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SLID DERIVED VARIABLES: EDUCATIONAL

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EXECUTIVE SUMMARY

Many variables of interest to data users are those that are not collected directly from respondents, but rather are calculated or derived from collected variables. To inform data users and to solicit their comments on SLID derived variables, each one is documented and defined.

Due to the large number of derived variables, they are split into broad content groups:

- Demographic, cultural and geographic variables
- Household- and family-level variables
- Education variables
- Work experience, jobless spells and other labour variables not related to a particular employer
- Labour variables related to particular employers
- Income and wealth variables

This document describes the educational derived variables. This information is collected in the SLID Preliminary Interview when the respondent first enters the SLID sample. Information on annual educational activity collected in the labour interview allows the updating of these variables annually.

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1. INTRODUCTION

SLID collects responses to many questions as part of its various interviews with survey respondents. In some cases, these responses are useful to data users in their own right. However, other data variables of interest are not collected directly, but are calculated or derived from the collected variables.

The purpose of this document is to list and define those variables considered to be educational in nature. Readers are invited to comment on both the list of variables (what is missing, what is not needed) and the proposed derivations (what adjustments are needed). This document will be updated over time as required, either to reflect changes in SLID data collection or to identify modifications resulting from user feedback.

The variable derivations are intended to be informative rather than detailed specifications. In this way, the user can more easily see the purpose of the variable. Those interested in the detailed specifications can contact the survey staff.

Persons interested in exact question wording are referred to SLID Research Papers 94-10 *1994 Preliminary Interview Questionnaire* and 94-05 *SLID Labour Interview Questionnaire: February 1994*.

Two of the derived variables refer to coding structures of textual fields (major field of study). For this variable, SLID has adopted the coding structure developed for the 1991 Census of Population. This coding structure is documented in SLID Research Paper 95-02 *SLID Coding Structure: Major Field of Study for Postsecondary Graduates*.

2. FORMAT OF VARIABLE DERIVATIONS

Variables are presented in one of two ways: descriptive or tabular. The descriptive presentation defines the variables in a narrative or in a mathematical formula. Tabular presentations are used when the variable is defined according to a table look-up. A simple example of tabular presentation is the following age range variable which codes respondents into the appropriate age group. Respondents aged 14 or under are assigned age group 1, those between the ages of 15 and 69 are assigned age group 2, and those 70 or older are assigned age group 3. For these types of variables, it is felt that the tabular presentation is more easily understood.

Input	Output
Age	Age Group
14 or less	1
15 - 69	2
70 or more	3

All descriptions of derived variables contain the same information:

- Variable description
- Variable name - for reference to output files
- Variable type - fixed, annual, dynamic (see definitions below)
- Rationale - the purpose for including the variable
- Population - those persons for whom the variable is calculated
- Output values - list of possible values with a definition of each one, if necessary
- Input questions or variables - list of inputs, providing either the question wording or reference to another derived variable used as input

- Derivation of the derived variable
- Additional comments, as necessary

3. SPECIAL CODES

Similar to all SLID data variables, derived variables have four special standardized codes. For variables of length 1, the reserved codes are 6, 7, 8, 9. For variables of length 2, these codes are 96, 97, 98, 99; for variables of length 3, they are 996, 997, 998, 999, and so for all variables. The meaning of these codes is:

- 6 Not in SLID sample - This value will be useful for cohabitants who are not surveyed for the entire six year reference period, or for persons who respond for some initial period, but then drop out of the sample.
- 7 Don't Know - This is a possible response to all questions. The interviewers can hit a key to register this response. Some of these "Don't Know" responses will be imputed, but not all.
- 8 Refusal - Similar to "Don't Know", this is an acceptable response which the interviewer can enter.
- 9 Not applicable - This code identifies questions which are not relevant to the respondent, and therefore, no value is recorded.

Due to the fact that there are several "special" codes, numeric codes were needed.

There are no blanks on the file.

4. VARIABLE TYPES

There are three main types of variables.

- *Fixed variables* are collected only once and not updated. Date of birth is an example.
- *Annual variables* relate to a particular year, for example, income from a particular source or number of weeks employed during the year. For annual variables, the data for a full panel will have six observations.
- *Dynamic variables* reflect a state (a labour market spell, a marital status, an occupation) which may change once or many times during a panel, or not at all. Start and end dates are attached to spells, and durations can be easily derived. Spells can begin in one year and carry over into the next.

