to provide users with some indication of the magnitude of this sampling error. This section of the documentation outlines the measures of sampling error which Statistics Canada commonly uses and which it urges users producing estimates from this microdata file to use also.

The basis for measuring the potential size of sampling errors is the standard error of the estimates derived from survey results.

However, because of the large variety of estimates that can be produced from a survey, the standard error of an estimate is usually expressed relative to the estimate to which it pertains. This resulting measure, known as the coefficient of variation (CV) of an estimate, is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate.

For example, suppose that, based upon the survey results, one estimates that 18.8% of Canadians aged 20 had not completed the requirements for a high school diploma or its equivalent, and this estimate is found to have a standard error of 0.021. Then the coefficient of variation of the estimate is calculated as:

$$\left(\frac{0.021}{0.188}\right) \times 100\% = 11.2\%$$

There is more information on the calculation of coefficients of variation in Chapter 10.0.

9.0 Guidelines for Tabulation, Analysis and Release

This chapter of the documentation outlines the guidelines to be adhered to by users tabulating, analysing, publishing or otherwise releasing any data derived from the survey microdata files. With the aid of these guidelines, users of microdata should be able to produce the same figures as those produced by Statistics Canada and, at the same time, will be able to develop currently unpublished figures in a manner consistent with these established guidelines.

9.1 Rounding Guidelines

In order that estimates for publication or other release derived from these microdata files correspond to those produced by Statistics Canada, users are urged to adhere to the following guidelines regarding the rounding of such estimates:

- a) Estimates in the main body of a statistical table are to be rounded to the nearest hundred units using the normal rounding technique. In normal rounding, if the first or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is raised by one. For example, in normal rounding to the nearest 100, if the last two digits are between 00 and 49, they are changed to 00 and the preceding digit (the hundreds digit) is left unchanged. If the last digits are between 50 and 99 they are changed to 00 and the preceding digit is incremented by 1.
- b) Marginal sub-totals and totals in statistical tables are to be derived from their corresponding unrounded components and then are to be rounded themselves to the nearest 100 units using normal rounding.
- c) Averages, proportions, rates and percentages are to be computed from unrounded components (i.e. numerators and/or denominators) and then are to be rounded themselves to one decimal using normal rounding. In normal rounding to a single digit, if the final or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is increased by 1.
- d) Sums and differences of aggregates (or ratios) are to be derived from their corresponding unrounded components and then are to be rounded themselves to the nearest 100 units (or the nearest one decimal) using normal rounding.
- e) In instances where, due to technical or other limitations, a rounding technique other than normal rounding is used resulting in estimates to be published or otherwise released which differ from corresponding estimates published by Statistics Canada, users are urged to note the reason for such differences in the publication or release document(s).
- f) Under no circumstances are unrounded estimates to be published or otherwise released by users. Unrounded estimates imply greater precision than actually exists.

9.2 Sample Weighting Guidelines for Tabulation

The sample design used for the Post-secondary Education Participation Survey (PEPS) was not self-weighting. When producing simple estimates, including the production of ordinary statistical tables, users must apply the proper sampling weight.

If proper weights are not used, the estimates derived from the microdata files cannot be considered to be representative of the survey population, and will not correspond to those produced by Statistics Canada.

Users should also note that some software packages may not allow the generation of estimates that exactly match those available from Statistics Canada, because of their treatment of the weight field.

9.3 Definitions of Types of Estimates: Categorical and Quantitative

Before discussing how the PEPS data can be tabulated and analysed, it is useful to describe the two main types of point estimates of population characteristics which can be generated from the microdata file for the PEPS.

9.3.1 Categorical Estimates

Categorical estimates are estimates of the number, or percentage of the surveyed population possessing certain characteristics or falling into some defined category. The number of individuals aged 20 who have not completed the requirements for a high school diploma or its equivalent or the proportion of these individuals among Canadians aged 20 are examples of such estimates. An estimate of the number of persons possessing a certain characteristic may also be referred to as an estimate of an aggregate.

Examples of Categorical Questions:

Q: What is the highest grade of elementary or high school you ever completed?

A: Grade 8 or lower / Grade 9-10 / Grade 11-13

Q: Have you completed the requirements for a high school diploma or its equivalent?

A: Yes / No

9.3.2 Quantitative Estimates

Quantitative estimates are estimates of totals or of means, medians and other measures of central tendency of quantities based upon some or all of the members of the surveyed population. They also specifically involve estimates of the form \hat{X} / \hat{Y} where \hat{X} is an estimate of surveyed population quantity total and \hat{Y} is an estimate of the number of persons in the surveyed population contributing to that total quantity.

An example of a quantitative estimate is the average amount of money owed for government student loans among individuals who have received a loan from a student loan program. The numerator is an estimate of the total amount of money owed for

government student loans by persons who have received a loan from a student loan program, and its denominator is an estimate of the number of persons who have received a loan from a student loan program.

Examples of Quantitative Questions:

Q: How much do you owe for all your government student loans now?

A: |_|_|_|_|_|_| Dollars

Q: How many paid hours do/did you usually work per week during your current/most recent school year?

A: |_|_| Hours

9.3.3 **Tabulation of Categorical Estimates**

Estimates of the number of people with a certain characteristic can be obtained from the microdata file by summing the final weights of all records possessing the characteristic(s) of interest. Proportions and ratios of the form \hat{X} / \hat{Y} are obtained by:

- a) summing the final weights of records having the characteristic of interest for the numerator (\hat{X}),
- b) summing the final weights of records having the characteristic of interest for the denominator (\hat{Y}), then
- c) dividing estimate a) by estimate b) (\hat{X} / \hat{Y}).

9.3.4 **Tabulation of Quantitative Estimates**

Estimates of quantities can be obtained from the microdata file by multiplying the value of the variable of interest by the final weight for each record, then summing this quantity over all records of interest. For example, to obtain an estimate of the total amount of money currently owed for government student loans, multiply the value reported in question B_Q32 by the final weight for the record, then sum this value over all records where question B_Q32 is less than 999996. Note that this would exclude records where the value is unknown, i.e. equal to 999997, 999998 or 999999. A sounder estimate would be obtained by first imputing, somehow, variable B_Q32 for these records.

To obtain a weighted average of the form \hat{X} / \hat{Y} , the numerator (\hat{X}) is calculated as for a quantitative estimate and the denominator (\hat{Y}) is calculated as for a categorical estimate. For example, to estimate the average amount of money owed for government student loans,

- a) estimate the total amount of money owed (\hat{X}) as described above,
- b) estimate the number of individuals (\hat{Y}) in this category by summing the final weights of all records with B_Q32 less than 999996, then
- c) divide estimate a) by estimate b) (\hat{X} / \hat{Y}).

9.4 Guidelines for Statistical Analysis

The PEPS is based upon a complex sample design, with stratification, multiple stages of selection, and unequal probabilities of selection of respondents. Using data from such complex surveys presents problems to analysts because the survey design and the selection probabilities affect the estimation and variance calculation procedures that should be used. In order for survey estimates and analyses to be free from bias, the survey weights must be used.

While many analysis procedures found in statistical packages allow weights to be used, the meaning or definition of the weight in these procedures may differ from that which is appropriate in a sample survey framework, with the result that while in many cases the estimates produced by the packages are correct, the variances that are calculated are poor. Approximate variances for simple estimates such as totals, proportions and ratios (for qualitative variables) can be derived using the accompanying Approximate Sampling Variability Tables.

For other analysis techniques (for example linear regression, logistic regression and analysis of variance), a method exists which can make the variances calculated by the standard packages more meaningful, by incorporating the unequal probabilities of selection. The method rescales the weights so that there is an average weight of 1.

For example, suppose that analysis of all male respondents is required. The steps to rescale the weights are as follows:

- 1) select all respondents from the file who reported SEX = men;
- 2) calculate the AVERAGE weight for these records by summing the original person weights from the microdata file for these records and then dividing by the number of respondents who reported SEX = men;
- 3) for each of these respondents, calculate a RESCALED weight equal to the original person weight divided by the AVERAGE weight;
- 4) perform the analysis for these respondents using the RESCALED weight.

However, because the stratification and clustering of the sample's design are still not taken into account, the variance estimates calculated in this way are likely to be under-estimates.

The calculation of more precise variance estimates requires detailed knowledge of the design of the survey. Such detail cannot be given in this microdata file because of confidentiality. Variances that take the complete sample design into account can be calculated for many statistics by Statistics Canada on a cost-recovery basis.

9.5 Coefficient of Variation Release Guidelines

Before releasing and/or publishing any estimate from the PEPS, users should first determine the quality level of the estimate. The quality levels are *acceptable*, *marginal* and *unacceptable*. Data quality is affected by both sampling and non-sampling errors as discussed in Chapter 8.0. However for this purpose, the quality level of an estimate will be determined only on the basis of sampling error as reflected by the coefficient of variation as shown in the table below. Nonetheless users should be sure to read Chapter 8.0 to be more fully aware of the quality characteristics of these data.

First, the number of respondents who contribute to the calculation of the estimate should be determined. If this number is less than 30, the weighted estimate should be considered to be of unacceptable quality.

For weighted estimates based on sample sizes of 30 or more, users should determine the coefficient of variation of the estimate and follow the guidelines below. These quality level guidelines should be applied to rounded weighted estimates.

All estimates can be considered releasable. However, those of marginal or unacceptable quality level must be accompanied by a warning to caution subsequent users.

Quality Level Guidelines

Quality Level of Estimate	Guidelines
1) Acceptable	<p>Estimates have a sample size of 30 or more, and low coefficients of variation in the range of 0.0% to 16.5%.</p> <p>No warning is required.</p>
2) Marginal	<p>Estimates have a sample size of 30 or more, and high coefficients of variation in the range of 16.6% to 33.3%.</p> <p>Estimates should be flagged with the letter M (or some similar identifier). They should be accompanied by a warning to caution subsequent users about the high levels of error, associated with the estimates.</p>
3) Unacceptable	<p>Estimates have a sample size of less than 30, or very high coefficients of variation in excess of 33.3%.</p> <p>Statistics Canada recommends not to release estimates of unacceptable quality. However, if the user chooses to do so then estimates should be flagged with the letter U (or some similar identifier) and the following warning should accompany the estimates:</p> <p>"Please be warned that these estimates [flagged with the letter U] do not meet Statistics Canada's quality standards. Conclusions based on these data will be unreliable, and most likely invalid."</p>

9.6 Release Cut-off's for the Post-secondary Education Participation Survey

The following table provides an indication of the precision of population estimates as it shows the release cut-offs associated with each of the three quality levels presented in the previous section. These cut-offs are derived from the coefficient of variation (CV) tables discussed in Chapter 10.0.

For example, the table shows that the coefficient of variation of a weighted estimate of 10,000 people possessing a given characteristic in Newfoundland and Labrador is between 16.6% and 33.3%. This CV is of marginal quality. If based on a sample size of 30 or more, the population estimate would be of marginal quality; if based on a sample size of less than 30, the population estimate would be unacceptable.

Note that these cut-offs apply to estimates of population totals only. To estimate ratios, users should not use the numerator value (nor the denominator) in order to find the corresponding quality level. Rule 4 in Section 10.1 and Example 4 in Section 10.1.1 explain the correct procedure to be used for ratios.

Province and Region	Acceptable CV 0.0% – 16.5%	Marginal CV 16.6% – 33.3%	Unacceptable CV > 33.3%
Newfoundland and Labrador	12,500 & over	3,700 to < 12,500	under 3,700
Prince Edward Island	4,700 & over	1,600 to < 4,700	under 1,600
Nova Scotia	14,300 & over	4,000 to < 14,300	under 4,000
New Brunswick	11,300 & over	3,200 to < 11,300	under 3,200
Quebec	60,000 & over	15,600 to < 60,000	under 15,600
Ontario	61,200 & over	15,700 to < 61,200	under 15,700
Manitoba	13,900 & over	3,800 to < 13,900	under 3,800
Saskatchewan	12,500 & over	3,400 to < 12,500	under 3,400
Alberta	33,800 & over	9,000 to < 33,800	under 9,000
British Columbia	48,000 & over	13,100 to < 48,000	under 13,100
Atlantic Provinces	13,300 & over	3,400 to < 13,300	under 3,400
Prairie Provinces	27,100 & over	6,900 to < 27,100	under 6,900
Canada	47,900 & over	11,900 to < 47,900	under 11,900

10.0 Approximate Sampling Variability Tables

In order to supply coefficients of variation (CV) which would be applicable to a wide variety of categorical estimates produced from this microdata file and which could be readily accessed by the user, a set of Approximate Sampling Variability Tables has been produced. These CV tables allow the user to obtain an approximate coefficient of variation based on the size of the estimate calculated from the survey data.

The coefficients of variation are derived using the variance formula for simple random sampling and incorporating a factor which reflects the multi-stage, clustered nature of the sample design. This factor, known as the design effect, was determined by first calculating design effects for a wide range of characteristics and then choosing from among these a conservative value (the 75th percentile) to be used in the CV tables which would then apply to the entire set of characteristics.

The table below shows the conservative value of the design effects as well as sample sizes and population counts by province which were used to produce the Approximate Sampling Variability Tables for the Post-secondary Education Participation Survey (PEPS).

Province and Region	Design Effect	Sample Size	Population
Newfoundland and Labrador	1.7	199	52,361
Prince Edward Island	1.8	123	13,506
Nova Scotia	1.7	310	85,265
New Brunswick	1.5	280	68,494
Quebec	2.5	1,106	783,290
Ontario	2.3	1,398	1,073,458
Manitoba	1.6	382	104,173
Saskatchewan	1.6	383	94,154
Alberta	1.6	486	313,738
British Columbia	1.9	474	374,368
Atlantic Provinces	1.6	912	219,626
Prairie Provinces	1.9	1,251	512,065
Canada	2.3	5,141	2,962,807

All coefficients of variation in the Approximate Sampling Variability Tables are approximate and, therefore, unofficial. Estimates of actual variance for specific variables may be obtained from Statistics Canada on a cost-recovery basis. Since the approximate CV is conservative, the use of actual variance estimates may cause the estimate to be switched from one quality level to another. For instance a *marginal* estimate could become *acceptable* based on the exact CV calculation.

