

THE 1992 GENERAL SOCIAL SURVEY - CYCLE 7
TIME USE

Public Use Microdata File Documentation
and
User's Guide

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The General Social Survey - Cycle 7

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1. INTRODUCTION

This document is designed to enable interested users to access and manipulate the microdata file for the seventh cycle of the General Social Survey, conducted from January through December, 1992. It contains information on the objectives, methodology and estimation procedures as well as guidelines for releasing estimates based on the survey.

This document gives a description on how to correctly use the microdata files. Appendices D, G and I contain the data dictionaries for the Main File, the Time Use Summary File and the Time Use Episode File, respectively, which is the major part of this documentation package. The survey questionnaires are contained in Appendix B, and the variance tables are in Appendix A.

Excluding Appendix B and the two tables at the end of Appendix Q, this package is available in machine readable form.

2. OBJECTIVES

Increased pressure, over the last five to ten years, to operate more efficient government funded programmes, has led to a related increase in the information needed for policy formulation, programme development and evaluation. Many of these needs could not be filled through existing data sources or vehicles because of the range or periodicity of the information required.

The two primary objectives of the General Social Survey (GSS) aim at closing these gaps. These objectives are: to gather data on social trends in order to monitor temporal changes in the living conditions and well-being of Canadians; and to provide immediate information on specific social policy issues of current or emerging interest. The GSS is a continuing program with a single survey cycle each year.

To meet the stated objectives, the data collected by the GSS are made up of three components: Classification, Core and Focus.

Classification content consists of variables which provide the means of delineating population groups and for use in the analysis of Core and Focus data. Examples of classification variables are age, sex, education, and income.

Core content is designed to obtain information which monitors social trends or measures changes in society related to living conditions or well-being. Cycle 7 was the second cycle to return to previous core content: time use. Most of the core content of Cycle 7 repeated Cycle 2, conducted in 1986.

Focus content is aimed at the second survey objective of GSS. This component obtains information on specific policy issues which are of particular interest to certain federal departments or other user groups. In general, focus content, is not expected to be repeated on a periodic basis. The focus content for Cycle 7 was

participation in sport and cultural activities sponsored by various government departments and cultural organizations and Sport Canada.

3. POPULATION

The target population for the GSS was all persons 15 years of age and older in Canada, excluding:

1. residents of the Yukon and Northwest Territories;
2. full-time residents of institutions.

The survey employed Random Digit Dialling (RDD), a telephone sampling method. Households without telephones were therefore excluded, however, persons living in such households represent less than 2% of the target population. Survey estimates have been adjusted (weighted) to represent persons without telephones.

4. SURVEY DESIGN

Data for Cycle 7 of the GSS was collected monthly from January to December, 1992. The sample was evenly distributed over the 12 months to counterbalance seasonal variation in the information gathered. It was then divided equally among the seven days of the week. The sample was selected using the Elimination of Non-Working Banks technique of Random Digit Dialling (RDD). A description of this method is provided in Section 4.2. Stratification procedures used in the survey design are outlined in Section 4.1, and Section 4.3 discusses sample sizes.

4.1 Stratification

In order to carry out sampling, each of the ten provinces was divided into strata or geographic areas. Generally, for each province one stratum represented the Census Metropolitan Areas (CMAs) of the province and another represented the non-CMA areas. There were two exceptions to this general rule:

- Prince Edward Island has no CMA and so did not have a CMA stratum
- Montreal and Toronto were each separate strata

4.2 Elimination of Non-working Banks RDD Design

The Elimination of Non-Working Banks (ENWB) sampling technique is a method of Random Digit Dialling in which an attempt is made to identify all working banks for an area (i.e., to identify all banks with at least one household). Thus, all telephone numbers within non-working banks are eliminated from the sampling frame.

For each province, lists of telephone numbers in use were purchased from the telephone companies and lists of working banks were extracted. Each bank was assigned to a stratum within its province.