5. DETAILS ON DERIVED VARIABLES

All information about a person's educational attainment is conceptually cumulative, since a person's attainment can only increase each year, not decrease. However, the attainment status of the individual is retained for each year, so these variables are called "annual". In contrast, the variables relating to any certificates, degrees or diplomas held by the person are "fixed": once a certificate has been reported, no attached information changes.

In theory, information on degrees, diplomas or other certificates apply to all those held by the person. While the preliminary interview asks what types of certificates the person ever received, it does not ask how many of each type. It asks for the detailed information regarding only the most recent non-university postsecondary certificate and the highest university certificate, which are likely to be more important for analysis. Subsequently, each annual labour interview covers detailed information on all such certificates received during the previous year.

Two additional variables are technically derived from other variables but their derivation is so simple that they are not included here. DGUNIV18 indicates whether the person holds any university degree or certificate. NBCERT18 is the number of certificates, degrees or diplomas of the person for which there is any information on the data file, and is derived using a counter during processing. Because of the limitation mentioned above, it includes at most one of each type of postsecondary degree obtained by the person prior to the preliminary interview (eg. non-university diploma/certificate, bachelor's degree, etc.), plus all certificates received after that time. For the master majority of people, this will cover all certificates that they have.

All the education derived variables are applicable to the population 15 years and older.

Variable: Time taken in years to complete postsecondary program (full-time equivalents)

- Variable name: TIMCMP19
- Variable type: Fixed
- Rationale: By converting part-time years completed into an equivalent number of full-time years, an alternative measure is obtained of the time required to complete the program which permits comparisons between people.
- Population: Persons aged 15 years or older
- Output values: Number of years, including two decimal places

- Input questions or variables:
 - How long it took respondent to complete program: EDUPRE-Q7, Q7A (in months), Q7B (in years) of preliminary interview; and EDUC-Q6B, Q6B1, Q6B2, Q6C, Q6C1, Q6C2, Q6CD, Q6D1, Q6D2, Q6E, Q6E1, Q6E2, Q9G, Q9G1, Q9G2 of labour interview.
 - Whether it was full-time, part-time or some of each: EDUPRE-Q8 of preliminary interview and EDUC-Q7B, Q7C, Q7D, Q7E and Q10G of labour interview.

- Derivation of the derived variable: Months are converted to years by dividing by 8, on the basis that a usual postsecondary school year is 8 months. Part-time years are multiplied by .5 and years with a mixture of full-time/part-time are multiplied by .75.

Variable: Major field/subject of study: major group code

- Variable name: FSMAGR19

- Variable type: Fixed

- Rationale: In practice, aggregations of fields of study may be more useful than the detailed categories, due to sample size or the analytical detail required. This derived variable provides the highest aggregation.

- Population: Persons aged 15 years or older

- Output values: 01 to 11 (see table below)

- Input questions or variables:
 - Detailed code variable for each degree obtained: MJFSCD19.
- Derivation of the derived variable: The detailed categories used to derive this variable are listed in SLID Research Paper 95-02, *SLID Coding Structure: Major field of study for postsecondary graduates*, starting on page 10. The major categories and corresponding unit code ranges are shown below (and in Research Paper 95-02, page 5.)

Unit Codes From To	Major Group Code	Major Group Heading
001	046	01	Educational, Recreational And Counselling Services
047	079	02	Fine And Applied Arts
080	124	03	Humanities And Related Fields
125	187	04	Social Sciences And Related Fields
188	220	05	Commerce, Management And Business Administration
221	266	06	Agricultural And Biological Sciences / Technologies
267	301	07	Engineering And Applied Sciences
302	369	08	Engineering And Applied Science Technologies And Trades
370	441	09	Health Professions, Sciences And Technologies
442	480	10	Mathematics And Physical Sciences
482	482	11	No Specialization

Variable: Major field/subject of study: minor group code

- Variable name: FSMIGR19
- Variable type: Fixed
- Rationale: Same as for FSMAGR19. This derived variable provides the second level of aggregation.
- Population: Persons aged 15 years or older

- Output values: 001-110 (see table below)
- Input questions or variables:
 - Detailed code variable for each degree obtained: MJFSCD19.
- Derivation of the derived variable: The detailed categories used to derive this variable are listed in SLID Research Paper 95-02, *SLID Coding Structure: Major field of study for postsecondary graduates*, starting on page 10. The minor categories and corresponding unit code ranges are shown below (and in Research Paper 95-02, starting on page 5). The minor categories codes are obtained in the same way as for FSMAGR19, ie. by numbering the unit code ranges in sequence.