Remember: If the number of observations on which an estimate is based is less than 30, the weighted estimate is most likely unacceptable and Statistics Canada recommends not to release such an estimate, regardless of the value of the coefficient of variation.

10.1 How to Use the Coefficient of Variation Tables for Categorical Estimates

The following rules should enable the user to determine the approximate coefficients of variation from the Approximate Sampling Variability Tables for estimates of the number, proportion or percentage of the surveyed population possessing a certain characteristic and for ratios and differences between such estimates.

Rule 1: Estimates of Numbers of Persons Possessing a Characteristic (Aggregates)

The coefficient of variation depends only on the size of the estimate itself. On the Approximate Sampling Variability Table for the appropriate geographic area, locate the estimated number in the left-most column of the table (headed "Numerator of Percentage") and follow the asterisks (if any) across to the first figure encountered. This figure is the approximate coefficient of variation.

Rule 2: Estimates of Proportions or Percentages of Persons Possessing a Characteristic

The coefficient of variation of an estimated proportion or percentage depends on both the size of the proportion or percentage and the size of the total upon which the proportion or percentage is based. Estimated proportions or percentages are relatively more reliable than the corresponding estimates of the numerator of the proportion or percentage, when the proportion or percentage is based upon a sub-group of the population. For example, the proportion of individuals aged 20 who have completed the requirements for a high school diploma or its equivalent is more reliable than the estimated number of individuals aged 20 who have completed the requirements for a high school diploma or its equivalent. (Note that in the tables the coefficients of variation decline in value reading from left to right).

When the proportion or percentage is based upon the total population of the geographic area covered by the table, the CV of the proportion or percentage is the same as the CV of the numerator of the proportion or percentage. In this case, Rule 1 can be used.

When the proportion or percentage is based upon a subset of the total population (e.g. those in a particular sex or age group), reference should be made to the proportion or percentage (across the top of the table) and to the numerator of the proportion or percentage (down the left side of the table). The intersection of the appropriate row and column gives the coefficient of variation.

Rule 3: Estimates of Differences Between Aggregates or Percentages

The standard error of a difference between two estimates is approximately equal to the square root of the sum of squares of each standard error considered separately. That is, the standard error of a difference ($\hat{d} = \hat{X}_1 - \hat{X}_2$) is:

$$\sigma_{\hat{d}} = \sqrt{(\hat{X}_1\alpha_1)^2 + (\hat{X}_2\alpha_2)^2}$$

where \hat{X}_1 is estimate 1, \hat{X}_2 is estimate 2, and α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively. The coefficient of variation of \hat{d} is given by $\sigma_{\hat{d}} / \hat{d}$. This formula is accurate for the difference between separate and uncorrelated characteristics, but is only approximate otherwise.

Rule 4: Estimates of Ratios

In the case where the numerator is a subset of the denominator, the ratio should be converted to a percentage and Rule 2 applied. This would apply, for example, to the case where the denominator is the number of individuals aged 20 and the numerator is the number of individuals aged 20 who have completed the requirements for a high school diploma or its equivalent.

In the case where the numerator is not a subset of the denominator, as for example, the ratio of the number of female post-secondary students as compared to the number of male post-secondary students, the standard error of the ratio of the estimates is approximately equal to the square root of the sum of squares of each coefficient of variation considered separately multiplied by \hat{R} . That is, the standard error of a ratio ($\hat{R} = \hat{X}_1 / \hat{X}_2$) is:

$$\sigma_{\hat{R}} = \hat{R} \sqrt{\alpha_1^2 + \alpha_2^2}$$

where α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively. The coefficient of variation of \hat{R} is given by $\sigma_{\hat{R}} / \hat{R}$. The formula will tend to overstate the error if \hat{X}_1 and \hat{X}_2 are positively correlated and understate the error if \hat{X}_1 and \hat{X}_2 are negatively correlated.

Rule 5: Estimates of Differences of Ratios

In this case, Rules 3 and 4 are combined. The CVs for the two ratios are first determined using Rule 4, and then the CV of their difference is found using Rule 3.

10.1.1 Examples of Using the Coefficient of Variation Tables for Categorical Estimates

The following examples based on the Post-secondary Education Participation Survey are included to assist users in applying the foregoing rules.

Example 1: Estimates of Numbers of Persons Possessing a Characteristic (Aggregates)

A user estimates that 599,545 youths aged 18 to 24 years (17 to 24 in Quebec)⁴ who are eligible⁵ for post-secondary had no post-secondary education. How does the user determine the coefficient of variation of this estimate?

- 1) Refer to the coefficient of variation table for CANADA.
- 2) The estimated aggregate (599,545) does not appear in the left-hand column (the “Numerator of Percentage” column), so it is necessary to use the figure closest to it, namely 500,000.

⁴ The population covered includes only Canadian citizens and landed immigrants (J_Q01 = 1 and J_Q02A = 1). This footnote applies to Examples 1 to 5 in Section 10.1.1 and the example in Section 10.2.1 and Section 10.3.1.

⁵ A respondent is eligible for post-secondary if he/she has completed the requirements for a high school diploma or its equivalent (A_Q04 = 1). This footnote applies to Examples 1 to 5 in Section 10.1.1 and the example in Section 10.2.1 and Section 10.3.1.

- 3) The coefficient of variation for an estimated aggregate is found by referring to the first non-asterisk entry on that row, namely, 4.7%.
- 4) So the approximate coefficient of variation of the estimate is 4.7%. The finding that there were 599,545 (to be rounded according to the rounding guidelines in Section 9.1) youths aged 18 to 24 years (17 to 24 in Quebec) who are eligible for post-secondary and had no post-secondary education is publishable with no qualifications.

Example 2: Estimates of Proportions or Percentages of Persons Possessing a Characteristic

A user estimates that $228,927 / 785,942 = 29.1\%$ of youths aged 18 to 24 years who live in Ontario and are eligible for post-secondary had no post-secondary education (refer to footnotes 4 and 5 in Example 1, Section 10.1.1). How does the user determine the coefficient of variation of this estimate?

- 1) Refer to the coefficient of variation table for ONTARIO.
- 2) Because the estimate is a percentage which is based on a subset of the total population (i.e., eligible youths aged 18 to 24 years who live in Ontario), it is necessary to use both the percentage (29.1%) and the numerator portion of the percentage (228,927) in determining the coefficient of variation.
- 3) The numerator, 228,927, does not appear in the left-hand column (the “Numerator of Percentage” column) so it is necessary to use the figure closest to it, namely 225,000. Similarly, the percentage estimate does not appear as any of the column headings, so it is necessary to use the figure closest to it, 30.0%.
- 4) The figure at the intersection of the row and column used, namely 7.4% is the coefficient of variation to be used.
- 5) So the approximate coefficient of variation of the estimate is 7.4%. The finding that 29.1% of eligible youths aged 18 to 24 years who live in Ontario had no post-secondary education can be published with no qualifications.

Example 3: Estimates of Differences Between Aggregates or Percentages

A user estimates that $228,927 / 785,942 = 29.1\%$ of youths aged 18 to 24 years who live in Ontario and are eligible for post-secondary had no post-secondary education, while $103,170 / 289,995 = 35.6\%$ of youths aged 18 to 24 years who live in British Columbia and are eligible for post-secondary had no post-secondary education (refer to footnotes 4 and 5 in Example 1, Section 10.1.1). How does the user determine the coefficient of variation of the difference between these two estimates?

- 1) Using the ONTARIO coefficient of variation table in the same manner as described in Example 2, gives the CV of the estimate for youths aged 18 to 24 years who live in Ontario and are eligible for post-secondary but had none as 7.4%.

Using the BRITISH COLUMBIA coefficient of variation table in the same manner as described in Example 2, gives the CV of the estimate for youths aged 18 to 24 years who live in British Columbia and are eligible for post-secondary but had none as 9.5%.

- 2) Using Rule 3, the standard error of a difference ($\hat{d} = \hat{X}_1 - \hat{X}_2$) is:

$$\sigma_{\hat{d}} = \sqrt{(\hat{X}_1\alpha_1)^2 + (\hat{X}_2\alpha_2)^2}$$

where \hat{X}_1 is estimate 1 (Ontario), \hat{X}_2 is estimate 2 (British Columbia), and α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively.

That is, the standard error of the difference $\hat{d} = 0.291 - 0.356 = -0.065$ is:

$$\begin{aligned}\sigma_{\hat{d}} &= \sqrt{[(0.291)(0.074)]^2 + [(0.356)(0.095)]^2} \\ &= \sqrt{(0.000463713) + (0.001143792)} \\ &= 0.040\end{aligned}$$

- 3) The coefficient of variation of \hat{d} is given by $\sigma_{\hat{d}} / \hat{d} = 0.040 / 0.065 = 0.615$.
- 4) So the approximate coefficient of variation of the difference between the estimates is 61.5%. The finding that the rate of youths aged 18 to 24 years who are eligible for post-secondary and had no post-secondary education is greater by 6.5% in British Columbia as compared to Ontario is considered unacceptable and Statistics Canada recommends this estimate not be released. However, should the user choose to do so, the estimate should be flagged with the letter U (or some similar identifier) and be accompanied by a warning to caution subsequent users about the high levels of error associated with the estimate.

Example 4: Estimates of Ratios

A user estimates that 328,216 youths aged 18 to 24 years (17 to 24 in Quebec) who are eligible for post-secondary but have none are males while 271,329 are females (refer to footnotes 4 and 5 in Example 1, Section 10.1.1). The user is interested in comparing the estimate of males with no post-secondary versus the estimate of females with no post-secondary in the form of a ratio. How does the user determine the coefficient of variation of this estimate?

- 1) First of all, this estimate is a ratio estimate, where the numerator of the estimate (\hat{X}_1) is the number of males aged 18 to 24 who are eligible for post-secondary but have none. The denominator of the estimate (\hat{X}_2) is the number of females aged 18 to 24 who are eligible for post-secondary but have none.
- 2) Refer to the coefficient of variation table for CANADA.
- 3) The numerator of this ratio estimate is 328,216. The figure closest to it is 350,000. The coefficient of variation for this estimate is found by referring to the first non-asterisk entry on that row, namely, 5.8%.
- 4) The denominator of this ratio estimate is 271,329. The figure closest to it is 250,000. The coefficient of variation for this estimate is found by referring to the first non-asterisk entry on that row, namely, 6.9%.

- 5) So the approximate coefficient of variation of the ratio estimate is given by Rule 4, which is:

$$\alpha_{\hat{R}} = \sqrt{\alpha_1^2 + \alpha_2^2}$$

where α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively.

That is:

$$\begin{aligned}\alpha_{\hat{R}} &= \sqrt{(0.058)^2 + (0.069)^2} \\ &= \sqrt{0.003364 + 0.004761} \\ &= 0.090\end{aligned}$$

The obtained ratio of males aged 18 to 24 who are eligible for post-secondary but have none versus females aged 18 to 24 eligible for post-secondary but have none is 328,216 / 271,329 which is 1.21:1 (to be rounded according to the rounding guidelines in Section 9.1). The coefficient of variation of this estimate is 9.0%, which makes the estimate releasable with no qualifications.

Example 5: Estimates of Differences of Ratios

A user estimates the ratio of males to females aged 18 to 24 living in British Columbia who are eligible for post-secondary but have none is 57,346 versus 45,823 or 1.25:1; while the ratio of males to females aged 18 to 24 living in Ontario who are eligible for post-secondary but have none is 123,596 versus 105,331 or 1.17:1 (refer to footnotes 4 and 5 in Example 1, Section 10.1.1). The user is interested in comparing both ratios to see if there is a statistical difference between them. How does the user determine the coefficient of variation of the difference?

- 1) First calculate the approximate coefficient of variation for the British Columbia ratio (\hat{R}_1) and the Ontario ratio (\hat{R}_2) as in Example 4. The approximate CV for the British Columbia ratio is 22.7% and 16.3% for Ontario.
- 2) Using Rule 3, the standard error of a difference ($\hat{d} = \hat{R}_1 - \hat{R}_2$) is:

$$\sigma_{\hat{d}} = \sqrt{(\hat{R}_1\alpha_1)^2 + (\hat{R}_2\alpha_2)^2}$$

where α_1 and α_2 are the coefficients of variation of \hat{R}_1 and \hat{R}_2 respectively.

That is, the standard error of the difference $\hat{d} = 1.25 - 1.17 = 0.08$ is:

$$\begin{aligned}\sigma_{\hat{d}} &= \sqrt{[(1.25)(0.227)]^2 + [(1.17)(0.163)]^2} \\ &= \sqrt{(0.0805) + (0.0364)} \\ &= 0.342\end{aligned}$$

- 3) The coefficient of variation of \hat{d} is given by $\sigma_{\hat{d}} / \hat{d} = 0.342 / 0.08 = 4.275$.
- 4) So the approximate coefficient of variation of the difference between the estimates is 427.5%. The finding that the ratio of males to females aged 18 to 24 who are eligible for post-secondary but have none is greater by 0.08:1 in British Columbia as compared to Ontario is considered unacceptable and Statistics Canada recommends this estimate not be released. However, should the user choose to do so, the estimate should be flagged with the letter U (or some similar identifier) and be accompanied by a warning to caution subsequent users about the high levels of error associated with the estimate.