A special situation existed in Ontario and Quebec because some small areas are serviced by independent telephone companies rather than by Bell Canada. The area code prefixes for these areas were identified by matching the Bell file with a file of all area codes and prefixes. Area code prefixes from Ontario and Quebec and not on the Bell file were identified. All banks within these area code prefixes were generated and added to the sampling frame. Use of the Waksberg method was not possible for these areas since it requires that an accurate population estimate be available for the survey area. Such an estimate was not available for the parts of Ontario and Quebec not covered by Bell.

A random sample of telephone numbers was generated in each survey month for each stratum (from the working banks). An attempt was made to generate the entire sample of telephone numbers on the first day of interviewing. Therefore, a prediction of the percentage of numbers dialled that would reach a household had to be made (this is known as the "hit rate"). The hit rate for January, the first survey month, was estimated using information from previous RDD surveys. Hit rates for subsequent months were revised as required based on January's experience.

For Cycle 7 of the GSS, 46.3% of the numbers dialled reached households. An attempt was made to conduct a GSS interview with one randomly selected person from each household.

4.3 Sample Size

The sample consisted of 12,765 households and a GSS Selection Control Form (GSS 7-1) was completed for each. The GSS 7-1 listed all household members and collected the following basic demographic information: age, sex, marital status and relation to the household reference person. A person 15 years of age or older was randomly selected from households which were part of the RDD sample. A GSS 7-2 was then completed for these selected persons.

The GSS 7-2 collected the following types of information: general questions related to time (Section A); the time use diary (Section B); a child care diary for respondent's with children less than 15 years of age living in the household (Section C); information on unpaid help supplied by the respondent to the household, as well as, unpaid help provided by the respondent to persons not living in the household

(Section D); perceptions of time (Section E); educational, cultural and recreational activities of the respondent (Section F); organized sport (Section G); main activity of the respondent (Section H); main activity of the respondent's partner or spouse, if applicable (Section J); background socio-economic questions for classification purposes (Section K); and a final section asking respondents for detailed contact information for follow-up (Section M).

A response was obtained from 9,815 of the selected households, yielding an 77% response rate.

5. COLLECTION

Two questionnaires were used to conduct the interviews: the Selection Control Form (GSS 7-1) and the main questionnaire, the GSS 7-2. Respondents were interviewed in the official language of their choice. The French and English versions of the main questionnaire were identical with the exception of question K13 "What language did you first speak in childhood?". Respondents were not asked if they still understood the language in which they were being interviewed.

Questionnaires and procedures were field tested in July 1991 in Halifax and Montreal. Data collection began the third week of January 1992 and continued through the third week of December 1992. The sample was evenly distributed over the 12 months. All interviewing took place using centralized telephone facilities in five of Statistics Canada's regional offices with calls being made from approximately 9 a.m. until 9:30 p.m., Monday to Saturday inclusive. The five regional offices were: Halifax, Montreal, Sturgeon Falls, Winnipeg and Vancouver. Interviewers were trained by Statistics Canada staff in telephone interviewing techniques, survey concepts and procedures in a two day classroom training session. The majority of interviewers had previous telephone interviewing experience.

It would be too lengthy to include all the survey manuals as part of this documentation package, however, they can be purchased (see Chapter 10). Shown below is a list of the manuals used in the survey:

- GSS 7-3: Procedures Manual
- GSS 7-4: Interviewer's Manual
- GSS 7-6: Interviewer's Exercise Book
- GSS 7-7: Senior Interviewer's Exercise Book.
- GSS 7-8: Interviewer's Training Guide

6. PROCESSING

The following is an overview of the processing steps for Cycle 7 of the GSS.

6.1 Data Capture

Data from the survey questionnaires were entered directly into mini-computers at Statistics Canada's regional offices (ROs) and subsequently transmitted to Head Office in Ottawa. The data capture program allowed for a valid range of codes for each question and automatically followed the flow of the questionnaire.