Unit Codes From To	Minor Group Code	Minor Group Description
001	001	001	Education - General
002	004	002	Elementary - Primary Education
005	012	003	Secondary Education (Basic)
013	019	004	Secondary Education (Specialized)
020	026	005	Special Education
027	032	006	Non-teaching Educational Fields
033	039	007	Physical Education, Health And Recreation
040	044	008	Counselling Services And Personal Development
045	046	009	Other Education
047	052	010	Fine Arts
053	057	011	Music
058	061	012	Other Performing Arts
062	064	013	Commercial And Promotional Arts
065	070	014	Graphic And Audio-visual Arts
071	073	015	Creative And Design Arts
074	079	016	Other Applied Arts
080	082	017	Classics, Classical And Dead Languages
083	087	018	History
088	089	019	Library And Records Science

090	093	020	Mass Media Studies
094	098	021	English Language And Literature
099	102	022	French Language And Literature
103	109	023	Other Languages And Literature
110	114	024	Philosophy
115	119	025	Religious Studies
120	124	026	Other Humanities And Related Fields
125	129	027	Anthropology
130	130	028	Archeology
131	137	029	Area Studies (Non-languages Or Literature)
138	143	030	Economics
144	152	031	Geography
153	157	032	Law And Jurisprudence
158	161	033	Man / Environment Studies
162	166	034	Political Science
167	171	035	Psychology
172	177	036	Sociology
178	184	037	Social Work And Social Services
185	185	038	War And Military Studies
186	187	039	Other Social Sciences And Related Fields
188	191	040	Business And Commerce
192	195	041	Financial Management
196	200	042	Industrial Management And Administration
201	205	043	Institutional Management And Administration
206	210	044	Marketing, Merchandising, Retailing And Sales
211	220	045	Secretarial Science - General Fields
221	229	046	Agricultural Science
230	233	047	Agricultural Technology
234	238	048	Animal Science Technologies
239	239	049	Biochemistry
240	244	050	Biology
245	245	051	Biophysics
246	248	052	Botany
249	254	053	Household Science And Related Fields
255	256	054	Veterinary Medicine / Science
257	262	055	Zoology
263	266	056	Other Agricultural And Biological Sciences / Technologies
267	269	057	Architecture And Architectural Engineering
270	270	058	Aeronautical And Aerospace Engineering
271	273	059	Biological And Chemical Engineering
274	274	060	Civil Engineering
275	275	061	Design / Systems Engineering
276	278	062	Electrical / Electronic Engineering

279	279	063	Industrial Engineering
280	282	064	Mechanical Engineering
283	286	065	Mining, Metallurgical And Petroleum Engineering
287	290	066	Resources And Environmental Engineering
291	292	067	Engineering Science
293	293	068	Engineering N.i.e.
294	298	069	Forestry
299	301	070	Landscape Architecture
302	303	071	Architectural Technology
304	307	072	Chemical Technology
308	317	073	Building Technologies
318	321	074	Data Processing And Computer Science Technologies
322	327	075	Electronic And Electrical Technologies
328	332	076	Environmental And Conservation Technologies
333	339	077	General And Civil Engineering Technologies
340	348	078	Industrial Engineering Technologies
349	358	079	Mechanical Engineering Technologies
359	362	080	Primary Industries/resource Processing Technology
363	368	081	Transportation Technologies
369	369	082	Other Engineering/applied Science Technologies N.i.e.
370	374	083	Dentistry
375	375	084	Medicine - General
376	383	085	Medicine - Basic Medical Science
384	389	086	Medical Specializations (Non-surgical)
390	393	087	Paraclinical Sciences
394	398	088	Surgery And Surgical Specializations
399	406	089	Nursing
407	410	090	Nursing Assistance
411	411	091	Optometry
412	413	092	Pharmacy And Pharmaceutical Sciences
414	420	093	Public Health
421	424	094	Rehabilitation Medicine
425	429	095	Medical Laboratory And Diagnostic Technology
430	439	096	Medical Treatment Technologies
440	440	097	Medical Equipment And Prosthetics
441	441	098	Other Health Professions, Sciences And Technologies N.i.e.
442	442	099	Actuarial Science
443	447	100	Applied Mathematics
448	454	101	Chemistry

455	462	102	Geology And Related Fields
463	463	103	Mathematical Statistics
464	464	104	Mathematics
465	465	105	Metallurgy And Materials Science
466	466	106	Meteorology
467	470	107	Oceanography And Marine Sciences
471	478	108	Physics
479	480	109	General Science
482	482	110	No Specialization

Variable: Age at which certificate was received.