10.2 How to Use the Coefficient of Variation Tables to Obtain Confidence Limits

Although coefficients of variation are widely used, a more intuitively meaningful measure of sampling error is the confidence interval of an estimate. A confidence interval constitutes a statement on the level of confidence that the true value for the population lies within a specified range of values. For example a 95% confidence interval can be described as follows:

If sampling of the population is repeated indefinitely, each sample leading to a new confidence interval for an estimate, then in 95% of the samples the interval will cover the true population value.

Using the standard error of an estimate, confidence intervals for estimates may be obtained under the assumption that under repeated sampling of the population, the various estimates obtained for a population characteristic are normally distributed about the true population value. Under this assumption, the chances are about 68 out of 100 that the difference between a sample estimate and the true population value would be less than one standard error, about 95 out of 100 that the difference would be less than two standard errors, and about 99 out of 100 that the difference would be less than three standard errors. These different degrees of confidence are referred to as the confidence levels.

Confidence intervals for an estimate, \hat{X} , are generally expressed as two numbers, one below the estimate and one above the estimate, as $(\hat{X} - k, \hat{X} + k)$ where k is determined depending upon the level of confidence desired and the sampling error of the estimate.

Confidence intervals for an estimate can be calculated directly from the Approximate Sampling Variability Tables by first determining from the appropriate table the coefficient of variation of the estimate \hat{X} , and then using the following formula to convert to a confidence interval ($CI_{\hat{x}}$):

$$CI_{\hat{x}} = (\hat{X} - t\hat{X}\alpha_{\hat{x}}, \hat{X} + t\hat{X}\alpha_{\hat{x}})$$

where $\alpha_{\hat{x}}$ is the determined coefficient of variation of \hat{X} , and

- $t = 1$ if a 68% confidence interval is desired;
- $t = 1.6$ if a 90% confidence interval is desired;
- $t = 2$ if a 95% confidence interval is desired;
- $t = 2.6$ if a 99% confidence interval is desired.

Note: Release guidelines which apply to the estimate also apply to the confidence interval. For example, if the estimate is not releasable, then the confidence interval is not releasable either.

10.2.1 Example of Using the Coefficient of Variation Tables to Obtain Confidence Limits

A 95% confidence interval for the estimated proportion of youths aged 18 to 24 years who live in Ontario and are eligible for post-secondary but have none (Example 2, Section 10.1.1) (refer to footnotes 4 and 5 in Example 1, Section 10.1.1) would be calculated as follows:

$$\hat{X} = 29.1\% \text{ (or expressed as a proportion } 0.291)$$

$$t = 2$$

$\alpha_{\hat{x}} = 7.4\%$ (0.074 expressed as a proportion) is the coefficient of variation of this estimate as determined from the tables.

$$CI_{\hat{x}} = \{0.291 - (2)(0.291)(0.074), 0.291 + (2)(0.291)(0.074)\}$$

$$CI_{\hat{x}} = \{0.291 - 0.043, 0.291 + 0.043\}$$

$$CI_{\hat{x}} = \{0.248, 0.334\}$$

With 95% confidence it can be said that between 24.8% and 33.4% of youths aged 18 to 24 years who live in Ontario and are eligible for post-secondary had none.

10.3 How to Use the Coefficient of Variation Tables to Do a T-test

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The sample estimates can be numbers, averages, percentages, ratios, etc. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

Let \hat{X}_1 and \hat{X}_2 be sample estimates for two characteristics of interest. Let the standard error on the difference $\hat{X}_1 - \hat{X}_2$ be σ_d .

$$\text{If } t = \frac{\hat{X}_1 - \hat{X}_2}{\sigma_{\hat{d}}}$$

is between -2 and 2, then no conclusion about the difference between the characteristics is justified at the 5% level of significance. If however, this ratio is smaller than -2 or larger than +2, the observed difference is significant at the 0.05 level. That is to say that the difference between the estimates is significant.

10.3.1 Example of Using the Coefficient of Variation Tables to Do a T-test

Let us suppose that the user wishes to test, at 5% level of significance, the hypothesis that there is no difference between the proportion of youths aged 18 to 24 years who live in Ontario and are eligible for post-secondary but have none and the proportion of youths aged 18 to 24 years who live in British Columbia and are eligible for post-secondary but have none (refer to footnotes 4 and 5 in Example 1, Section 10.1.1). From Example 3, Section 10.1.1, the standard error of the difference between these two estimates was found to be 0.040. Hence,

$$t = \frac{\hat{X}_1 - \hat{X}_2}{\sigma_{\hat{d}}} = \frac{0.291 - 0.356}{0.040} = \frac{-0.065}{0.040} = -1.6$$

Since $t = -1.6$ is between -2 and 2, it must be concluded that there is no significant difference between the two estimates at the 0.05 level of significance.

10.4 Coefficients of Variation for Quantitative Estimates

For quantitative estimates, special tables would have to be produced to determine their sampling error. Since most of the variables for the PEPS are primarily categorical in nature, this has not been done.

As a general rule, however, the coefficient of variation of a quantitative total will be larger than the coefficient of variation of the corresponding category estimate (i.e., the estimate of the number of persons contributing to the quantitative estimate). If the corresponding category estimate is not releasable, the quantitative estimate will not be either. For example, the coefficient of variation of the total amount of money owed for government student loans would be greater than the coefficient of variation of the corresponding number of individuals. Hence, if the estimated number of individuals is not releasable, then the corresponding quantitative estimate will also not be releasable.

Coefficients of variation of such estimates can be derived as required for a specific estimate using a technique known as pseudo replication. This involves dividing the records on the microdata files into subgroups (or replicates) and determining the variation in the estimate from replicate to replicate. Users wishing to derive coefficients of variation for quantitative estimates may contact Statistics Canada for advice on the allocation of records to appropriate replicates and the formulae to be used in these calculations.

10.5 Coefficient of Variation Tables

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Approximate Sampling Variability Tables - Newfoundland and Labrador

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	93.9	92.0	90.8	89.6	88.3	87.0	85.7	84.4	81.8	79.0	73.1	66.8	51.7	29.9
1000	*****	65.1	64.2	63.3	62.4	61.5	60.6	59.7	57.8	55.9	51.7	47.2	36.6	21.1
1500	*****	53.1	52.4	51.7	51.0	50.3	49.5	48.7	47.2	45.6	42.2	38.5	29.9	17.2
2000	*****	46.0	45.4	44.8	44.2	43.5	42.9	42.2	40.9	39.5	36.6	33.4	25.9	14.9
3000	*****		37.1	36.6	36.1	35.5	35.0	34.5	33.4	32.2	29.9	27.3	21.1	12.2
4000	*****			31.7	31.2	30.8	30.3	29.9	28.9	27.9	25.9	23.6	18.3	10.6
5000	*****			28.3	27.9	27.5	27.1	26.7	25.9	25.0	23.1	21.1	16.4	9.4
6000	*****				25.5	25.1	24.8	24.4	23.6	22.8	21.1	19.3	14.9	8.6
7000	*****					23.3	22.9	22.6	21.9	21.1	19.5	17.8	13.8	8.0
8000	*****						21.4	21.1	20.4	19.7	18.3	16.7	12.9	7.5
9000	*****						20.2	19.9	19.3	18.6	17.2	15.7	12.2	7.0
10000	*****							18.9	18.3	17.7	16.4	14.9	11.6	6.7
11000	*****								17.4	16.8	15.6	14.2	11.0	6.4
12000	*****								16.7	16.1	14.9	13.6	10.6	6.1
13000	*****								16.0	15.5	14.3	13.1	10.1	5.9
14000	*****									14.9	13.8	12.6	9.8	5.6
15000	*****									14.4	13.4	12.2	9.4	5.5
16000	*****										12.9	11.8	9.1	5.3
17000	*****										12.5	11.4	8.9	5.1
18000	*****										12.2	11.1	8.6	5.0
19000	*****										11.9	10.8	8.4	4.8
20000	*****										11.6	10.6	8.2	4.7
22000	*****											10.1	7.8	4.5
24000	*****											9.6	7.5	4.3
26000	*****												9.3	4.1
28000	*****													6.9
30000	*****													6.7
32000	*****													6.5
34000	*****													6.3
36000	*****													6.1
38000	*****													3.4
40000	*****													3.3
42000	*****													3.3
44000	*****													3.2
46000	*****													3.1

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Prince Edward Island

NUMERATOR OF PERCENTAGE (`000)	ESTIMATED PERCENTAGE														
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%	
500	*****	61.0	60.2	59.4	58.5	57.7	56.8	56.0	54.2	52.4	48.5	44.3	34.3	19.8	
1000	*****		42.6	42.0	41.4	40.8	40.2	39.6	38.3	37.0	34.3	31.3	24.2	14.0	
1500	*****				33.8	33.3	32.8	32.3	31.3	30.2	28.0	25.6	19.8	11.4	
2000	*****					28.9	28.4	28.0	27.1	26.2	24.2	22.1	17.1	9.9	
3000	*****								22.1	21.4	19.8	18.1	14.0	8.1	
4000	*****									18.5	17.1	15.6	12.1	7.0	
5000	*****										15.3	14.0	10.8	6.3	
6000	*****											12.8	9.9	5.7	
7000	*****												9.2	5.3	
8000	*****													8.6	4.9
9000	*****													8.1	4.7
10000	*****														4.4
11000	*****														4.2
12000	*****														4.0

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Nova Scotia

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	96.0	94.1	92.8	91.6	90.3	89.0	87.7	86.3	83.6	80.8	74.8	68.3	52.9	30.5
1000	*****	66.5	65.6	64.8	63.8	62.9	62.0	61.0	59.1	57.1	52.9	48.3	37.4	21.6
1500	*****	54.3	53.6	52.9	52.1	51.4	50.6	49.8	48.3	46.6	43.2	39.4	30.5	17.6
2000	*****	47.0	46.4	45.8	45.1	44.5	43.8	43.2	41.8	40.4	37.4	34.1	26.4	15.3
3000	*****	38.4	37.9	37.4	36.9	36.3	35.8	35.2	34.1	33.0	30.5	27.9	21.6	12.5
4000	*****	33.3	32.8	32.4	31.9	31.5	31.0	30.5	29.6	28.6	26.4	24.1	18.7	10.8
5000	*****	*****	29.4	29.0	28.6	28.1	27.7	27.3	26.4	25.5	23.6	21.6	16.7	9.7
6000	*****	*****	26.8	26.4	26.1	25.7	25.3	24.9	24.1	23.3	21.6	19.7	15.3	8.8
7000	*****	*****	*****	24.5	24.1	23.8	23.4	23.1	22.3	21.6	20.0	18.2	14.1	8.2
8000	*****	*****	*****	22.9	22.6	22.2	21.9	21.6	20.9	20.2	18.7	17.1	13.2	7.6
9000	*****	*****	*****	*****	21.3	21.0	20.7	20.3	19.7	19.0	17.6	16.1	12.5	7.2
10000	*****	*****	*****	*****	20.2	19.9	19.6	19.3	18.7	18.1	16.7	15.3	11.8	6.8
11000	*****	*****	*****	*****	*****	19.0	18.7	18.4	17.8	17.2	15.9	14.6	11.3	6.5
12000	*****	*****	*****	*****	*****	*****	18.2	17.9	17.6	17.1	16.5	15.3	10.8	6.2
13000	*****	*****	*****	*****	*****	*****	*****	17.2	16.9	16.4	15.8	14.7	10.4	6.0
14000	*****	*****	*****	*****	*****	*****	*****	*****	16.6	16.3	15.8	15.3	10.0	5.8
15000	*****	*****	*****	*****	*****	*****	*****	*****	*****	15.8	15.3	14.7	9.7	5.6
16000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	15.3	14.8	9.3	5.4
17000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	14.8	9.1	5.2
18000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.8	5.1
19000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.6	5.0
20000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.4	4.8
22000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.0	4.6
24000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.6	4.4
26000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.3	4.2
28000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.1	4.1
30000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.8	3.9
32000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.6	3.8
34000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.4	3.7
36000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.2	3.6
38000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.1	3.5
40000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.9	3.4
42000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.8	3.3
44000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.6	3.3
46000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.5	3.2
48000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.4	3.1
50000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.3	3.1
55000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.0	2.9
60000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.8
65000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.7
70000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.6
75000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.5