6.2 Edit and Imputation

All survey records were subjected to an exhaustive computer edit to identify and correct invalid or inconsistent information on the questionnaires. For the second time, a batch edit system was implemented for use in the Regional Offices. The system mainly edited the GSS 7-2 for possible flow errors, values out of range and missing values. Edits on the GSS 7-1 were limited to a few edits for the respondent's age and sex. In the event the interviewer was unable to correctly resolve the detected errors, it was possible for the interviewer to bypass the edit and forward the data to head office for resolution.

Head office edits performed the same checks as the batch edit system as well as more detailed edits. Records with missing or incorrect information were assigned non-response codes or corrected from other information from the respondent's questionnaire. In most cases editing was 'bottom-up', meaning that specific related information following a question with a branching pattern was employed to ensure the branching was correct. For example, question D5 'Do you pay anyone, on a regular basis, to help out with cleaning your house?' was edited in relation to question D6 'How often do you use this service?' Correlation edits were also conducted, for example, question K11 of the Time Use Questionnaire was 'In what year did you first immigrate to Canada?'. This question was edited in relation to the respondent's age as derived from question K12 'What is your date of birth?'. These edits ensured that the information was consistent and complete among questions.

Due to the nature of the survey, imputation was not appropriate for most items and thus 'not stated' codes were usually assigned for missing data. In some cases, the answer was not known but could be obtained deterministically by the questions which followed or from information from other areas of the survey.

Non-response was not permitted for those items required for weighting. Values were imputed in the rare cases where any of the following were missing: age, sex, and number of residential telephone lines. The imputation was based on a detailed examination of the questionnaire and the consideration of any useful data such as age and sex of other household members, and interviewer's comments.

DVTEL (number of residential telephone lines) was derived from questions K4 to K9 of the Time Use Questionnaire (GSS 7-2). When the questionnaire did not contain adequate information to derive DVTEL, it was assigned a value of one (1).

6.3 Coding

Several questions allowing write-in responses had the write-in information coded into either new unique categories, or to a listed category if the write-in information duplicated a listed category. Where possible (e.g., occupation, industry, language, country of birth for the respondent, as well as, the respondent's mother and father, and religion), the coding followed either the standard classification systems as used in the Census of Population. The coding of the daily activities was done in the Regional offices within 24 hours of data collection by the senior interviewers.

6.4 Creation of Combined and Derived Variables

A number of variables on the file have been derived by using items found on the GSS 7-1 and GSS 7-2 questionnaires. Derived variable names generally start with DV and are followed by characters referring to the question number or subject. In some cases, the derived variables are straightforward and involve collapsing of categories. In other cases, several variables have been combined to create a new variable. The data dictionaries provide comments indicating the origin of these variables. The coding of the daily activities was done in the Regional offices by the senior interviewers within 24 hours of data collection.

6.5 Amount of Detail on Microdata File

In order to guard against disclosure, the amount of detail included on this file is less than is available on the master file retained by Statistics Canada. Variables with extreme values have been capped and information for some variables have been aggregated into broader classes (e.g., occupation, religion, industry, country of birth).

The measures taken to cap or group data have been indicated in the data dictionaries.

7. ESTIMATION

When a probability sample is used, as was the case for the GSS, the principle behind estimation is that each person selected in the sample 'represents' (in addition to himself/herself) several other persons not in the sample. For example, in a simple random sample of 2% of the population, each person in the sample represents 50 persons in the population.

Three microdata files were created for the General Social Survey based on information from the Time Use Questionnaire (i.e. the GSS 7-2): the Main File which contains information from 9,815 respondents who answered questions on unpaid help, cultural activities and organized sport, the Time Use Summary File which contains information from 8,996 respondents who answered the time use questions and the Time Use Episode File which contains information describing detailed time use activities for the 8,996 respondents on the Time Use Summary File as well as the activities of those who refused to complete a full diary. The 8,996 respondents who answered time use questions are a subset of the 9,815 respondents who answered the unpaid help, cultural activities and organized sport questions. For a description of the file layouts, contents and correct interpretation of data on the microdata tape, users should refer to Appendices D, E, F, G, H and I.