- Variable name: AGRCV19
- Variable type: Fixed
- Rationale: In many situations, age is more analytically useful than year
- Population: Persons aged 15 years or older
- Input questions or variables:
 - Person's year of birth: DOB21
 - Year that the certificate was received: YRRCV19
- Derivation of the derived variable: Year the certificate was received minus the person's year of birth

Variable: Years of elementary and high school completed (full-time equivalents)

- Variable name: YRELHI18

- Variable type: Annual

- Rationale: By converting part-time years completed into an equivalent number of full-time years, an alternative measure is obtained of the time spent in elementary and high school which permits comparisons between people.

- Population: Persons aged 15 years or older

- Output values: Number of years, including one decimal place

- Input questions or variables:
 - How many years of elementary and high school the respondent completed: EDUPRE-Q1
 - In what months (of the reference year) the respondent attended a school, college or university: EDUC-Q1, Q2, Q2A
 - Was it full-time, part-time, or some of each: EDUC-Q2B
 - What type of school: EDUC-Q3

- Derivation of the derived variable: In the preliminary interview, years of elementary and high school are reported. Thereafter, if the respondent spent some months in an elementary or secondary school, months are divided by 10 on the basis that a usual school year is 10 months. The number of years is multiplied by .5 if part-time and .75 if both part-time and full-time.

Variable: Number of years of schooling person completed at a community college, technical institute, trade or vocational school, or CEGEP (full-time equivalents).

- Variable name: YRCOLL18
- Variable type: Annual
- Rationale: By converting part-time years completed into an equivalent number of full-time years, an alternative measure is obtained of the time spent which permits comparisons between people.
- Population: Persons aged 15 years or older
- Output values: Number of years, including one decimal place
- Input questions or variables:
 - How many years of schooling respondent completed at a community college, technical institute, trade or vocational school or CEGEP: EDUPRE-Q11 from preliminary interview (=0 if less than one year)
 - In what months (of the reference year) the respondent attended a school, college or university: EDUC-Q2, Q2A
 - Was it full-time, part-time, or some of each: EDUC-Q2B
 - What type of school: EDUC-Q3
- Derivation of the derived variable: In the preliminary interview, years at this type of institute are reported. Thereafter, if the respondent spent some months in such an institute, months are divided by 8 on the basis that a usual school year is 8 months. The number of years is multiplied by .5 if part-time and .75 if both part-time and full-time.

Variable: Number of years of university person has completed (full-time equivalents).

- Variable name: YRUNIV18
- Variable type: Annual
- Rationale: By converting part-time years completed into an equivalent number of full-time years, an alternative measure is obtained of the time required to complete the program which permits comparisons between people.
- Population: Persons aged 15 years or older
- Output values: Number of years, including one decimal place
- Input questions or variables:
 - How many years of schooling respondent completed at a university: EDUPRE-Q13 from preliminary interview
 - In what months (of the reference year) the respondent attended a school, college or university: EDUC-Q2, Q2A
 - Was it full-time, part-time, or some of each: EDUC-Q2B
 - What type of school: EDUC-Q3
- Derivation of the derived variable: In the preliminary interview, years completed at university are reported. Thereafter, if the respondent attended a university for some months, months are divided by 8 on the basis that a usual school year is 8 months. The number of years is multiplied by .5 if part-time and .75 if both part-time and full-time.

Variable: Highest level of education of person.

- Variable name: HLEVED18
- Variable type: Annual
- Rationale: Summary level variable to rank the educational attainment of every person.
- Population: Persons aged 15 years or older
- Output values: 00-15 (See *Derivation of the derived variable*, below)
- Input questions or variables:
 - Years of elementary and high school completed: YRELHI18
 - Whether completed high school: CMPHI18
 - Ever enrolled in university: ENUNIV18; or other postsecondary institution: ENCOLL18
 - Flags on whether respondent has a degree, certificate or diploma from a university (flag for any, and flag for each type):
DGUNIV18, DGBBAC18, DGBAC18, DGABAC18, DGMAS18, DGMED18, DGPHD18; or non-university institution: DGCOLL18.
- Derivation of the derived variable: Going from highest attainment category to lowest, the following attainment levels are checked:
 - University degree (DGUNIV18); if so, which type:
 - 15: Doctorate (PhD) (DGPHD18)
 - 14: Degree in medicine, dentistry, veterinary med. or optometry (DGMED18)
 - 13: Master's (DGMAS18)
 - 12: University certificate above Bachelor's (DGABAC18)