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - New Brunswick

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	85.1	83.3	82.2	81.1	80.0	78.8	77.7	76.5	74.0	71.5	66.2	60.5	46.8	27.0
1000	*****	58.9	58.1	57.3	56.5	55.7	54.9	54.1	52.4	50.6	46.8	42.7	33.1	19.1
1500	*****	48.1	47.5	46.8	46.2	45.5	44.8	44.1	42.7	41.3	38.2	34.9	27.0	15.6
2000	*****	41.7	41.1	40.6	40.0	39.4	38.8	38.2	37.0	35.8	33.1	30.2	23.4	13.5
3000	*****	34.0	33.6	33.1	32.6	32.2	31.7	31.2	30.2	29.2	27.0	24.7	19.1	11.0
4000	*****	*****	29.1	28.7	28.3	27.9	27.5	27.0	26.2	25.3	23.4	21.4	16.6	9.6
5000	*****	*****	26.0	25.6	25.3	24.9	24.6	24.2	23.4	22.6	20.9	19.1	14.8	8.5
6000	*****	*****	*****	23.4	23.1	22.8	22.4	22.1	21.4	20.6	19.1	17.5	13.5	7.8
7000	*****	*****	*****	*****	21.4	21.1	20.8	20.4	19.8	19.1	17.7	16.2	12.5	7.2
8000	*****	*****	*****	*****	20.0	19.7	19.4	19.1	18.5	17.9	16.6	15.1	11.7	6.8
9000	*****	*****	*****	*****	*****	18.6	18.3	18.0	17.5	16.9	15.6	14.2	11.0	6.4
10000	*****	*****	*****	*****	*****	17.6	17.4	17.1	16.6	16.0	14.8	13.5	10.5	6.0
11000	*****	*****	*****	*****	*****	*****	16.6	16.3	15.8	15.2	14.1	12.9	10.0	5.8
12000	*****	*****	*****	*****	*****	*****	*****	15.6	15.1	14.6	13.5	12.3	9.6	5.5
13000	*****	*****	*****	*****	*****	*****	*****	15.0	14.5	14.0	13.0	11.9	9.2	5.3
14000	*****	*****	*****	*****	*****	*****	*****	*****	14.0	13.5	12.5	11.4	8.8	5.1
15000	*****	*****	*****	*****	*****	*****	*****	*****	13.5	13.1	12.1	11.0	8.5	4.9
16000	*****	*****	*****	*****	*****	*****	*****	*****	13.1	12.6	11.7	10.7	8.3	4.8
17000	*****	*****	*****	*****	*****	*****	*****	*****	12.7	12.3	11.4	10.4	8.0	4.6
18000	*****	*****	*****	*****	*****	*****	*****	*****	*****	11.9	11.0	10.1	7.8	4.5
19000	*****	*****	*****	*****	*****	*****	*****	*****	*****	11.6	10.7	9.8	7.6	4.4
20000	*****	*****	*****	*****	*****	*****	*****	*****	*****	11.3	10.5	9.6	7.4	4.3
22000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	10.0	9.1	7.1	4.1
24000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	9.6	8.7	6.8	3.9
26000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	9.2	8.4	6.5	3.7
28000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.1	6.3	3.6
30000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.8	6.0	3.5
32000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.6	5.9	3.4
34000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.3	5.7	3.3
36000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.5	3.2
38000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.4	3.1
40000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.2	3.0
42000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.1	2.9
44000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	5.0	2.9
46000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.9	2.8
48000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.8
50000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.7
55000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.6
60000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.5

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Quebec

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	187.1	183.3	180.9	178.4	175.9	173.4	170.8	168.2	162.9	157.3	145.7	133.0	103.0	59.5
1000	132.3	129.6	127.9	126.1	124.4	122.6	120.8	118.9	115.2	111.2	103.0	94.0	72.8	42.0
1500	108.0	105.8	104.4	103.0	101.6	100.1	98.6	97.1	94.0	90.8	84.1	76.8	59.5	34.3
2000	93.6	91.6	90.4	89.2	88.0	86.7	85.4	84.1	81.4	78.7	72.8	66.5	51.5	29.7
3000	76.4	74.8	73.8	72.8	71.8	70.8	69.7	68.7	66.5	64.2	59.5	54.3	42.0	24.3
4000	66.2	64.8	63.9	63.1	62.2	61.3	60.4	59.5	57.6	55.6	51.5	47.0	36.4	21.0
5000	59.2	58.0	57.2	56.4	55.6	54.8	54.0	53.2	51.5	49.8	46.1	42.0	32.6	18.8
6000	54.0	52.9	52.2	51.5	50.8	50.0	49.3	48.6	47.0	45.4	42.0	38.4	29.7	17.2
7000	50.0	49.0	48.3	47.7	47.0	46.3	45.6	45.0	43.5	42.0	38.9	35.5	27.5	15.9
8000	*****	45.8	45.2	44.6	44.0	43.3	42.7	42.0	40.7	39.3	36.4	33.2	25.7	14.9
9000	*****	43.2	42.6	42.0	41.5	40.9	40.3	39.6	38.4	37.1	34.3	31.3	24.3	14.0
10000	*****	41.0	40.4	39.9	39.3	38.8	38.2	37.6	36.4	35.2	32.6	29.7	23.0	13.3
11000	*****	39.1	38.6	38.0	37.5	37.0	36.4	35.9	34.7	33.5	31.1	28.3	22.0	12.7
12000	*****	37.4	36.9	36.4	35.9	35.4	34.9	34.3	33.2	32.1	29.7	27.1	21.0	12.1
13000	*****	35.9	35.5	35.0	34.5	34.0	33.5	33.0	31.9	30.9	28.6	26.1	20.2	11.7
14000	*****	34.6	34.2	33.7	33.2	32.8	32.3	31.8	30.8	29.7	27.5	25.1	19.5	11.2
15000	*****	33.5	33.0	32.6	32.1	31.7	31.2	30.7	29.7	28.7	26.6	24.3	18.8	10.9
16000	*****	32.4	32.0	31.5	31.1	30.6	30.2	29.7	28.8	27.8	25.7	23.5	18.2	10.5
17000	*****	31.4	31.0	30.6	30.2	29.7	29.3	28.8	27.9	27.0	25.0	22.8	17.7	10.2
18000	*****	30.5	30.1	29.7	29.3	28.9	28.5	28.0	27.1	26.2	24.3	22.2	17.2	9.9
19000	*****	29.7	29.3	28.9	28.5	28.1	27.7	27.3	26.4	25.5	23.6	21.6	16.7	9.6
20000	*****	29.0	28.6	28.2	27.8	27.4	27.0	26.6	25.7	24.9	23.0	21.0	16.3	9.4
22000	*****	27.6	27.3	26.9	26.5	26.1	25.7	25.4	24.6	23.7	22.0	20.0	15.5	9.0
24000	*****	26.5	26.1	25.7	25.4	25.0	24.7	24.3	23.5	22.7	21.0	19.2	14.9	8.6
26000	*****	25.4	25.1	24.7	24.4	24.0	23.7	23.3	22.6	21.8	20.2	18.4	14.3	8.2
28000	*****	24.5	24.2	23.8	23.5	23.2	22.8	22.5	21.8	21.0	19.5	17.8	13.8	7.9
30000	*****	23.7	23.3	23.0	22.7	22.4	22.1	21.7	21.0	20.3	18.8	17.2	13.3	7.7
32000	*****	22.9	22.6	22.3	22.0	21.7	21.4	21.0	20.4	19.7	18.2	16.6	12.9	7.4
34000	*****	22.2	21.9	21.6	21.3	21.0	20.7	20.4	19.7	19.1	17.7	16.1	12.5	7.2
36000	*****	21.6	21.3	21.0	20.7	20.4	20.1	19.8	19.2	18.5	17.2	15.7	12.1	7.0
38000	*****	21.0	20.7	20.5	20.2	19.9	19.6	19.3	18.7	18.0	16.7	15.3	11.8	6.8
40000	*****	20.2	19.9	19.7	19.4	19.1	18.8	18.2	17.6	16.3	14.9	11.5	6.6	6.6
42000	*****	19.7	19.5	19.2	18.9	18.6	18.4	17.8	17.2	15.9	14.5	11.2	6.5	6.5
44000	*****	19.3	19.0	18.8	18.5	18.2	17.9	17.4	16.8	15.5	14.2	11.0	6.3	6.3
46000	*****	18.9	18.6	18.3	18.1	17.8	17.5	17.0	16.4	15.2	13.9	10.7	6.2	6.2
48000	*****	18.5	18.2	18.0	17.7	17.4	17.2	16.6	16.1	14.9	13.6	10.5	6.1	6.1
50000	*****	18.1	17.8	17.6	17.3	17.1	16.8	16.3	15.7	14.6	13.3	10.3	5.9	5.9
55000	*****	17.2	17.0	16.8	16.5	16.3	16.0	15.5	15.0	13.9	12.7	9.8	5.7	5.7
60000	*****	16.3	16.1	15.8	15.6	15.4	15.2	14.9	14.4	13.3	12.1	9.4	5.4	5.4
65000	*****	15.6	15.4	15.2	15.0	14.8	14.3	13.8	13.3	12.8	11.7	9.0	5.2	5.2
70000	*****	15.1	14.9	14.7	14.4	14.2	13.8	13.3	12.3	11.2	10.2	7.9	4.6	4.6
75000	*****	14.6	14.4	14.2	13.9	13.7	13.3	12.8	11.9	10.9	8.7	4.9	4.9	4.9
80000	*****	13.9	13.7	13.5	13.3	13.1	12.9	12.5	12.1	11.2	10.2	7.9	4.6	4.6
85000	*****	13.5	13.3	13.1	12.9	12.7	12.5	12.1	11.7	10.9	9.9	7.7	4.4	4.4
90000	*****	13.1	12.9	12.7	12.5	12.3	12.1	11.9	11.5	11.1	10.3	9.4	7.3	4.2
95000	*****	12.8	12.6	12.4	12.2	12.0	11.8	11.4	11.0	10.6	9.6	7.5	4.3	4.3
100000	*****	12.3	12.1	11.9	11.7	11.5	11.3	11.0	10.6	9.8	9.0	6.9	4.0	4.0
110000	*****	11.7	11.5	11.3	11.0	10.9	10.5	10.2	9.4	8.6	6.6	3.8	3.8	3.8
120000	*****	11.0	10.9	10.5	10.2	10.1	9.8	9.0	8.2	6.4	3.7	3.7	3.7	3.7
130000	*****	10.6	10.4	10.1	9.8	9.7	9.4	8.7	7.9	6.2	3.6	3.6	3.6	3.6
140000	*****	10.1	9.7	9.4	9.1	8.8	8.4	7.8	7.1	5.5	3.2	3.2	3.2	3.2
150000	*****	9.7	9.4	9.1	8.8	8.4	8.1	7.7	7.1	5.5	3.2	3.2	3.2	3.2
175000	*****	8.7	8.4	8.1	7.8	7.5	7.2	6.8	6.4	5.0	3.0	3.0	3.0	3.0
200000	*****	7.9	7.7	7.4	7.1	6.8	6.5	6.2	5.8	4.4	2.4	2.4	2.4	2.4
225000	*****	7.4	7.1	6.8	6.5	6.2	5.9	5.6	5.2	3.8	1.8	1.8	1.8	1.8
250000	*****	7.0	6.7	6.4	6.1	5.8	5.5	5.2	4.8	3.4	1.4	1.4	1.4	1.4
300000	*****	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.7	2.3	0.3	0.3	0.3	0.3
350000	*****	5.0	4.7	4.4	4.1	3.8	3.5	3.2	2.8	1.4	0.4	0.4	0.4	0.4
400000	*****	5.0	4.7	4.4	4.1	3.8	3.5	3.2	2.8	1.4	0.4	0.4	0.4	0.4
400000	*****	5.0	4.7	4.4	4.1	3.8	3.5	3.2	2.8	1.4	0.4	0.4	0.4	0.4
500000	*****	5.0	4.7	4.4	4.1	3.8	3.5	3.2	2.8	1.4	0.4	0.4	0.4	0.4