The weighting factor on the Main File (FWGHT) was placed on each record to indicate the number of persons that the record represents. This weighting factor refers to the number of times a particular record should contribute to a population estimate. For example, the estimate of the number of Canadians 15 years and older who feel trapped in a daily routine (i.e. E2G = 1) is 7,329,963. The value of FWGHT is summed over all records with this characteristic. The weighting process is described in Section 7.1.

Similarly, the Time Use Summary File, has a weighting factor (TIMEWGT) which was placed on each record to indicate the number of persons that the record represents. The Time Use Summary File weighting process is the same as the one for the Main File and is described in Section 7.1.

Records on the Time Use Episode File have the same weight as the Time Use Summary File. This file is structured differently from the Main and the Time Use Summary Files and users should refer to Appendix Q for the correct methods of using this file.

7.1 Weighting

A self-weighting sample design is one for which the weights of each unit in the sample

are the same. The GSS sample for Cycle 7 was selected using the Elimination of Non-Working Banks (ENWB) sampling technique, which has such a design, with each household within a stratum having an equal probability of selection.

This probability is equal to:

Number of telephone numbers
sampled within the stratum

Total number of possible
telephone numbers within the stratum

(The total number of possible telephone numbers for a stratum is equal to the number of working banks for a stratum times 100).

Where possible, each survey month was weighted independently. This was done in an attempt to ensure that each survey month contributes equally to estimates. If monthly sample sizes were not large enough, two or more survey months were combined in certain steps of the weighting.

1) Basic Weight Calculation

Each household (responding and non-responding) in the RDD sample was assigned a weight equal to the inverse of its probability of selection. This weight was calculated independently for each stratum-month group as follows:

Number of possible telephone numbers
in each stratum-month group

Number of sampled telephone numbers
in each stratum-month group

2) Non-Response Adjustment

Weights for responding households were adjusted to represent non-responding households. This was done independently within each stratum-month group. Records were adjusted by the following factor:

Total of the household weights of all
households in each stratum-month group
Factor 1 =

Total of the household weights of responding
households in each stratum-month group

Non-responding households were then dropped.

3) Multiple Telephone Adjustment

Weights for households with more than one residential telephone number (i.e. not used for business purposes only) were adjusted downwards to account for the fact that such households had a higher probability of being selected. The weight for each household was divided by the number of residential telephone numbers that serviced the household.

$$\text{Factor 2} = \frac{1}{\text{Number of non-business telephone numbers}}$$

4) Person Weight Calculation

A person weight was then calculated for each person who responded to the survey, by multiplying the household weight for that person by the number of persons in the household who were eligible to be selected for the survey (i.e. the number of persons 15 years of age or older).

5) Regional Office (RO) - Stratum - Month Adjustment

An adjustment was made to the person weights on records within each stratum per month in order to make population estimates consistent with Census projected population counts. This was done by multiplying the person weight for each record within the stratum by the following ratio:

$$\frac{\text{Projected Census population count}}{\text{for the RO-stratum-month}}$$

Sum of the person weights for
the RO-stratum-month

6) Province - Age - Sex Adjustment

The next weighting step was to ratio adjust the weights of to agree with Census projected province-age group-sex distributions. Census projected population counts were obtained for males and females within the following seven age groups:

15-19,	20-24,	25-34,	35-44,
45-54,	55-64,	65-69	70 +

For each of the resulting classifications the person weights for records within the classification were adjusted by multiplying by the following ratio:

Projected Census population count
for the province-age group-sex

Sum of the person weights of records
for the province-age group-sex

where,

$$\text{Projected population count for province-age group-sex} = \frac{\text{Dec Projected Census population count for province-age group-sex}}{\text{Jan Projected Census population count for province-age group-sex}}$$

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It should be noted that persons living in households without telephone service are included in these projections even though such persons were not sampled.

Also the sample size of some cells did not meet the minimum size requirement. These cells were collapsed with an adjacent age group cell to meet the requirement.