- 11: Bachelor's degree (DGBAC18)
- 10: University certificate below Bachelor's (DGBBAC18)
- 09: Non-university postsecondary certificate (DGCOLL18)
- 08: Some university (no certificate) (ENUNIV18)
- 07: Some non-university postsecondary (no certificate)
- 06: Graduated high school (CMPHI18)
- Years of elementary and secondary school (YRELHI18):
 - 05: 11-13 years of elementary and secondary school
 - 04: 9-10 years
 - 03: 5-8 years
 - 02: 1-4 years
 - 01: Never attended school

Variable: Number of years of schooling completed by person (full-time equivalents)

- Variable name: YRSCHL18
- Variable type: Annual
- Rationale: By converting part-time years completed into an equivalent number of full-time years, an alternative measure is obtained of the time spent in school which permits comparisons between people.
- Population: Persons aged 15 years or older
- Output values: Number of years, including one decimal place
- Input questions or variables:
 - Derived variable on years of elementary and secondary schooling:
YRELHI18
 - Derived variable on years of postsecondary schooling: YRPSEC18

- Derivation of the derived variable: The number of years elementary/secondary and postsecondary schooling are added together.

Variable: Number of years of postsecondary schooling completed (full-time equivalents).

- Variable name: YRPSEC18
- Variable type: Annual
- Rationale: By converting part-time years completed into an equivalent number of full-time years, an alternative measure is obtained of the time spent which permits comparisons between people.
- Population: Persons aged 15 years or older
- Output values: Number of years, including one decimal place
- Input questions or variables:
 - Derived variable on years completed at a college, business, trade or vocational school or CEGEP: YRCOLL18
 - Derived variable on years completed at university: YRUNIV18
- Derivation of the derived variable: Years spent at university and years spent at a non-university postsecondary institution are added together.

Variable: Year in which most recent non-university postsecondary diploma/certificate received

- Variable name: YRRNUN18
- Variable type: Annual
- Rationale: As a simplification in the preliminary interview, detailed questions are only asked about the most recent non-university postsecondary certificate, as it may be most important for analytical purposes.
- Population: Persons aged 15 years or older
- Input questions or variables:
 - In what year respondent received most recent non-university certificate or diploma: EDUPRE-Q9
 - Flag indicating whether a non-university certificate was received (in reference year): RCCOLL20
- Derivation of the derived variable: The value reported in the preliminary interview (year specified or not applicable) holds until the respondent reports receipt of a non-university certificate in a later interview, in which case that year becomes the value. The year of any later certificate replaces the previous value.

Variable: Year in which highest university degree received

- Variable name: YRRUNI18
- Variable type: Annual
- Rationale: As a simplification in the preliminary interview, detailed questions are only asked about the highest university certificate, as it may be most important for analytical purposes.
- Population: Persons aged 15 years or older
- Input questions or variables:
 - In what year respondent received highest university degree or certificate: EDUPRE-Q15
 - Flag indicating whether a university certificate was received (in reference year): RCUNIV20
 - What degrees, certificates or diplomas did respondent receive: EDUC-Q5F and EDUC-Q7G
- Derivation of the derived variable: The value reported in the preliminary interview (year specified or not applicable) holds until the respondent reports receipt of any university degree or certificate in a later interview, in which case the type is compared with that of the current highest university degree, to see if it is of higher rank. If so, the year of that degree becomes the new value of YRRUNI18.

Variable: Age at which most recent non-university postsecondary diploma/certificate received

- Variable name: AGRNUN18
- Variable type: Annual
- Rationale: Age may be more useful than year for some purposes.
- Population: Persons aged 15 years or older
- Input questions or variables:
 - Person's age in reference year: DOB21
 - Derived variable on year in which most recent non-university postsecondary diploma/certificate received: YRRNUN18
- Derivation of the derived variable: Year in which the certificate was received minus the person's year of birth.

Variable: Age at which highest university degree received

- Variable name: AGRUNI18
- Variable type: Annual
- Rationale: Age may be more useful than year for some purposes.
- Population: Persons aged 15 years or older
- Input questions or variables:
 - Person's age in reference year: DOB21
 - Derived variable on year in which highest university degree/certificate received: YRRUNI18
- Derivation of the derived variable: Year in which the certificate was received minus the person's year of birth.