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Ontario

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	186.9	183.1	180.6	178.2	175.7	173.2	170.6	168.0	162.7	157.1	145.5	132.8	102.9	59.4
1000	132.1	129.4	127.7	126.0	124.2	122.4	120.6	118.8	115.0	111.1	102.9	93.9	72.7	42.0
1500	107.9	105.7	104.3	102.9	101.4	100.0	98.5	97.0	93.9	90.7	84.0	76.7	59.4	34.3
2000	93.4	91.5	90.3	89.1	87.8	86.6	85.3	84.0	81.3	78.6	72.7	66.4	51.4	29.7
3000	76.3	74.7	73.7	72.7	71.7	70.7	69.6	68.6	66.4	64.2	59.4	54.2	42.0	24.2
4000	66.1	64.7	63.9	63.0	62.1	61.2	60.3	59.4	57.5	55.6	51.4	47.0	36.4	21.0
5000	59.1	57.9	57.1	56.3	55.6	54.8	53.9	53.1	51.4	49.7	46.0	42.0	32.5	18.8
6000	53.9	52.8	52.1	51.4	50.7	50.0	49.2	48.5	47.0	45.4	42.0	38.3	29.7	17.1
7000	49.9	48.9	48.3	47.6	47.0	46.3	45.6	44.9	43.5	42.0	38.9	35.5	27.5	15.9
8000	46.7	45.8	45.2	44.5	43.9	43.3	42.6	42.0	40.7	39.3	36.4	33.2	25.7	14.8
9000	44.0	43.1	42.6	42.0	41.4	40.8	40.2	39.6	38.3	37.0	34.3	31.3	24.2	14.0
10000	41.8	40.9	40.4	39.8	39.3	38.7	38.1	37.6	36.4	35.1	32.5	29.7	23.0	13.3
11000	*****	39.0	38.5	38.0	37.5	36.9	36.4	35.8	34.7	33.5	31.0	28.3	21.9	12.7
12000	*****	37.4	36.9	36.4	35.9	35.3	34.8	34.3	33.2	32.1	29.7	27.1	21.0	12.1
13000	*****	35.9	35.4	34.9	34.5	34.0	33.5	32.9	31.9	30.8	28.5	26.0	20.2	11.6
14000	*****	34.6	34.1	33.7	33.2	32.7	32.2	31.7	30.7	29.7	27.5	25.1	19.4	11.2
15000	*****	33.4	33.0	32.5	32.1	31.6	31.1	30.7	29.7	28.7	26.6	24.2	18.8	10.8
16000	*****	32.4	31.9	31.5	31.1	30.6	30.2	29.7	28.8	27.8	25.7	23.5	18.2	10.5
17000	*****	31.4	31.0	30.6	30.1	29.7	29.3	28.8	27.9	26.9	25.0	22.8	17.6	10.2
18000	*****	30.5	30.1	29.7	29.3	28.9	28.4	28.0	27.1	26.2	24.2	22.1	17.1	9.9
19000	*****	29.7	29.3	28.9	28.5	28.1	27.7	27.3	26.4	25.5	23.6	21.5	16.7	9.6
20000	*****	28.9	28.6	28.2	27.8	27.4	27.0	26.6	25.7	24.8	23.0	21.0	16.3	9.4
22000	*****	27.6	27.2	26.9	26.5	26.1	25.7	25.3	24.5	23.7	21.9	20.0	15.5	9.0
24000	*****	26.4	26.1	25.7	25.4	25.0	24.6	24.2	23.5	22.7	21.0	19.2	14.8	8.6
26000	*****	25.4	25.0	24.7	24.4	24.0	23.7	23.3	22.6	21.8	20.2	18.4	14.3	8.2
28000	*****	24.5	24.1	23.8	23.5	23.1	22.8	22.4	21.7	21.0	19.4	17.7	13.7	7.9
30000	*****	23.6	23.3	23.0	22.7	22.4	22.0	21.7	21.0	20.3	18.8	17.1	13.3	7.7
32000	*****	22.9	22.6	22.3	22.0	21.6	21.3	21.0	20.3	19.6	18.2	16.6	12.9	7.4
34000	*****	22.2	21.9	21.6	21.3	21.0	20.7	20.4	19.7	19.1	17.6	16.1	12.5	7.2
36000	*****	21.6	21.3	21.0	20.7	20.4	20.1	19.8	19.2	18.5	17.1	15.7	12.1	7.0
38000	*****	21.0	20.7	20.4	20.2	19.9	19.6	19.3	18.7	18.0	16.7	15.2	11.8	6.8
40000	*****	20.5	20.2	19.9	19.6	19.4	19.1	18.8	18.2	17.6	16.3	14.8	11.5	6.6
42000	*****	20.0	19.7	19.4	19.2	18.9	18.6	18.3	17.7	17.1	15.9	14.5	11.2	6.5
44000	*****	19.5	19.3	19.0	18.7	18.5	18.2	17.9	17.3	16.8	15.5	14.2	11.0	6.3
46000	*****	19.1	18.8	18.6	18.3	18.1	17.8	17.5	17.0	16.4	15.2	13.8	10.7	6.2
48000	*****	18.7	18.4	18.2	17.9	17.7	17.4	17.1	16.6	16.0	14.8	13.6	10.5	6.1
50000	*****	18.3	18.1	17.8	17.6	17.3	17.1	16.8	16.3	15.7	14.5	13.3	10.3	5.9
55000	*****	17.2	17.0	16.8	16.5	16.3	16.0	15.7	15.5	15.0	13.9	12.7	9.8	5.7
60000	*****	16.5	16.3	16.0	15.8	15.6	15.3	14.8	14.3	13.3	12.1	9.4	5.4	5.4
65000	*****	15.8	15.6	15.4	15.2	15.0	14.7	14.3	13.8	12.8	11.6	9.0	5.2	5.2
70000	*****	15.3	15.1	14.8	14.6	14.4	14.2	13.7	13.3	12.3	11.2	8.7	5.0	5.0
75000	*****	14.7	14.5	14.3	14.1	13.9	13.7	13.3	12.8	11.9	10.8	8.4	4.8	4.8
80000	*****	14.3	14.1	13.9	13.7	13.5	13.3	12.9	12.4	11.5	10.5	8.1	4.7	4.7
85000	*****	13.7	13.5	13.3	13.1	12.9	12.5	12.1	11.2	10.2	9.2	7.9	4.6	4.6
90000	*****	13.3	13.1	12.9	12.7	12.5	12.1	11.7	10.8	9.9	7.7	4.4	4.4	4.4
95000	*****	12.9	12.7	12.6	12.4	12.2	12.4	12.2	11.8	11.4	10.6	9.6	7.5	4.3
100000	*****	12.6	12.4	12.2	12.1	11.9	11.5	11.1	10.3	9.4	7.3	4.2	4.2	4.2
110000	*****	11.8	11.7	11.5	11.3	11.0	10.6	10.6	9.8	9.0	6.9	4.0	4.0	4.0
120000	*****	11.3	11.2	11.0	10.8	10.5	10.1	9.4	8.6	6.6	3.8	3.8	3.8	3.8
130000	*****	10.9	10.7	10.6	10.4	10.1	9.7	9.0	8.2	6.4	3.7	3.7	3.7	3.7
140000	*****	10.3	10.2	10.0	9.7	9.4	8.7	7.9	6.6	5.1	3.0	3.0	3.0	3.0
150000	*****	10.0	9.8	9.7	9.4	9.1	8.4	7.7	5.9	3.4	3.4	3.4	3.4	3.4
175000	*****	9.1	9.0	8.7	8.4	8.1	7.8	7.1	5.5	3.2	3.2	3.2	3.2	3.2
200000	*****	8.4	8.1	7.9	7.3	6.6	5.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
225000	*****	7.7	7.4	6.9	6.3	4.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
250000	*****	7.3	7.0	6.5	5.9	4.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
300000	*****	6.4	5.9	5.4	4.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
350000	*****	5.5	5.0	3.9	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
400000	*****	5.1	4.7	3.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
500000	*****	4.2	3.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
750000	*****	2.7	2.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Manitoba

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	92.8	90.9	89.7	88.5	87.2	86.0	84.7	83.4	80.8	78.0	72.2	65.9	51.1	29.5
1000	65.6	64.3	63.4	62.6	61.7	60.8	59.9	59.0	57.1	55.2	51.1	46.6	36.1	20.9
1500	*****	52.5	51.8	51.1	50.4	49.6	48.9	48.2	46.6	45.0	41.7	38.1	29.5	17.0
2000	*****	45.4	44.8	44.2	43.6	43.0	42.3	41.7	40.4	39.0	36.1	33.0	25.5	14.7
3000	*****	37.1	36.6	36.1	35.6	35.1	34.6	34.0	33.0	31.8	29.5	26.9	20.9	12.0
4000	*****	32.1	31.7	31.3	30.8	30.4	29.9	29.5	28.6	27.6	25.5	23.3	18.1	10.4
5000	*****	28.7	28.4	28.0	27.6	27.2	26.8	26.4	25.5	24.7	22.8	20.9	16.2	9.3
6000	*****	*****	25.9	25.5	25.2	24.8	24.4	24.1	23.3	22.5	20.9	19.0	14.7	8.5
7000	*****	*****	24.0	23.6	23.3	23.0	22.6	22.3	21.6	20.9	19.3	17.6	13.6	7.9
8000	*****	*****	*****	22.1	21.8	21.5	21.2	20.9	20.2	19.5	18.1	16.5	12.8	7.4
9000	*****	*****	*****	20.9	20.6	20.3	20.0	19.7	19.0	18.4	17.0	15.5	12.0	7.0
10000	*****	*****	*****	19.8	19.5	19.2	18.9	18.6	18.1	17.4	16.2	14.7	11.4	6.6
11000	*****	*****	*****	*****	18.6	18.3	18.1	17.8	17.2	16.6	15.4	14.1	10.9	6.3
12000	*****	*****	*****	*****	17.8	17.5	17.3	17.0	16.5	15.9	14.7	13.5	10.4	6.0
13000	*****	*****	*****	*****	17.1	16.9	16.6	16.4	15.8	15.3	14.2	12.9	10.0	5.8
14000	*****	*****	*****	*****	*****	16.2	16.0	15.8	15.3	14.7	13.6	12.5	9.7	5.6
15000	*****	*****	*****	*****	*****	15.7	15.5	15.2	14.7	14.2	13.2	12.0	9.3	5.4
16000	*****	*****	*****	*****	*****	*****	15.0	14.7	14.3	13.8	12.8	11.7	9.0	5.2
17000	*****	*****	*****	*****	*****	*****	14.5	14.3	13.8	13.4	12.4	11.3	8.8	5.1
18000	*****	*****	*****	*****	*****	*****	14.1	13.9	13.5	13.0	12.0	11.0	8.5	4.9
19000	*****	*****	*****	*****	*****	*****	*****	13.5	13.1	12.7	11.7	10.7	8.3	4.8
20000	*****	*****	*****	*****	*****	*****	*****	13.2	12.8	12.3	11.4	10.4	8.1	4.7
22000	*****	*****	*****	*****	*****	*****	*****	*****	12.2	11.8	10.9	9.9	7.7	4.4
24000	*****	*****	*****	*****	*****	*****	*****	*****	11.7	11.3	10.4	9.5	7.4	4.3
26000	*****	*****	*****	*****	*****	*****	*****	*****	11.2	10.8	10.0	9.1	7.1	4.1
28000	*****	*****	*****	*****	*****	*****	*****	*****	10.4	9.7	8.8	8.8	6.8	3.9
30000	*****	*****	*****	*****	*****	*****	*****	*****	10.1	9.3	8.5	8.5	6.6	3.8
32000	*****	*****	*****	*****	*****	*****	*****	*****	*****	9.0	8.2	8.2	6.4	3.7
34000	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.8	8.0	8.0	6.2	3.6
36000	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.5	7.8	7.8	6.0	3.5
38000	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.3	7.6	7.6	5.9	3.4
40000	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.1	7.4	7.4	5.7	3.3
42000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.2	7.2	5.6	3.2
44000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.0	7.0	5.4	3.1
46000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.9	6.9	5.3	3.1
48000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.7	6.7	5.2	3.0
50000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.6	6.6	5.1	2.9
55000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.9	2.8
60000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.7	2.7
65000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.5	2.6
70000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.3	2.5
75000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.4
80000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.3
85000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.3
90000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.2

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Saskatchewan

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	88.1	86.3	85.1	84.0	82.8	81.6	80.4	79.2	76.7	74.1	68.6	62.6	48.5	28.0
1000	*****	61.0	60.2	59.4	58.5	57.7	56.8	56.0	54.2	52.4	48.5	44.3	34.3	19.8
1500	*****	49.8	49.1	48.5	47.8	47.1	46.4	45.7	44.3	42.8	39.6	36.1	28.0	16.2
2000	*****	43.1	42.6	42.0	41.4	40.8	40.2	39.6	38.3	37.0	34.3	31.3	24.2	14.0
3000	*****	35.2	34.8	34.3	33.8	33.3	32.8	32.3	31.3	30.2	28.0	25.6	19.8	11.4
4000	*****	30.5	30.1	29.7	29.3	28.9	28.4	28.0	27.1	26.2	24.2	22.1	17.1	9.9
5000	*****	*****	26.9	26.6	26.2	25.8	25.4	25.0	24.2	23.4	21.7	19.8	15.3	8.9
6000	*****	*****	24.6	24.2	23.9	23.6	23.2	22.9	22.1	21.4	19.8	18.1	14.0	8.1
7000	*****	*****	22.8	22.4	22.1	21.8	21.5	21.2	20.5	19.8	18.3	16.7	13.0	7.5
8000	*****	*****	*****	21.0	20.7	20.4	20.1	19.8	19.2	18.5	17.1	15.6	12.1	7.0
9000	*****	*****	*****	19.8	19.5	19.2	18.9	18.7	18.1	17.5	16.2	14.8	11.4	6.6
10000	*****	*****	*****	*****	18.5	18.2	18.0	17.7	17.1	16.6	15.3	14.0	10.8	6.3
11000	*****	*****	*****	*****	17.7	17.4	17.1	16.9	16.3	15.8	14.6	13.3	10.3	6.0
12000	*****	*****	*****	*****	*****	16.7	16.4	16.2	15.6	15.1	14.0	12.8	9.9	5.7
13000	*****	*****	*****	*****	*****	16.0	15.8	15.5	15.0	14.5	13.4	12.3	9.5	5.5
14000	*****	*****	*****	*****	*****	15.4	15.2	15.0	14.5	14.0	13.0	11.8	9.2	5.3
15000	*****	*****	*****	*****	*****	*****	14.7	14.5	14.0	13.5	12.5	11.4	8.9	5.1
16000	*****	*****	*****	*****	*****	*****	14.2	14.0	13.6	13.1	12.1	11.1	8.6	4.9
17000	*****	*****	*****	*****	*****	*****	*****	13.6	13.1	12.7	11.8	10.7	8.3	4.8
18000	*****	*****	*****	*****	*****	*****	*****	13.2	12.8	12.3	11.4	10.4	8.1	4.7
19000	*****	*****	*****	*****	*****	*****	*****	*****	12.4	12.0	11.1	10.2	7.9	4.5
20000	*****	*****	*****	*****	*****	*****	*****	*****	12.1	11.7	10.8	9.9	7.7	4.4
22000	*****	*****	*****	*****	*****	*****	*****	*****	11.6	11.2	10.3	9.4	7.3	4.2
24000	*****	*****	*****	*****	*****	*****	*****	*****	*****	10.7	9.9	9.0	7.0	4.0
26000	*****	*****	*****	*****	*****	*****	*****	*****	*****	10.3	9.5	8.7	6.7	3.9
28000	*****	*****	*****	*****	*****	*****	*****	*****	*****	9.9	9.2	8.4	6.5	3.7
30000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.9	8.1	6.3	3.6
32000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.6	7.8	6.1	3.5
34000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.3	7.6	5.9	3.4
36000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.1	7.4	5.7	3.3
38000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.2	5.6	3.2
40000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.0	5.4	3.1
42000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.8	5.3	3.1
44000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.7	5.2	3.0
46000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.5	5.1	2.9
48000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.9	2.9
50000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.8	2.8
55000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.6	2.7
60000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.4	2.6
65000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.3	2.5
70000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.4
75000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.3
80000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.2