7) Province - Day of the week (Designated Day) Adjustment

Time use information was collected from respondents for a selected day of the week so that each day would have an equal number of respondents. An adjustment was made to the person weights on records within each province and the selected day of the week, ensuring that population estimates would be consistent with Census projected population counts. The projected counts for each province should have had an equal number of respondents. The adjustment was done by multiplying the person weight for each record within the province - day of the week combination by the following ratio:

$$\frac{\text{Projected Census population count for the province-day}}{\text{Sum of the person weights for the province-day}}$$

Sum of the person weights for the province-day

where,

$$\text{Projected population count} = \frac{\text{Dec Projected Census population count for province}}{\text{Jan Projected Census population count for province}}$$

8) Raking Ratio Adjustments

The weights of each respondent were adjusted several times using a raking ratio procedure. This procedure ensured that estimates produced for RO-Stratum-Month, Province-Age Group-Sex and Province-Day of the week totals would agree with the Census projections. This adjustment was made by repeating steps 5), 6) and 7) of the weighting procedures.

7.2 Weighting Policy

Users are cautioned against releasing unweighted tables or performing any analysis based on unweighted survey results. As was discussed in Section 7.1, there were several weight adjustments performed independently to the records of each province. Sampling rates as well as non-response rates varied significantly from province to province.

Contact was made or attempted with 12,765 households during the survey. Of these, 1,577 (12.4%) were non-responding households. The non-responding households included 927 household refusals, 459 households that could not be reached during the entire survey period ("ring-no-answer" households) and 191 cases where a response could not be obtained due to language difficulties or other problems. An interview was attempted with a person randomly selected from the eligible household members of the 11,188 responding households. From these households, 9,815 usable responses were obtained. The difference consists of 509 person-level refusals and 864 cases where the interview could not be completed for some other reason. A response rate of 76.9% was obtained, when it is assumed that all of the households for which there was no response were "in scope" (i.e., had at least one eligible member).

It is known that non-respondents are more likely to be males and more likely to be younger. In the responding sample, 3.7% were males between the ages of 15 and 19, while in the overall population, approximately 4.4% were males between 15 and 19. Therefore, it is clear that the sample counts cannot be considered to be representative of the survey target population unless appropriate weights are applied.

7.3 Types of Estimates

The following sections deal with producing estimates from either the Main File or the Time Use Summary File. For simplicity, only the Main File is referenced, although the techniques can also be applied to the Time Use Summary File.

Two types of 'simple' estimates are possible from the results of the General Social Survey. These are qualitative estimates (estimates of counts or proportions of people possessing certain characteristics) and quantitative estimates involving quantities or averages. More complex estimation and analyses are covered in Section 7.4.

7.3.1 Qualitative Estimates

It should be kept in mind that the target population for the GSS was non-institutionalized persons 15 years of age or over, living in the ten provinces. Qualitative estimates are estimates of the number or proportion of this target population possessing certain characteristics. The number of people (5,522,390) who describe their state of health as excellent (Question K21) is an example of this kind of estimate. These estimates are readily obtained by summing the final weights (FWGHT) of the records possessing the characteristic in question.

7.3.2 Quantitative Estimates

Some variables on the General Social Survey microdata file are quantitative in nature (e.g. age). From these variables, it is possible to obtain such estimates as the average number of weeks worked in the last 12 months (H13) for males 15 years or older living in Ontario, having worked between 1 and 52 weeks during the last 12 months. These estimates are of the following ratio form:

$$\text{Estimate (average)} = \frac{X}{Y}$$

The numerator (X) is a quantitative estimate of the total of the variable of interest (say, H13) for a given sub-population (say, males in Ontario i.e. DVSEX=1 and PROV=5). X would be calculated by multiplying the final weight (FWGHT) by the variable of interest (H13) and summing this product over all records for males.

The denominator (Y) is the qualitative estimate of the number of participants (males in Ontario with H13) within that sub-population. Y would be calculated by summing the final weight (FWGHT) over all male respondents in Ontario with 1 H13 52.

