

4-1-1997

The Australian Youth Survey Description Technical Paper No. 7

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Recommended Citation

Australian Council for Educational Research (ACER), "The Australian Youth Survey Description Technical Paper No. 7" (1997). *LSAY Technical Reports*.

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Australian Council for Educational Research



*Longitudinal Surveys of
Australian Youth*

THE AUSTRALIAN YOUTH SURVEY DESCRIPTION

Technical Paper Number 7

LONGITUDINAL SURVEYS OF AUSTRALIAN YOUTH

THE AUSTRALIAN YOUTH SURVEY

DESCRIPTION

The Australian Youth Survey (AYS) is a major longitudinal survey of young Australians set up to provide policy-relevant information on young people's education and training pathways as well as their access to and success in the Australian labour market. The survey follows a nationally representative group of young people aged 16 to 19, with the initial cohort of approximately 5350 young people interviewed for the first time in 1989. Since then the sample has been interviewed annually on a wide range of topics including school experiences, school-to-work transition, labour market experiences, post-school education and training, income, health, housing and job satisfaction. New nationally-representative samples of sixteen year-olds have been added each year to maintain up-to-date information on school completion and post-school education and training.

A major aim of the survey is to help monitor national levels of school completion, entry to higher education, transition from school to work, take-up of training and labour market behaviour. Information on these areas of activity can be produced for a variety of social and demographic groups.

The sample and survey design permits groups of students to be tracked as they leave school and enter further education and the workforce. Information is provided on qualitative issues relating to experiences and activities as they move from one area to another. For example, the types of courses students enter as they move from school to TAFE and the types of work they gain. Data is also collected for measuring activities in quantitative terms, for example, the length of time spent looking for work, numbers of jobs and periods of study. This information is recorded using a weekly calendar to map out periods of activity.

BRIEF HISTORY

The AYS was part of a program of longitudinal studies managed by the Economic and Policy Analysis Division of the Department of Employment, Education and Training (and initially, for a short time, by the Australian Bureau of Labour Market Research). The program commenced in the mid 1980s with the Australian Longitudinal Survey (ALS). The ALS comprised two samples of Australian youth:

- long term unemployed young people aged 15-24 who were registered with the Commonwealth Employment Service (CES sample), and
- a nationally representative sample of 9000 young people aged 16 to 25 (the Youth Sample).

The sample of unemployed young people was surveyed for the first time in 1984 and interviewed again in 1985, 1986 and 1987. The Youth sample was surveyed for the first time in 1985 and re-interviewed in 1986, 1987 and 1988. From 1989 the interviews for the Youth sample were conducted by telephone rather than face-to-face and respondents left the sample after the year in which they turned 25.

One of the main reasons for commencing the Australian Longitudinal Survey was to learn more about the labour market experiences of young people at a time when youth unemployment was two to three times above that for older workers and the number of entry-level jobs for school leavers was falling. With this aim there was a strong focus in the survey on employment, unemployment and labour market outcomes. Consequently, the largest section of questions in the survey related to labour market experience. It included information on such matters as job history, employment status, income, on-the-job training, participation in formal training courses, union membership, unemployment experience, and difficulties experienced in obtaining work.

The Australian Youth Survey grew out of this earlier work. It comprises comparable samples of young people and contains many of the same fields of data. However whereas the longitudinal survey program was begun to closely examine issues relating to long-term unemployment and labour market experience, the AYS has developed into a more general purpose data set for the study of school experiences, school completion, post-school education and training as well as employment and unemployment.

The initial 1989 sample contained 5350 young people aged 16-19. A new group of 16 year olds (about 1300) was added in 1990. Further additions of 16 year olds (approximately 1200 per year) were made from 1991 to 1994. No further samples have been added since 1994. From 1995 the AYS sample has been interviewed by telephone rather than face-to-face.

KEY RESEARCH QUESTIONS

The principal aim of the survey is to examine questions regarding the education and training pathways of young people as they move from school to work, and their experiences in the Australian labour market. The information collected is broad, covering different facets of young people's lives as they attempt to make the transition from school to independent adult life.