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Alberta

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	142.9	140.0	138.1	136.2	134.3	132.4	130.4	128.5	124.4	120.2	111.2	101.6	78.7	45.4
1000	101.0	99.0	97.7	96.3	95.0	93.6	92.2	90.8	87.9	85.0	78.7	71.8	55.6	32.1
1500	82.5	80.8	79.7	78.7	77.6	76.4	75.3	74.2	71.8	69.4	64.2	58.6	45.4	26.2
2000	71.4	70.0	69.1	68.1	67.2	66.2	65.2	64.2	62.2	60.1	55.6	50.8	39.3	22.7
3000	58.3	57.1	56.4	55.6	54.8	54.1	53.3	52.4	50.8	49.1	45.4	41.5	32.1	18.5
4000	*****	49.5	48.8	48.2	47.5	46.8	46.1	45.4	44.0	42.5	39.3	35.9	27.8	16.1
5000	*****	44.3	43.7	43.1	42.5	41.9	41.3	40.6	39.3	38.0	35.2	32.1	24.9	14.4
6000	*****	40.4	39.9	39.3	38.8	38.2	37.7	37.1	35.9	34.7	32.1	29.3	22.7	13.1
7000	*****	37.4	36.9	36.4	35.9	35.4	34.9	34.3	33.2	32.1	29.7	27.1	21.0	12.1
8000	*****	35.0	34.5	34.1	33.6	33.1	32.6	32.1	31.1	30.0	27.8	25.4	19.7	11.4
9000	*****	33.0	32.6	32.1	31.7	31.2	30.7	30.3	29.3	28.3	26.2	23.9	18.5	10.7
10000	*****	31.3	30.9	30.5	30.0	29.6	29.2	28.7	27.8	26.9	24.9	22.7	17.6	10.2
11000	*****	29.8	29.4	29.0	28.6	28.2	27.8	27.4	26.5	25.6	23.7	21.7	16.8	9.7
12000	*****	28.6	28.2	27.8	27.4	27.0	26.6	26.2	25.4	24.5	22.7	20.7	16.1	9.3
13000	*****	27.5	27.1	26.7	26.3	26.0	25.6	25.2	24.4	23.6	21.8	19.9	15.4	8.9
14000	*****	26.5	26.1	25.7	25.4	25.0	24.7	24.3	23.5	22.7	21.0	19.2	14.9	8.6
15000	*****	25.6	25.2	24.9	24.5	24.2	23.8	23.5	22.7	21.9	20.3	18.5	14.4	8.3
16000	*****	*****	24.4	24.1	23.7	23.4	23.1	22.7	22.0	21.2	19.7	18.0	13.9	8.0
17000	*****	*****	23.7	23.4	23.0	22.7	22.4	22.0	21.3	20.6	19.1	17.4	13.5	7.8
18000	*****	*****	23.0	22.7	22.4	22.1	21.7	21.4	20.7	20.0	18.5	16.9	13.1	7.6
19000	*****	*****	22.4	22.1	21.8	21.5	21.2	20.8	20.2	19.5	18.0	16.5	12.8	7.4
20000	*****	*****	21.8	21.5	21.2	20.9	20.6	20.3	19.7	19.0	17.6	16.1	12.4	7.2
22000	*****	*****	20.8	20.5	20.3	20.0	19.7	19.4	18.8	18.1	16.8	15.3	11.9	6.8
24000	*****	*****	*****	19.7	19.4	19.1	18.8	18.5	18.0	17.3	16.1	14.7	11.4	6.6
26000	*****	*****	*****	18.9	18.6	18.4	18.1	17.8	17.2	16.7	15.4	14.1	10.9	6.3
28000	*****	*****	*****	18.2	18.0	17.7	17.4	17.2	16.6	16.1	14.9	13.6	10.5	6.1
30000	*****	*****	*****	17.6	17.3	17.1	16.8	16.6	16.1	15.5	14.4	13.1	10.2	5.9
32000	*****	*****	*****	16.8	16.6	16.3	16.1	15.8	15.5	15.0	13.9	12.7	9.8	5.7
34000	*****	*****	*****	16.3	16.1	15.8	15.6	15.3	15.1	14.6	13.5	12.3	9.5	5.5
36000	*****	*****	*****	15.8	15.6	15.4	15.1	14.7	14.2	13.1	12.0	9.3	5.4	5.4
38000	*****	*****	*****	15.4	15.2	15.0	14.7	14.3	13.8	12.8	11.6	9.0	5.2	5.2
40000	*****	*****	*****	14.8	14.6	14.4	14.3	13.9	13.4	12.4	11.4	8.8	5.1	5.1
42000	*****	*****	*****	14.4	14.2	14.0	13.6	13.1	12.1	11.1	10.1	8.6	5.0	5.0
44000	*****	*****	*****	14.1	13.9	13.7	13.3	12.8	11.9	10.8	8.4	4.8	4.8	4.8
46000	*****	*****	*****	13.8	13.6	13.4	13.0	12.5	11.6	10.6	8.2	4.7	4.7	4.7
48000	*****	*****	*****	*****	13.3	13.1	12.7	12.3	11.4	10.4	8.0	4.6	4.6	4.6
50000	*****	*****	*****	*****	13.0	12.8	12.4	12.0	11.1	10.2	7.9	4.5	4.5	4.5
55000	*****	*****	*****	*****	12.2	11.9	11.5	10.6	9.7	7.5	4.3	4.3	4.3	4.3
60000	*****	*****	*****	*****	11.7	11.4	11.0	10.2	9.3	7.2	4.1	4.1	4.1	4.1
65000	*****	*****	*****	*****	*****	10.9	10.5	9.8	8.9	6.9	4.0	4.0	4.0	4.0
70000	*****	*****	*****	*****	*****	10.5	10.2	9.4	8.6	6.6	3.8	3.8	3.8	3.8
75000	*****	*****	*****	*****	*****	10.2	9.8	9.1	8.3	6.4	3.7	3.7	3.7	3.7
80000	*****	*****	*****	*****	*****	9.5	8.8	8.0	6.2	3.6	3.6	3.6	3.6	3.6
85000	*****	*****	*****	*****	*****	9.2	8.5	7.8	6.0	3.5	3.5	3.5	3.5	3.5
90000	*****	*****	*****	*****	*****	9.0	8.3	7.6	5.9	3.4	3.4	3.4	3.4	3.4
95000	*****	*****	*****	*****	*****	8.1	7.4	5.7	3.3	3.3	3.3	3.3	3.3	3.3
100000	*****	*****	*****	*****	*****	7.9	7.2	5.6	3.2	3.2	3.2	3.2	3.2	3.2
110000	*****	*****	*****	*****	*****	7.5	6.8	5.3	3.1	3.1	3.1	3.1	3.1	3.1
120000	*****	*****	*****	*****	*****	7.2	6.6	5.1	2.9	2.9	2.9	2.9	2.9	2.9
130000	*****	*****	*****	*****	*****	6.3	4.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8
140000	*****	*****	*****	*****	*****	6.1	4.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
150000	*****	*****	*****	*****	*****	5.9	4.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
175000	*****	*****	*****	*****	*****	4.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
200000	*****	*****	*****	*****	*****	3.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
225000	*****	*****	*****	*****	*****	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
250000	*****	*****	*****	*****	*****	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - British Columbia

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	172.3	168.7	166.5	164.2	161.9	159.6	157.3	154.9	149.9	144.9	134.1	122.4	94.8	54.7
1000	121.8	119.3	117.7	116.1	114.5	112.9	111.2	109.5	106.0	102.4	94.8	86.6	67.1	38.7
1500	99.5	97.4	96.1	94.8	93.5	92.2	90.8	89.4	86.6	83.6	77.4	70.7	54.7	31.6
2000	86.1	84.4	83.3	82.1	81.0	79.8	78.6	77.4	75.0	72.4	67.1	61.2	47.4	27.4
3000	70.3	68.9	68.0	67.1	66.1	65.2	64.2	63.2	61.2	59.1	54.7	50.0	38.7	22.4
4000	*****	59.7	58.9	58.1	57.3	56.4	55.6	54.7	53.0	51.2	47.4	43.3	33.5	19.4
5000	*****	53.4	52.7	51.9	51.2	50.5	49.7	49.0	47.4	45.8	42.4	38.7	30.0	17.3
6000	*****	48.7	48.1	47.4	46.8	46.1	45.4	44.7	43.3	41.8	38.7	35.3	27.4	15.8
7000	*****	45.1	44.5	43.9	43.3	42.7	42.0	41.4	40.1	38.7	35.8	32.7	25.3	14.6
8000	*****	42.2	41.6	41.1	40.5	39.9	39.3	38.7	37.5	36.2	33.5	30.6	23.7	13.7
9000	*****	39.8	39.2	38.7	38.2	37.6	37.1	36.5	35.3	34.1	31.6	28.9	22.4	12.9
10000	*****	37.7	37.2	36.7	36.2	35.7	35.2	34.6	33.5	32.4	30.0	27.4	21.2	12.2
11000	*****	36.0	35.5	35.0	34.5	34.0	33.5	33.0	32.0	30.9	28.6	26.1	20.2	11.7
12000	*****	34.4	34.0	33.5	33.1	32.6	32.1	31.6	30.6	29.6	27.4	25.0	19.4	11.2
13000	*****	33.1	32.7	32.2	31.8	31.3	30.8	30.4	29.4	28.4	26.3	24.0	18.6	10.7
14000	*****	31.9	31.5	31.0	30.6	30.2	29.7	29.3	28.3	27.4	25.3	23.1	17.9	10.3
15000	*****	30.8	30.4	30.0	29.6	29.1	28.7	28.3	27.4	26.4	24.5	22.4	17.3	10.0
16000	*****	29.8	29.4	29.0	28.6	28.2	27.8	27.4	26.5	25.6	23.7	21.6	16.8	9.7
17000	*****	28.9	28.6	28.2	27.8	27.4	27.0	26.6	25.7	24.8	23.0	21.0	16.3	9.4
18000	*****	28.1	27.8	27.4	27.0	26.6	26.2	25.8	25.0	24.1	22.4	20.4	15.8	9.1
19000	*****	*****	27.0	26.6	26.3	25.9	25.5	25.1	24.3	23.5	21.8	19.9	15.4	8.9
20000	*****	*****	26.3	26.0	25.6	25.2	24.9	24.5	23.7	22.9	21.2	19.4	15.0	8.7
22000	*****	*****	25.1	24.8	24.4	24.1	23.7	23.3	22.6	21.8	20.2	18.5	14.3	8.3
24000	*****	*****	24.0	23.7	23.4	23.0	22.7	22.4	21.6	20.9	19.4	17.7	13.7	7.9
26000	*****	*****	23.1	22.8	22.5	22.1	21.8	21.5	20.8	20.1	18.6	17.0	13.2	7.6
28000	*****	*****	22.3	21.9	21.6	21.3	21.0	20.7	20.0	19.4	17.9	16.4	12.7	7.3
30000	*****	*****	*****	21.2	20.9	20.6	20.3	20.0	19.4	18.7	17.3	15.8	12.2	7.1
32000	*****	*****	*****	20.5	20.2	20.0	19.7	19.4	18.7	18.1	16.8	15.3	11.9	6.8
34000	*****	*****	*****	19.9	19.6	19.4	19.1	18.8	18.2	17.6	16.3	14.8	11.5	6.6
36000	*****	*****	*****	19.4	19.1	18.8	18.5	18.2	17.7	17.1	15.8	14.4	11.2	6.5
38000	*****	*****	*****	*****	18.6	18.3	18.0	17.8	17.2	16.6	15.4	14.0	10.9	6.3
40000	*****	*****	*****	*****	18.1	17.8	17.6	17.3	16.8	16.2	15.0	13.7	10.6	6.1
42000	*****	*****	*****	*****	17.7	17.4	17.2	16.9	16.4	15.8	14.6	13.4	10.3	6.0
44000	*****	*****	*****	*****	17.3	17.0	16.8	16.5	16.0	15.4	14.3	13.1	10.1	5.8
46000	*****	*****	*****	*****	16.9	16.6	16.4	16.1	15.6	15.1	14.0	12.8	9.9	5.7
48000	*****	*****	*****	*****	*****	16.3	16.0	15.8	15.3	14.8	13.7	12.5	9.7	5.6
50000	*****	*****	*****	*****	*****	16.0	15.7	15.5	15.0	14.5	13.4	12.2	9.5	5.5
55000	*****	*****	*****	*****	*****	15.2	15.0	14.8	14.3	13.8	12.8	11.7	9.0	5.2
60000	*****	*****	*****	*****	*****	*****	14.4	14.1	13.7	13.2	12.2	11.2	8.7	5.0
65000	*****	*****	*****	*****	*****	*****	13.8	13.6	13.2	12.7	11.8	10.7	8.3	4.8
70000	*****	*****	*****	*****	*****	*****	*****	13.1	12.7	12.2	11.3	10.3	8.0	4.6
75000	*****	*****	*****	*****	*****	*****	*****	*****	12.2	11.8	10.9	10.0	7.7	4.5
80000	*****	*****	*****	*****	*****	*****	*****	*****	11.9	11.5	10.6	9.7	7.5	4.3
85000	*****	*****	*****	*****	*****	*****	*****	*****	11.5	11.1	10.3	9.4	7.3	4.2
90000	*****	*****	*****	*****	*****	*****	*****	*****	11.2	10.8	10.0	9.1	7.1	4.1
95000	*****	*****	*****	*****	*****	*****	*****	*****	*****	10.5	9.7	8.9	6.9	4.0
100000	*****	*****	*****	*****	*****	*****	*****	*****	*****	10.2	9.5	8.7	6.7	3.9
110000	*****	*****	*****	*****	*****	*****	*****	*****	*****	9.8	9.0	8.3	6.4	3.7
120000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.7	7.9	6.1	3.5
130000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.3	7.6	5.9	3.4
140000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	8.0	7.3	5.7	3.3
150000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	7.1	5.5	3.2
175000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	6.5	5.1	2.9
200000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.7	2.7
225000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.5	2.6
250000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	4.2	2.4
300000	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	2.2