The two estimates X and Y are derived independently and then divided to provide the quantitative estimate. For the example given X (the weighted sum of weeks) equals XXXX and Y (the number of males in the subpopulation) equals YYYY. The average number of weeks is then calculated to be:

XXXX = 128,918,398.16 = 33.4
YYYY 3,861,075.33

7.4 Guidelines for Analysis

As is detailed in Section 4 of this document, the respondents from the GSS do not form a simple random sample of the target population. Instead, the survey had a complex design, with stratification and 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.

The GSS used a stratified design, with significant differences in sampling fractions between strata. Thus, some areas are over-represented in the sample (relative to their populations) while some other areas are relatively under-represented; this means that the unweighted sample is not representative of the target population.

The survey weights must be used when producing estimates or performing analyses in order to account for this over- and under-representation. While many analysis procedures found in statistical packages allow weights to be used, the meaning or definition of the weight in these procedures often differs 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 almost meaningless.

For many analysis techniques (for example linear regression, logistic regression, estimation of rates and proportions, and analysis of variance), a method exists which can make the variances calculated by the standard packages more meaningful. If the weights on the data, or any subset of the data, are rescaled so that the average weight is one (1), then the variances produced by the standard packages will be more reasonable; they still will not take into account the stratification and clustering of the sample's design, but they will take into account the unequal probabilities of selection. This rescaling can be accomplished by dividing each weight by the overall average weight before the analysis is conducted.

For an analysis of all respondents who consider themselves as "workaholics", the following steps are required:

- Select all respondents from the file who considered themselves as a workaholic (E2B = 1);
- Calculate the Average Weight for these records;
- For each of these respondents calculate a "working" weight equal to FWGHT / Average Weight;
- Perform the analysis for these respondents using the "working" weight.

The calculation of truly meaningful 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 sample design into account can be calculated for many statistics by Statistics Canada on a cost recovery basis.

7.5 Methods of Estimation and Interpretation of Estimates

The basic sampling weight assigned to each sampled individual has been adjusted to reflect the age and sex composition of the various provincial populations as projected by the Labour Force Survey, for each month of 1992.

$$\sum_{i=1}^{9,815} \text{FWGHT} = 21,294,313$$

= an estimate of the number of persons 15 years of age and older in the population.

When estimates of the number of persons are desired, while using the Main File, FWGHT is to be used.

Examples & Interpretation:

- (i) In 1992, nearly 48% of female (DVSEX = 2) Canadians 15 years of age and older (5.2 million) stated they felt more rushed (A5 = 1) than compared to five years ago.
- (ii) 51% of Canadians 25 to 44 years of age (DVAGEGR GE 04 and DVAGEGR LE 07) tend to cut back on their sleep, when they need more time for other activities (E2C = 1).
- (iii) 78% of males (DVSEX = 1) aged 15 to 24 (01 DVAGEGR 03) stated that during the past 12 months they regularly participated in sports (G1 = 1) while only 57% of females (DVSEX = 2) in the same age category took part regularly.

8. RELEASE GUIDELINES AND DATA RELIABILITY

It is important for users to become familiar with the contents of this section before publishing or otherwise releasing any estimates derived from the General Social Survey microdata files.

This section of the documentation provides guidelines to be followed by users. With the aid of these guidelines, users of the microdata files should be able to produce figures consistent with those produced by Statistics Canada and in conformance with the established guidelines for rounding and release. The guidelines

can be broken into four broad sections: Minimum Sample Sizes for Estimates; Sampling Variability Policy; Sampling Variability Estimation; and Rounding Policy.

8.1 Minimum Sample Size For Estimates

Users should determine the number of records on the particular microdata file which contribute to the calculation of a given estimate. This number should be 15 or more. When the number of contributors to the weighted estimate is less than this, the weighted estimate should not be released regardless of the value of the Approximate Coefficient of Variation.