In terms of student pathways the survey provides information on such issues as:

- **school completion:** Who fails to complete secondary school? What have been recent trends in school completion for different social and demographic groups? What about differences for males and females? Have the recent gains in school completion represented genuine gains in opportunity?
- **participation in post-compulsory education and training:** Who takes up apprenticeships in Australia? Has this changed in recent years? What proportions of young people receive formal accredited training through their work as well as informal on-the-job training? Who does not participate in training programs? Do girls have equal access? What are the national estimates of required growth needed for different social groups to reach national targets of participation in post-compulsory education and training?

- **transition to higher education:** In Australia who goes on to higher education and who does not? Have participation rates in higher education changed in recent years for different equity groups? What are the links between Year 12 study and access to different university courses?
- **participation in technical and further education:** Who enrolls in TAFE, and have national patterns of enrolment changed in recent years? What impact have recent changes in school retention had on TAFE enrolments? What are the main areas of work entered by young people undertaking TAFE courses? Do young people undertaking TAFE courses fare any better in the labour market to those who seek direct entry?
- **transition from school to work:** What is the initial labour market relevance of completing Year 12? How do early school leavers fare in the labour market compared to school completers? What types of employment do school leavers enter? Which groups of young people are more likely to experience extended periods of unemployment in attempting to gain entry to the workforce?
- **labour force experiences:** What are the labour market experiences of young Australians over the longer term? Which groups of young people find long term secure employment? Which young people tend to experience recurrent unemployment? What are the links between schooling, employment and unemployment? Are there income advantages of participation in post-compulsory education and training? What about the labour market relevance of higher education?

FIELDS OF DATA

1. Identifying equity groups

To compare different groups of young people in terms of education and career paths, data are collected on the backgrounds of respondents as well as their current household details. This information includes the following fields:

- **Family background:** birthplace of parents, place of residence when aged 14, education and occupation of parents when respondent was aged 14, languages spoken at home, number of siblings.
- **Household information:** age, sex, employment status and income of all household members.
- **Personal details:** age, sex, birthplace, race, disability, languages spoken, fluency in English.

2. Measuring school activity and school experience

For respondents who are still in school, details are collected on their secondary schooling as they progress through the senior years. For those who have left school, summary information is collected on school background. The following fields are available for measuring activities and experiences in secondary schooling:

type of school attended, state in which attended school, year level, subjects studied in senior years, plans for length of schooling, level of schooling reached, reasons for

leaving school before Year 12, reasons for completing Year 12, post-school educational aspirations of parents and self, AUSTUDY assistance, participation in work experience, course advice.

3. *Mapping post-school destinations*

Extensive information is collected on the paths and destinations of young people as they move from school to further education, training, and work. This includes information on:

- **Participation in higher education and TAFE:** date of commencement and completion of study, place of study, course of study, length of time in study, part time or full time enrolment, reasons for dropping out, financial assistance received.
- **Transition from school/study to work: length** of time finding a job, periods of unemployment, length of time in first job, type of work, employment status.
- **Workforce participation:** employment status, type of employment, income, job history, periods of employment and unemployment, reasons for leaving or changing jobs, hours of work, working conditions (annual leave, sick leave, superannuation), job satisfaction, use of CES and other government services.
- **Training:** participation in apprenticeships and traineeships, participation in other employer-based training programs, participation in on-the-job training, time spent in training.
- **Social dimensions:** health, housing and finance, marital status and marital history, voting behaviour.

4. *Calendar recording of activity*

A feature of the AYS is the recording of an individual's work and education activities on a calendar. Information on the labour market experiences of respondents over the preceding twelve months is plotted in some detail, providing a weekly record of all jobs held, spells of looking for work and spells of study. This permits the survey to map out in fine detail actual periods that individuals are engaged in different activities, and at what points major changes occur. In conjunction with the qualitative information on activities, it helps document important periods and junctures in the trajectories of young people's lives.

The main types of information that can be derived from the calendars include: time spent in employment, looking for work, and in study over the reference periods, periods of time spent neither in the labour force nor studying.