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Atlantic Provinces

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	87.2	85.4	84.3	83.1	81.9	80.8	79.6	78.4	75.9	73.3	67.9	61.9	48.0	27.7
1000	61.6	60.4	59.6	58.8	57.9	57.1	56.3	55.4	53.6	51.8	48.0	43.8	33.9	19.6
1500	50.3	49.3	48.6	48.0	47.3	46.6	45.9	45.2	43.8	42.3	39.2	35.8	27.7	16.0
2000	43.6	42.7	42.1	41.6	41.0	40.4	39.8	39.2	37.9	36.6	33.9	31.0	24.0	13.9
3000	*****	34.9	34.4	33.9	33.5	33.0	32.5	32.0	31.0	29.9	27.7	25.3	19.6	11.3
4000	*****	30.2	29.8	29.4	29.0	28.6	28.1	27.7	26.8	25.9	24.0	21.9	17.0	9.8
5000	*****	27.0	26.6	26.3	25.9	25.5	25.2	24.8	24.0	23.2	21.5	19.6	15.2	8.8
6000	*****	24.6	24.3	24.0	23.7	23.3	23.0	22.6	21.9	21.2	19.6	17.9	13.9	8.0
7000	*****	22.8	22.5	22.2	21.9	21.6	21.3	20.9	20.3	19.6	18.1	16.6	12.8	7.4
8000	*****	21.3	21.1	20.8	20.5	20.2	19.9	19.6	19.0	18.3	17.0	15.5	12.0	6.9
9000	*****	20.1	19.9	19.6	19.3	19.0	18.8	18.5	17.9	17.3	16.0	14.6	11.3	6.5
10000	*****	19.1	18.8	18.6	18.3	18.1	17.8	17.5	17.0	16.4	15.2	13.9	10.7	6.2
11000	*****	18.0	17.7	17.5	17.2	17.0	16.7	16.2	15.6	14.5	13.2	10.2	5.9	5.9
12000	*****	17.2	17.0	16.7	16.5	16.2	16.0	15.5	15.0	13.9	12.6	9.8	5.7	5.7
13000	*****	16.5	16.3	16.1	15.8	15.6	15.4	14.9	14.4	13.3	12.1	9.4	5.4	5.4
14000	*****	15.9	15.7	15.5	15.3	15.0	14.8	14.3	13.9	12.8	11.7	9.1	5.2	5.2
15000	*****	15.4	15.2	15.0	14.7	14.5	14.3	13.9	13.4	12.4	11.3	8.8	5.1	5.1
16000	*****	14.9	14.7	14.5	14.3	14.1	13.9	13.4	13.0	12.0	11.0	8.5	4.9	4.9
17000	*****	14.3	14.1	13.9	13.6	13.4	13.0	12.6	11.6	10.6	8.2	4.8	4.8	4.8
18000	*****	13.9	13.7	13.5	13.3	13.1	12.9	12.6	12.2	11.3	10.3	8.0	4.6	4.6
19000	*****	13.5	13.3	13.1	12.9	12.7	12.3	11.9	11.0	10.0	7.8	4.5	4.5	4.5
20000	*****	13.1	13.0	12.8	12.6	12.4	12.0	11.6	10.7	9.8	7.6	4.4	4.4	4.4
22000	*****	12.4	12.2	12.0	11.8	11.4	11.0	10.6	9.8	8.9	6.9	4.0	4.0	4.0
24000	*****	11.8	11.7	11.5	11.3	11.0	10.6	9.8	8.9	8.9	6.9	4.0	4.0	4.0
26000	*****	11.4	11.2	11.0	10.9	10.5	10.2	9.4	8.6	6.7	3.8	3.8	3.8	3.8
28000	*****	10.8	10.6	10.5	10.1	9.8	9.1	8.3	6.4	3.7	3.7	3.7	3.7	3.7
30000	*****	10.4	10.3	10.1	9.8	9.5	8.8	8.0	6.2	3.6	3.6	3.6	3.6	3.6
32000	*****	10.1	9.9	9.8	9.5	9.2	8.5	7.7	6.0	3.5	3.5	3.5	3.5	3.5
34000	*****	9.6	9.5	9.2	8.9	8.2	7.5	5.8	3.4	3.4	3.4	3.4	3.4	3.4
36000	*****	9.4	9.2	8.9	8.6	8.0	7.3	5.7	3.3	3.3	3.3	3.3	3.3	3.3
38000	*****	9.1	9.0	8.7	8.4	7.8	7.1	5.5	3.2	3.2	3.2	3.2	3.2	3.2
40000	*****	8.8	8.5	8.2	7.6	6.9	5.4	3.1	3.1	3.1	3.1	3.1	3.1	3.1
42000	*****	8.5	8.3	8.0	7.4	6.8	5.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0
44000	*****	8.1	7.8	7.2	6.6	5.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
46000	*****	7.9	7.6	7.1	6.5	5.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
48000	*****	7.7	7.5	6.9	6.3	4.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
50000	*****	7.6	7.3	6.8	6.2	4.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
55000	*****	7.0	6.5	5.9	4.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
60000	*****	6.7	6.2	5.7	4.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
65000	*****	6.4	6.0	5.4	4.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
70000	*****	5.7	5.2	4.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
75000	*****	5.5	5.1	3.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80000	*****	5.4	4.9	3.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85000	*****	5.2	4.8	3.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
90000	*****	4.6	3.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
95000	*****	4.5	3.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
100000	*****	4.4	3.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
110000	*****	3.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
120000	*****	3.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
130000	*****	3.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
140000	*****	2.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
150000	*****	2.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
175000	*****	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Prairie Provinces

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	123.9	121.4	119.8	118.2	116.5	114.8	113.1	111.4	107.9	104.2	96.5	88.1	68.2	39.4
1000	87.6	85.9	84.7	83.6	82.4	81.2	80.0	78.8	76.3	73.7	68.2	62.3	48.2	27.9
1500	71.6	70.1	69.2	68.2	67.3	66.3	65.3	64.3	62.3	60.2	55.7	50.9	39.4	22.7
2000	62.0	60.7	59.9	59.1	58.3	57.4	56.6	55.7	53.9	52.1	48.2	44.0	34.1	19.7
3000	50.6	49.6	48.9	48.2	47.6	46.9	46.2	45.5	44.0	42.5	39.4	36.0	27.9	16.1
4000	43.8	42.9	42.4	41.8	41.2	40.6	40.0	39.4	38.1	36.8	34.1	31.1	24.1	13.9
5000	39.2	38.4	37.9	37.4	36.8	36.3	35.8	35.2	34.1	33.0	30.5	27.9	21.6	12.5
6000	*****	35.0	34.6	34.1	33.6	33.2	32.7	32.2	31.1	30.1	27.9	25.4	19.7	11.4
7000	*****	32.4	32.0	31.6	31.1	30.7	30.2	29.8	28.8	27.9	25.8	23.5	18.2	10.5
8000	*****	30.4	30.0	29.5	29.1	28.7	28.3	27.9	27.0	26.1	24.1	22.0	17.1	9.8
9000	*****	28.6	28.2	27.9	27.5	27.1	26.7	26.3	25.4	24.6	22.7	20.8	16.1	9.3
10000	*****	27.1	26.8	26.4	26.1	25.7	25.3	24.9	24.1	23.3	21.6	19.7	15.3	8.8
11000	*****	25.9	25.5	25.2	24.8	24.5	24.1	23.8	23.0	22.2	20.6	18.8	14.5	8.4
12000	*****	24.8	24.5	24.1	23.8	23.4	23.1	22.7	22.0	21.3	19.7	18.0	13.9	8.0
13000	*****	23.8	23.5	23.2	22.9	22.5	22.2	21.9	21.2	20.4	18.9	17.3	13.4	7.7
14000	*****	22.9	22.6	22.3	22.0	21.7	21.4	21.1	20.4	19.7	18.2	16.6	12.9	7.4
15000	*****	22.2	21.9	21.6	21.3	21.0	20.7	20.3	19.7	19.0	17.6	16.1	12.5	7.2
16000	*****	21.5	21.2	20.9	20.6	20.3	20.0	19.7	19.1	18.4	17.1	15.6	12.1	7.0
17000	*****	20.8	20.5	20.3	20.0	19.7	19.4	19.1	18.5	17.9	16.5	15.1	11.7	6.8
18000	*****	20.2	20.0	19.7	19.4	19.1	18.9	18.6	18.0	17.4	16.1	14.7	11.4	6.6
19000	*****	19.7	19.4	19.2	18.9	18.6	18.4	18.1	17.5	16.9	15.7	14.3	11.1	6.4
20000	*****	19.2	18.9	18.7	18.4	18.2	17.9	17.6	17.1	16.5	15.3	13.9	10.8	6.2
22000	*****	18.3	18.1	17.8	17.6	17.3	17.1	16.8	16.3	15.7	14.5	13.3	10.3	5.9
24000	*****	17.5	17.3	17.1	16.8	16.6	16.3	16.1	15.6	15.0	13.9	12.7	9.8	5.7
26000	*****	16.6	16.4	16.2	15.9	15.7	15.5	15.0	14.5	14.0	13.4	12.2	9.5	5.5
28000	*****	16.0	15.8	15.6	15.3	15.1	14.9	14.4	13.9	13.4	12.9	11.8	9.1	5.3
30000	*****	15.5	15.3	15.0	14.8	14.6	14.4	13.9	13.5	12.5	11.4	8.8	5.1	5.1
32000	*****	15.0	14.8	14.6	14.4	14.1	13.9	13.5	13.0	12.1	11.0	8.5	4.9	4.9
34000	*****	14.5	14.3	14.1	13.9	13.7	13.5	13.1	12.6	11.7	10.7	8.3	4.8	4.8
36000	*****	14.1	13.9	13.7	13.5	13.3	13.1	12.7	12.3	11.4	10.4	8.0	4.6	4.6
38000	*****	13.7	13.6	13.4	13.2	13.0	12.8	12.4	12.0	11.1	10.1	7.8	4.5	4.5
40000	*****	13.2	13.0	12.8	12.6	12.5	12.1	11.7	11.0	10.8	9.8	7.6	4.4	4.4
42000	*****	12.9	12.7	12.5	12.3	12.2	11.8	11.4	10.5	9.6	7.4	4.3	4.3	4.3
44000	*****	12.6	12.4	12.2	12.1	11.9	11.5	11.1	10.3	9.4	7.3	4.2	4.2	4.2
46000	*****	12.3	12.1	12.0	11.8	11.6	11.2	10.9	10.1	9.2	7.1	4.1	4.1	4.1
48000	*****	12.1	11.9	11.7	11.5	11.4	11.0	10.6	9.8	9.0	7.0	4.0	4.0	4.0
50000	*****	11.8	11.7	11.5	11.3	11.1	10.8	10.4	9.6	8.8	6.8	3.9	3.9	3.9
55000	*****	11.1	10.9	10.8	10.6	10.3	9.9	9.2	8.4	6.5	3.8	3.8	3.8	3.8
60000	*****	10.6	10.5	10.3	10.2	9.8	9.5	8.8	8.0	6.2	3.6	3.6	3.6	3.6
65000	*****	10.1	9.9	9.8	9.5	9.1	8.5	7.7	6.0	3.5	3.5	3.5	3.5	3.5
70000	*****	9.7	9.6	9.4	9.1	8.8	8.2	7.4	5.8	3.3	3.3	3.3	3.3	3.3
75000	*****	9.4	9.2	9.1	8.8	8.5	7.9	7.2	5.6	3.2	3.2	3.2	3.2	3.2
80000	*****	8.9	8.8	8.5	8.2	7.6	7.0	5.4	3.1	3.1	3.1	3.1	3.1	3.1
85000	*****	8.7	8.5	8.3	8.0	7.4	6.8	5.2	3.0	3.0	3.0	3.0	3.0	3.0
90000	*****	8.3	8.0	7.8	7.2	6.6	5.1	2.9	2.9	2.9	2.9	2.9	2.9	2.9
95000	*****	8.1	7.8	7.6	7.0	6.4	4.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
100000	*****	7.9	7.6	7.4	6.8	6.2	4.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
110000	*****	7.3	7.0	6.5	5.9	4.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
120000	*****	7.0	6.7	6.2	5.7	4.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
130000	*****	6.5	6.0	5.5	4.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
140000	*****	6.2	5.8	5.3	4.1	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
150000	*****	6.0	5.6	5.1	3.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
175000	*****	5.2	4.7	3.6	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
200000	*****	4.8	4.4	3.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
225000	*****	4.2	3.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
250000	*****	3.9	3.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
300000	*****	2.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
350000	*****	2.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
400000	*****	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