8.2 Sampling Variability Guidelines

The estimates derived from this survey are based on a sample of households. Somewhat different figures might have been obtained if a complete census had been taken using the same questionnaire, interviewers, supervisors, processing methods, etc. as those actually used. The difference between the estimates obtained from the sample and the results 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 included 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.

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, no member of the household was able to provide the information, or the respondent refused to participate in the survey. Total non-response was handled by adjusting the weight of households 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, could not recall the requested information.

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.

Although the exact sampling error of the estimate, as defined above, cannot be measured from sample results alone, it is possible to estimate a statistical measure of sampling error, the standard error, from the sample data. Using the standard error, confidence intervals for estimates (ignoring the effects of non-sampling error) may be obtained under the assumption that the estimates are normally distributed about the true population value. 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 virtually with certainty that the differences would be less than three standard errors.

Because of the large variety of estimates that can be produced from a survey, the standard deviation is usually expressed relative to the estimate to which it pertains. The resulting measure, known as the coefficient of variation 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. Before releasing and/or publishing any estimates from the microdata file, users should determine whether the estimate is releasable based on the guidelines shown on the following page.

Type of Estimate	Coefficient of Variation	Policy Statement
1. Unqualified unrestricted	0.0 to 16.5%	Estimates can be considered for general release. No special notation is required.

2. Qualified 16.6 to 33.3% Estimates can be considered for general unrestricted release but should be accompanied by a warning cautioning users of the high sampling variability associated with the estimates.

3. Not for 33.4% or over Estimates should not be released in any form under any Release circumstances. In such statistical tables, such estimates should be excluded.

Note: The sampling variability policy should be applied to rounded estimates.

8.3 Estimates of Variance

Variance estimation is described separately for qualitative and quantitative estimates.

8.3.1 Sampling Variability for Qualitative Estimates

Derivation of sampling variabilities for each of the qualitative estimates which could be generated from the survey would be an extremely costly procedure, and for most users, an unnecessary one. Consequently, approximate measures of sampling variability, in the form of tables, have been developed for use and are included in APPENDIX A ("Approximate Variance Tables"). These tables were produced using the coefficient of variation formula based on a simple random sample. Since estimates for Cycle 7 of the General Social Survey are based on a complex sample design, a factor called the Design Effect has been introduced into the variance formula.

The Design Effect for an estimate is the actual variance for the estimate (taking into account the design that was used) divided by the variance that would result if the estimate had been derived from a simple random sample. The Design Effect used to produce the Approximate Variance Tables has been determined by first calculating Design Effects for a wide range of characteristics and then choosing among these a conservative value which will not give a false impression of high precision. These Design Effects are specified in the table below.

Design Effects

Geographic Area	Design Effect
Canada	1.53
Newfoundland	1.16

Prince Edward Island	1.14
Nova Scotia	1.17
New Brunswick	1.12
Quebec	1.21
Ontario	1.29
Manitoba	1.16
Saskatchewan	1.23
Alberta	1.18
British Columbia	1.21
Atlantic Region	1.23
Prairie Region	1.27

Approximate variance tables are provided for each province, the Atlantic Region, the Prairie Region and Canada. It should be noted that all coefficients of variation in these tables are approximate and, therefore unofficial. Estimates of actual variance for specific variables may be purchased from Statistics Canada. Use of actual variance estimates may allow users to release otherwise unreleasable estimates; i.e. estimates with coefficient of variation in the "Not for Release" range (see the policy regarding the release of the survey estimates on preceding pages).

8.3.2 Sampling Variability For Quantitative Estimates

Approximate variances for quantitative variables cannot be as conveniently summarized. As a general rule, however, the coefficient of variation of a quantitative total will be larger than the coefficient of variation of the corresponding qualitative estimate (e.g., the number of persons contributing to the quantitative estimate). If the corresponding qualitative estimate is not releasable, then the quantitative total will in general not be releasable.