SAMPLING DETAILS

A. INTRODUCTION

The Australian Youth Survey (AYS) is a longitudinal survey. That is, the respondents are interviewed a number of times (in this case every year) to detect changes over time. A particular feature of the AYS is that each year a new group of young people at the lower age end of the original sample (16 years) is added to the survey. This prevents the sample from only covering an increasingly older population.

The survey commenced in 1989 when 5350 16-19 year olds were selected by area sample methods and then interviewed. These people were reinterviewed in 1990 and a new group of 16 year olds was also interviewed. The 1990 16 year olds had been selected in 1989 as part of the original sample selection when they were 15 years old.

From 1991 to 1994 new groups of 16 year olds were the result of a school based selection process.

B. SAMPLE DESIGN

1. Area sample -1989 Original sample plus 1990 16 Year Olds

Both these samples were selected in 1989 using area sample methods. 700 CDs were chosen with probability proportional to size from a list of ABS Collection Districts (CDs) from non-remote areas. A block or part of each selected CD was then selected and then the dwellings in each selected block were listed. Every second listed dwelling was screened for eligible people (age 15-19 on 1 September 1989) until 10 eligible people had been found for the CD. Those who were aged 16-19 years were then interviewed, while arrangements were made to interview the 15 year olds in 1990.

2. School Based Sample - 1991 and following 16 Year Olds sample

Fifty-seven schools were selected by the ABS. Selection was done within State by Met/ex Met strata with probability proportion to size from a list of schools sorted by School Type (High School, Technical High, Area School, Catholic and Other Private) and Postcode. The design was that each year twenty-five 14 year olds would be selected from each school and given an aptitude test. (In practice the test was often done by a larger group of students and a sub sample of them was selected for the survey while the results of all tested students were given to the school as a return for cooperating with the survey).

Those selected were then to be interviewed as part of the AYS 2 years later. The initial school based sample was made in 1989 to select people for the 1991 16 year old component of the AYS.

C. WEIGHTING

Weighting was done within State of original selection, by age (single year) by sex strata. State of selection was used rather than state of residence to compensate for the lumpiness of the school based sample (eg only 1 Tasmanian school was selected and part of the Victorian sample was used for pilot testing).

The weights were calculated using the following formula

$$\text{Weight (state, age sex)} = \text{Benchmark (state, age, sex)} / \text{Sample Take (state, age, sex)}$$

Since the benchmarks relate to the population at the time of selection, the weights are essentially the inverse of the selection probabilities.

September ABS benchmarks were used. For the 1994 sample they were:

Tables 1 and 2 BENCHMARKS FOR WEIGHTING 1994 AYS

AGE	FEMALES							
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
16	40305	29973	21858	9444	11985	3467	1274	2222
17	40413	30076	22124	9585	11943	3396	1273	2271
18	41028	30833	22180	9731	12045	3402	1299	2282
19	42120	31784	22513	9904	12102	3488	1245	2303
20	43456	33174	23236	10168	12177	3552	1242	2349
21	45148	34338	24156	10709	12510	3729	1301	2537
22	47313	36322	24866	11199	13278	3911	1344	2712
23	48368	38474	25403	11697	13719	3945	1493	2819
	46190	37551	24667	11660	13175	3685	1515	2749

AGE	MALES							
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
16	42101	31995	22953	9921	12844	3586	1377	2359
17	42518	32161	23333	10128	12718	3580	1404	2346
18	42719	32570	23352	10298	12731	3666	1407	2379
19	44151	33387	23500	10563	12615	3660	1393	2478
20	45661	34769	24420	10806	12745	3782	1389	2563
21	47231	35892	25051	11213	13166	3830	1407	2614
22	49377	37476	25542	11661	13880	3898	1461	2736
23	50155	39051	25861	12135	14325	3976	1481	2812
24	47696	38477	24962	11970	13644	3873	1477	2693

A. RAW DATA BASES

These databases contain the answers to all the reading and mathematics questions that the people in the school-based sample did when they were selected. It also contains the scored results (i.e. 1 for correct answer etc) for each question

ALS.PRU.ACER89.SASDATA People selected for1991 16-year-old sample

ALS.PRU.ACER90.SASDATA People selected for1992 16-year-old sample

ALS.PRU.ACER91.SASDATA People selected for1993 16-year-old sample

ALS.PRU.ACER92.SASDATA People selected for1994 16-year-old sample

The ACER89 people were almost all selected in aged 14 in 1989 (September30) and did an aptitude test upon selection.