Post-secondary Education Participation Survey, 2002 – User Guide

POST-SECONDARY EDUCATION PARTICIPATION SURVEY - FEBRUARY 2002

Approximate Sampling Variability Tables - Canada

NUMERATOR OF PERCENTAGE ('000)	ESTIMATED PERCENTAGE													
	1.0%	5.0%	7.5%	10.0%	12.5%	15.0%	17.5%	20.0%	25.0%	30.0%	40.0%	50.0%	70.0%	90.0%
500	161.9	158.6	156.5	154.3	152.2	150.0	147.8	145.5	140.9	136.1	126.0	115.0	89.1	51.4
1000	114.5	112.1	110.6	109.1	107.6	106.1	104.5	102.9	99.6	96.2	89.1	81.3	63.0	36.4
1500	93.5	91.5	90.3	89.1	87.9	86.6	85.3	84.0	81.3	78.6	72.8	66.4	51.4	29.7
2000	80.9	79.3	78.2	77.2	76.1	75.0	73.9	72.8	70.4	68.1	63.0	57.5	44.6	25.7
3000	66.1	64.7	63.9	63.0	62.1	61.2	60.3	59.4	57.5	55.6	51.4	47.0	36.4	21.0
4000	57.2	56.1	55.3	54.6	53.8	53.0	52.2	51.4	49.8	48.1	44.6	40.7	31.5	18.2
5000	51.2	50.1	49.5	48.8	48.1	47.4	46.7	46.0	44.6	43.0	39.8	36.4	28.2	16.3
6000	46.7	45.8	45.2	44.6	43.9	43.3	42.7	42.0	40.7	39.3	36.4	33.2	25.7	14.9
7000	43.3	42.4	41.8	41.2	40.7	40.1	39.5	38.9	37.7	36.4	33.7	30.7	23.8	13.7
8000	40.5	39.6	39.1	38.6	38.0	37.5	36.9	36.4	35.2	34.0	31.5	28.8	22.3	12.9
9000	38.2	37.4	36.9	36.4	35.9	35.4	34.8	34.3	33.2	32.1	29.7	27.1	21.0	12.1
10000	36.2	35.5	35.0	34.5	34.0	33.5	33.0	32.5	31.5	30.4	28.2	25.7	19.9	11.5
11000	34.5	33.8	33.4	32.9	32.4	32.0	31.5	31.0	30.0	29.0	26.9	24.5	19.0	11.0
12000	33.0	32.4	31.9	31.5	31.1	30.6	30.2	29.7	28.8	27.8	25.7	23.5	18.2	10.5
13000	31.7	31.1	30.7	30.3	29.8	29.4	29.0	28.5	27.6	26.7	24.7	22.6	17.5	10.1
14000	30.6	30.0	29.6	29.2	28.8	28.3	27.9	27.5	26.6	25.7	23.8	21.7	16.8	9.7
15000	29.6	28.9	28.6	28.2	27.8	27.4	27.0	26.6	25.7	24.8	23.0	21.0	16.3	9.4
16000	28.6	28.0	27.7	27.3	26.9	26.5	26.1	25.7	24.9	24.1	22.3	20.3	15.8	9.1
17000	27.8	27.2	26.8	26.5	26.1	25.7	25.3	25.0	24.2	23.3	21.6	19.7	15.3	8.8
18000	27.0	26.4	26.1	25.7	25.4	25.0	24.6	24.3	23.5	22.7	21.0	19.2	14.9	8.6
19000	26.3	25.7	25.4	25.0	24.7	24.3	24.0	23.6	22.9	22.1	20.4	18.7	14.5	8.3
20000	25.6	25.1	24.7	24.4	24.1	23.7	23.4	23.0	22.3	21.5	19.9	18.2	14.1	8.1
22000	24.4	23.9	23.6	23.3	22.9	22.6	22.3	21.9	21.2	20.5	19.0	17.3	13.4	7.8
24000	23.4	22.9	22.6	22.3	22.0	21.6	21.3	21.0	20.3	19.6	18.2	16.6	12.9	7.4
26000	22.4	22.0	21.7	21.4	21.1	20.8	20.5	20.2	19.5	18.9	17.5	16.0	12.4	7.1
28000	21.6	21.2	20.9	20.6	20.3	20.0	19.7	19.4	18.8	18.2	16.8	15.4	11.9	6.9
30000	*****	20.5	20.2	19.9	19.6	19.4	19.1	18.8	18.2	17.6	16.3	14.9	11.5	6.6
32000	*****	19.8	19.6	19.3	19.0	18.7	18.5	18.2	17.6	17.0	15.8	14.4	11.1	6.4
34000	*****	19.2	19.0	18.7	18.5	18.2	17.9	17.6	17.1	16.5	15.3	13.9	10.8	6.2
36000	*****	18.7	18.4	18.2	17.9	17.7	17.4	17.1	16.6	16.0	14.9	13.6	10.5	6.1
38000	*****	18.2	17.9	17.7	17.5	17.2	16.9	16.7	16.2	15.6	14.5	13.2	10.2	5.9
40000	*****	17.7	17.5	17.3	17.0	16.8	16.5	16.3	15.8	15.2	14.1	12.9	10.0	5.8
42000	*****	17.3	17.1	16.8	16.6	16.4	16.1	15.9	15.4	14.9	13.7	12.6	9.7	5.6
44000	*****	16.9	16.7	16.5	16.2	16.0	15.8	15.5	15.0	14.5	13.4	12.3	9.5	5.5
46000	*****	16.5	16.3	16.1	15.9	15.6	15.4	15.2	14.7	14.2	13.1	12.0	9.3	5.4
48000	*****	16.2	16.0	15.8	15.5	15.3	15.1	14.9	14.4	13.9	12.9	11.7	9.1	5.3
50000	*****	15.9	15.6	15.4	15.2	15.0	14.8	14.6	14.1	13.6	12.6	11.5	8.9	5.1
55000	*****	15.1	14.9	14.7	14.5	14.3	14.1	13.9	13.4	13.0	12.0	11.0	8.5	4.9
60000	*****	14.5	14.3	14.1	13.9	13.7	13.5	13.3	12.9	12.4	11.5	10.5	8.1	4.7
65000	*****	13.9	13.7	13.5	13.3	13.2	13.0	12.8	12.4	11.9	11.1	10.1	7.8	4.5
70000	*****	13.4	13.2	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.6	9.7	7.5	4.3
75000	*****	12.9	12.8	12.6	12.4	12.2	12.1	11.9	11.5	11.1	10.3	9.4	7.3	4.2
80000	*****	12.5	12.4	12.2	12.0	11.9	11.7	11.5	11.1	10.8	10.0	9.1	7.0	4.1
85000	*****	12.2	12.0	11.8	11.7	11.5	11.3	11.2	10.8	10.4	9.7	8.8	6.8	3.9
90000	*****	11.8	11.7	11.5	11.3	11.2	11.0	10.8	10.5	10.1	9.4	8.6	6.6	3.8
95000	*****	11.5	11.4	11.2	11.0	10.9	10.7	10.6	10.2	9.9	9.1	8.3	6.5	3.7
100000	*****	11.2	11.1	10.9	10.8	10.6	10.4	10.3	10.0	9.6	8.9	8.1	6.3	3.6
110000	*****	10.7	10.5	10.4	10.3	10.1	10.0	9.8	9.5	9.2	8.5	7.8	6.0	3.5
120000	*****	10.2	10.1	10.0	9.8	9.7	9.5	9.4	9.1	8.8	8.1	7.4	5.8	3.3
130000	*****	9.8	9.7	9.6	9.4	9.3	9.2	9.0	8.7	8.4	7.8	7.1	5.5	3.2
140000	*****	9.5	9.4	9.2	9.1	9.0	8.8	8.7	8.4	8.1	7.5	6.9	5.3	3.1
150000	*****	9.0	8.9	8.8	8.7	8.5	8.4	8.1	7.9	7.3	6.6	5.1	3.0	
175000	*****	8.4	8.2	8.1	8.0	7.9	7.8	7.5	7.3	6.7	6.1	4.8	2.7	
200000	*****	7.8	7.7	7.6	7.5	7.4	7.3	7.0	6.8	6.3	5.8	4.5	2.6	
225000	*****	7.3	7.2	7.1	7.0	6.9	6.6	6.4	6.4	5.9	5.4	4.2	2.4	
250000	*****	6.9	6.8	6.7	6.6	6.5	6.3	6.1	5.6	5.1	4.0	2.3		
300000	*****	6.2	6.1	6.0	5.9	5.8	5.6	5.1	4.7	3.6	2.1			
350000	*****	5.8	5.7	5.6	5.5	5.3	5.1	4.8	4.3	3.4	1.9			
400000	*****	5.3	5.2	5.1	5.0	4.8	4.5	4.1	3.2	1.8				
500000	*****	4.7	4.6	4.5	4.3	4.0	3.6	2.8	1.6					
750000	*****	3.5	3.3	3.0	2.3	1.3								
1000000	*****	2.8	2.6	2.0	1.2									
2000000	*****	1.4	0.8											

NOTE: FOR CORRECT USAGE OF THESE TABLES PLEASE REFER TO MICRODATA DOCUMENTATION.

11.0 Weighting

Since the Post-secondary Education Participation Survey (PEPS) used a sub-sample of the Labour Force Survey (LFS) sample, the derivation of weights for the survey records is clearly tied to the weighting procedure used for the LFS. The LFS weighting procedure is briefly described below.

11.1 Weighting Procedures for the Labour Force Survey

In the LFS, the final weight attached to each record is the product of the following factors: the basic weight, the cluster sub-weight, the stabilization weight, the balancing factor for non-response, and the province-age-sex and sub-provincial area ratio adjustment factor. Each is described below.

Basic Weight

In a probability sample, the sample design itself determines weights which must be used to produce unbiased estimates of population. Each record must be weighted by the inverse of the probability of selecting the person to whom the record refers. In the example of a 2% simple random sample, this probability would be 0.02 for each person and the records must be weighted by $1 / 0.02 = 50$. Due to the complex LFS design, dwellings in different regions will have different basic weights. Because all eligible individuals in a dwelling are interviewed (directly or by proxy), this probability is essentially the same as the probability with which the dwelling is selected.

Cluster Sub-weight

The cluster delineation is such that the number of dwellings in the sample increases very slightly with moderate growth in the housing stock. Substantial growth can be tolerated in an isolated cluster before the additional sample represents a field collection problem. However, if growth takes place in more than one cluster in an interviewer assignment, the cumulative effect of all increases may create a workload problem. In clusters where substantial growth has taken place, sub-sampling is used as a means of keeping interviewer assignments manageable. The cluster sub-weight represents the inverse of this sub-sampling ratio in clusters where sub-sampling has occurred.

Stabilization Weight

Sample stabilization is also used to address problems with sample size growth. Cluster sub-sampling addressed isolated growth in relatively small areas whereas sample stabilization accommodates the slow sample growth over time that is the result of a fixed sampling rate along with a general increase in the size of the population. Sample stabilization is the random dropping of dwellings from the sample in order to maintain the sample size at its desired level. The basic weight is adjusted by the ratio of the sample size, based on the fixed sampling rate, to the desired sample size. This adjustment factor is known as the stabilization weight. The adjustment is done within stabilization areas defined as dwellings belonging to the same employment insurance economic region and the same rotation group.

Non-response

For certain types of non-response (i.e. household temporarily absent, refusal), data from a previous month's interview with the household if any, is brought forward and used as the current month's data for the household.

In other cases, non-response is compensated for by proportionally increasing the weights of responding households. The weight of each responding record is increased by the ratio of the number of households that should have been interviewed, divided by the number that were actually interviewed. This adjustment is done separately for non-response areas, which are defined by employment insurance economic region, type of area, and rotation group. It is based

on the assumption that the households that have been interviewed represent the characteristics of those that should have been interviewed within a non-response area.

Labour Force Survey Sub-weight

The product of the previously described weighting factors is called the LFS sub-weight. All members of the same sampled dwelling have the same sub-weight.

Sub-provincial and Province-Age-Sex Adjustments

The sub-weight can be used to derive a valid estimate of any characteristic for which information is collected by the LFS. However, these estimates will be based on a frame that contains some information that may be several years out of date and therefore not representative of the current population. Through the use of more up-to-date auxiliary information about the target population, the sample weights are adjusted to improve both the precision of the estimates and the sample's representation of the current population.

Independent estimates are available monthly for various age and sex groups by province. These are population projections based on the most recent census data, records of births and deaths, and estimates of migration. In the final step, this auxiliary information is used to transform the sub-weight into the final weight. This is done using a calibration method. This method ensures that the final weights it produces sum to the census projections for the auxiliary variables, namely totals for various age-sex groups, economic regions, census metropolitan areas, rotation groups, household and economic family size. Weights are also adjusted so that estimates of the previous month's industry and labour status estimates derived from the present month's sample, sum up to the corresponding estimates from the previous month's sample. This is called composite estimation. The entire adjustment is applied using the generalized regression technique.

This final weight is normally not used in the weighting for a supplement to the LFS. Instead, it is the sub-weight which is used, as explained in the following paragraphs.

11.2 Weighting Procedures for the Post-secondary Education Participation Survey

The principles behind the calculation of the weights for the PEPS are identical to those for the LFS. However, further adjustments are made to the LFS sub-weights in order to derive a final weight for the individual records on the PEPS microdata file.

- 1) Starting with the LFS sub-weight, an adjustment was made to account for the use of a five-sixth sub-sample, instead of the full LFS sample.
- 2) Another adjustment was made to account for a priori household non-response, i.e. households that were in-scope for the PEPS but where no-one was selected.

This sample exclusion occurred in three situations:

- a) households that were non-respondents to the LFS;
- b) households that were discarded from the PEPS sample due to possible sample overlap with the Youth In Transition Survey;
- c) households that had their LFS data collection done in person.

Weighting classes used in this adjustment were based on household size and on the highest education level encountered in the household.

- 3) Another adjustment was made to account for the random selection of one eligible individual

from the selected households (when there was more than one eligible individual).

- 4) Another adjustment was made to account for non-response from individuals selected for the PEPS. The procedure is similar to the LFS non-response weight adjustment, but grouping was based on different variables.

Weighting classes used in this adjustment were based on region (Atlantic, Quebec, Ontario, Prairies, British Columbia), individual education level, student status and gender.

- 5) A final adjustment was done to match the LFS counts by province, age group (17 to 19 and 20 to 24) and gender. This calibration exercise used LFS reference totals corresponding to census projections.
- 6) Finally, weights were rounded to fourth decimal precision.

The resulting weight (FINWT) is the final weight which appears on the PEPS microdata file.

12.0 Questionnaires

12.1 The Labour Force Survey Questionnaire

The Labour Force Survey questionnaire (LFS_QuestE.pdf) is used to collect information on the current and most recent labour market activity of all household members 15 years of age or older. It includes questions on hours of work, job tenure, type of work, reason for hours lost or absent, job search undertaken, availability for work, and school attendance.

12.2 The Post-secondary Education Participation Survey Questionnaire

The Post-secondary Education Participation Survey (PEPS) questionnaire was used in February and March 2002 to collect the information for the supplementary survey. The file PEPS2002_QuestE.pdf contains the English questionnaire.

13.0 Record Layouts with Univariate Frequencies

See PEPS2002_MASTER_MAIN_CdBk.pdf, PEPS2002_MASTER_BR_CdBk.pdf and PEPS2002_MASTER_JR_CdBk.pdf for the record layouts with univariate counts.