8.4 Rounding

In order that estimates produced from the General Social Survey microdata files correspond to those produced by Statistics Canada, users are urged to adhere to the following guidelines regarding the rounding of such estimates. It may be misleading to release unrounded estimates, as they imply greater

precision than actually exists.

8.4.1 Rounding Guidelines

- 1) Estimates of totals in the main body of a statistical table should be rounded to the nearest thousand using the normal rounding technique (see definition in Section 8.4.2).
- 2) 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 thousand units using normal rounding.
- 3) Averages, proportions, rates and percentages are to be computed from unrounded components and then are to be rounded themselves to one decimal using normal rounding.
- 4) Sums and differences of aggregates and ratios are to be derived from corresponding unrounded components and then rounded to the nearest thousand units or the nearest one decimal using normal rounding.
- 5) In instances where, due to technical or other limitations, a different rounding technique is used resulting in estimates different from Statistics Canada estimates, users are encouraged to note the reason for such differences in the released document.

8.4.2 Normal Rounding

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, the number 8499 rounded to thousands would be 8 and the number 8500 rounded to thousands would be 9.

9. FILE STRUCTURE

In view of the nature of the time use data and the difference in the sample size, the microdata file consists of the three subfiles described below.

The Main File is composed of 341 variables covering general background, cultural participation, unpaid help measurement and organized sport variables. There are 9,815 records.

The Time Use Summary File consists of one record per respondent and summarizes the total time spent on each of 167 activities, the 10 major categories, the 24 subcategories, total time spent at each location and total

time spent with various persons. In addition, it contains a subset of characteristics found on the main file.

This is the most widely used file for time use analysis. There are 8,996 records.

The Time Use Episode File consists of all episodes reported by respondents. Each respondent generated a variable number of records depending on the number of episodes reported. For each episode, there is information on the activity, start and end time, duration, location and an indication of who the respondent was with for that episode. There are 190,327 records.

There is some duplication across the three files, however, this is done to facilitate the use of the files. The variables SEQNUM can be used for linking the files.

Special Notes

1. The variables on the Main File are generally in the following order:
general identification information and weight for each record (variables 1 to 4);
as they appear on the GSS 7-2 questionnaire (variables 5 to 327); for most of these fields, a derived variable was created to assist the user with the data analysis;
derived variables with information obtained on the GSS 7-1 questionnaire (variables 328 to 341).

Due to the large number of variables on the Main File, an index is provided in Appendix C.

2. Variable Acronyms - Numerous variable names directly link the data to the questionnaire. For example, the acronym DVD3, refers the user to question D3 of the questionnaire, the source of the data provided by this particular variable.

3. Not Stated Categories - Generally a code 9 for a one digit field, a code 99 for a 2 digit field, etc.
indicate that the respondent did not answer a question and therefore the answer is not stated. As the following example indicates, two types of "Not Stated" categories may appear.

PLACE	Where were you?/Were you still....
01	Respondent's home
02	Respondent's work place
03	Someone else's home
04	Other place
05	Car (Driver)
06	Car (Passenger)
07	Walking
08	Bus and subway
09	Bicycle
10	Other form of transit
88	Not stated (activity code is 001 or 002)

98	Respondent is in transit, form of transit is not stated
99	Not stated

Code 9, 99, etc. is the "true" not stated category for all variables on the file.

In certain questions, however, a second 'Not Stated' category appears. Although the respondent may not have marked a response, the information was actually partially available. Because of the branching pattern of a particular response, related information which followed, allows imputations of the original question. Other responses within the question were truly not stated. These cases are thus identified separately.

4. The sample and population counts and the mean values for each variable in the data dictionaries are calculated from all respondents not only the ones specified in the coverage component of the description of the variable.

10. ADDITIONAL INFORMATION

Additional information about this survey can be obtained from the individuals listed below. Data from the survey are available through published reports, special request tabulations, and this microdata file. The microdata file is available from the Housing, Family and Social Statistics Division of Statistics Canada at a cost of \$750.00. Tabulations can be obtained at a cost that will reflect the resources required to produce the tabulation.

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