1993 DATA BASES - DERIVED ITEMS

In order to improve the efficiency of data analysis in the AYS the following additional items were derived for the 1993 data.

SECONDARY SCHOOL SUBJECTS

AYS respondents are asked what subjects they do if they are at school. The structure of the questionnaire is "what is the first subject", "what is the second subject" etc. The respondent chooses the ordering while looking at a list of subjects appropriate for his/her state. The database has the coded responses for up to 9 subjects (16 year olds ND25_1 - ND25_9; 17 year olds NE7_1 - NE7_9). Since there are many subjects and the codes and subjects are state specific, these items are unwieldy to use. Hence new data items were derived which had fewer categories and were common to all states. They are:

ND25_S1 - ND25_S9	16 year olds
NE7_S1 - NE7_S9	17 year olds

The codes used are:

1. ENGLISH (includes journalism and media)
2. PERFORMING / CREATIVE ARTS
3. PERSONAL DEVELOPMENT/HEALTH (includes Domestic Science & Physical ed)
4. FOREIGN LANUAGES
5. HUMANITIES
6. MATHEMATICS
7. PHYSICS
8. CHEMISTRY
9. OTHER SCIENCES

10. BUSINESS STUDIES/COMMERCE/ECONOMICS
11. TECHNOLOGY
12. COMPUTING
13. AGRICULTURE
14. OTHER

The classification was done on the basis of the groupings done for subjects by the State education authorities. Please note that because of differences between the groupings, some subjects are categorised differently from that done in their own state lists. Please see appendix for detailed mapping of State code to Australian code.

Number of subjects in each group

As well as the simplified codes for each subject being done, the number of subjects from each group was calculated. These were stored in the following

D_ENG93	number of English subjects reported
D_ARTS93	number of performing/creative arts subjects reported
D_PDEV93	number of personal development subjects
D_LANG93	number of foreign language subjects
DHUMAN93	number of humanities subjects
DMATHS93	number of mathematics subjects
D_PHYS93	number of physics subjects
D_CHEM93	number of chemistry subjects
D_SCI93	number of science subjects
D_BUS93	number of business/commerce/economics subjects
D_TEC93	number of technology subjects
D_COMP93	number of computing subjects
D_AG93	number of agriculture subjects
DOTHER93	number of "other" subjects

EDUCATIONAL INSTITUTION

Educational institutions where respondents have received qualifications or are currently studying are coded to a unique number for each institution. For analysis purposes these numbers have been recoded to institution type variables. They are:

	where qualification obtained	where currently studying
16 year olds	NE14_1D	NE24_1D
17+ year olds	NE31_1D	NE44_1D

The codes used are:

1. Higher Education
2. TAFE
3. Other Post Secondary Institution
4. Overseas Institution

5. Correspondence
6. Skill Share
7. In-House
8. Overseas High School
97. Non Classifiable
98. Not Stated/Refused
99. Don't Know

CURRENT EDUCATIONAL ACTIVITY

The educational activity of the respondent at the time of interview is recorded in D_EDUC93. It is coded as follows:

0. Still at School
1. Apprentice
2. Traineeship
3. Secondary Subjects at School or TAFE (for someone who had left school)
4. Full Time Post Secondary Study
5. Part Time Post Secondary Study
6. Recreational/hobby course
7. None

CURRENT EMPLOYMENT STATUS

The employment status of the respondent at the time of interview is recorded in D_EMP93. It is coded as follows:

1. Employed Full Time (30 or more hours per week in all jobs)
2. Employed Part Time
3. Unemployed (not employed, looking for work and ready to start work)
4. Not in the Labour Force

CURRENT WORKING HOURS

Usual weekly working hours in main (or only) job at time of interview are recorded in D_HRS93

CURRENT SALARY

Current annual salary from main job at time of interview is recorded in D_CSAL93.

1992/93 INCOME FROM WAGES/SALARY

Wages/salary for 1992/93 financial year are recorded in D_YCAL93. Please note that this information comes from a question that asked in what income range the respondent belonged. D_YCAL93 was calculated by substituting the mid point of the range or, for those belonging to the top range, substituting a "reasonable value" obtained from ABS Income Survey data.

1992/93 INCOME FROM WAGES/SALARY FOR SPOUSE OF RESPONDENT

Wages/salary for 1992/93 financial year for respondent's spouse/partner are recorded in D_SPSE93. It is calculated in the same way as D_YSAL93. INCOME IMPUTATION FOR HIGHEST CATEGORY OF GROUPED INCOME

1992/93 INCOME FROM ALL SOURCES FOR INCOME UNIT

Total income for 1992/93 financial year for the income unit (respondent or respondent plus spouse/partner) is recorded in D_IUNT93. Note that it is missing if the respondent has not provided values for a source of income that he/she received.

APPENDIX

Conversion of Grouped Income Data to Dollar Amounts

For grouped income data the midpoint of each range can be used to calculate dollar value for analyses requiring a continuous variable or when total income from different grouped sources is being calculated. However what is to be done with those who fall in the upper open-ended group?

Salary

For income from main job the upper group starts at 36000. Coincidentally the top decile for earned income from the ABS 1990 income survey starts at 36700. The mean income for the top decile of the ABS survey is 59000, hence for our survey, given the lower starting point and the age of the respondents, 50000 would seem to be a reasonable figure for the average income of the top group

Alternative estimation:

Of 15-24 year olds who earn more than \$35000 per year, 47% earn between 35000 and 40000, 22% earn between 40000 & 45000, 22% earn between 45000 and 50000, 5% between 50000 and 55000, 1% between 55000 and 60000 and 3% above 60000.

so estimated average = $.47 \times 37500 + .22 \times 42500 + .22 \times 47500 + .05 \times 52500 + .01 \times 57500 + .03 \times 80000$ (a guess) = 43000

Given the fact that the lower range starts at 35000 in this estimation and the AYS range starts at 36000 the estimated average should be at least 44000.

As a compromise it would probably be best to take the estimated average to be 46000, which would also take into account the slight upward growth in wages to 92/93.

Business Income

The business income scale top category starts at \$5000. The ABS data shows that of those income units who have more than \$50000 pa business income, 40% earn more than \$75000 pa. Thus for the general population an estimate of 75000 pa would be a conservative estimate of average business income for this group. However since the AYS is a survey of young people 65000 is probably a reasonable estimate. (Note: ABS publication is not broken down by age).

School Subject Codes

The following is the mapping used to convert subject codes in each state to a broad Australian subject classification

VALUE NSW93FMT

1-4	= '1' /*ENGLISH*/
5-9	= '2' /*ARTS */
10-13	= '3' /*HEALTH ETC*/
14-18	= '4' /*LANGUAGE */
19-24	= '5' /*HUMANITIES */
25-28	= '6' /* MATHEMATICS */
29	= '7' /*PHYSICS */
30	= '8' /*CHEMISTRY */
31-33	= '9' /*SCIENCE */
34-38	= '10' /*BUSINESS */
39-42	= '11' /*TECHNOLOGY*/
48-50	= '12' /*COMPUTING*/
43-47	= '13' /*AGRICULTURE */
51	= '14'; /*OTHER */

VALUE VIC93FMT

1,13,21,22	= '1' /*ENGLISH*/
3,9-11,15,23,24,29,30	= '2' /*ARTS */
16,18,25,26	= '3' /*HEALTH ETC*/
32-38	= '4' /*LANGUAGE */
4,6,8,14,17,19,20,27,28,31	= '5' /*HUMANITIES */
39-47	= '6' /* MATHEMATICS */
57	= '7' /*PHYSICS */
50	= '8' /*CHEMISTRY */
49,51,52,58,59	= '9' /*SCIENCE */
2,5,7,12	= '10' /*BUSINESS */
56,61-62	= '11' /*TECHNOLOGY*/
53-55,60	= '12' /*COMPUTING*/
48	= '13' /*AGRICULTURE */
63	= '14'; /*OTHER */

VALUE QLD93FMT

1-6	= '1'/*ENGLISH*/
7-12	= '2' /*ARTS */
13-17	= '3' /*HEALTH ETC*/
18-22	= '4' /*LANGUAGE */
23-27	= '5' /*HUMANITIES */
28-31	= '6' /* MATHEMATICS */
32	= '7' /*PHYSICS */
33	= '8' /*CHEMISTRY */
34-36	= '9' /*SCIENCE */
37-41	= '10' /*BUSINESS */
42-46	= '11' /*TECHNOLOGY*/
51-54	= '12' /*COMPUTING*/
47-50	= '13' /*AGRICULTURE */
55	= '14'; /*OTHER */

VALUE SA93FMT

1-4	= '1'/*ENGLISH*/
5-10	= '2' /*ARTS */
11-16	= '3' /*HEALTH ETC*/
17-21	= '4' /*LANGUAGE */
22-27	= '5' /*HUMANITIES */
28-33	= '6' /* MATHEMATICS */
34	= '7' /*PHYSICS */
35	= '8' /*CHEMISTRY */
36-38	= '9' /*SCIENCE */
39-44	= '10' /*BUSINESS */
45-49	= '11' /*TECHNOLOGY*/
54-56	= '12' /*COMPUTING*/
50-53	= '13' /*AGRICULTURE */
57	= '14'; /*OTHER */

VALUE WA93FMT

1-6	= '1'/*ENGLISH*/
7-12	= '2' /*ARTS */
13-16	= '3' /*HEALTH ETC*/
17-21	= '4' /*LANGUAGE */
22-24,26	= '5' /*HUMANITIES */
27-31	= '6' /* MATHEMATICS */
32	= '7' /*PHYSICS */
33	= '8' /*CHEMISTRY */
34-37	= '9' /*SCIENCE */
38-42,25	= '10' /*BUSINESS */
43-48	= '11' /*TECHNOLOGY*/
54-56	= '12' /*COMPUTING*/
49-53	= '13' /*AGRICULTURE */
57	= '14'; /*OTHER */

VALUE TAS93FMT

1-5	= '1'/*ENGLISH*/
6-11	= '2' /*ARTS */
12-16	= '3' /*HEALTH ETC*/
17-21	= '4' /*LANGUAGE */
22-27	= '5' /*HUMANITIES */
28-31	= '6' /* MATHEMATICS */
32	= '7' /*PHYSICS */
33	= '8' /*CHEMISTRY */
34-36	= '9' /*SCIENCE */
37-41	= '10' /*BUSINESS */
42-47	= '11' /*TECHNOLOGY*/
51-54	= '12' /*COMPUTING*/
48-50	= '13' /*AGRICULTURE */
55	= '14'; /*OTHER */

VALUE ACT93FMT

1-3,5	= '1'/*ENGLISH*/
4,6-10	= '2' /*ARTS */
11-13,45	= '3' /*HEALTH ETC*/
14-18	= '4' /*LANGUAGE */
19-24,38,44,47-48	= '5' /*HUMANITIES */
25-27,29	= '6' /* MATHEMATICS
30	= '7' /*PHYSICS */
31	= '8' /*CHEMISTRY */
32-35,46	= '9' /*SCIENCE */
36,37,40-43	= '10' /*BUSINESS */
49-52	= '11' /*TECHNOLOGY*/
28	= '12' /*COMPUTING*/
53	= '14'; /*OTHER */

VALUE NT93FMT

1-4	= '1'/*ENGLISH*/
5-10	= '2' /*ARTS */
11-14,49-52	= '3' /*HEALTH ETC*/
15-19	= '4' /*LANGUAGE */
20-25	= '5' /*HUMANITIES */
26-31	= '6' /* MATHEMATICS */
33	= '7' /*PHYSICS */
34	= '8' /*CHEMISTRY */
35-37	= '9' /*SCIENCE */
38-43	= '10' /*BUSINESS */
44-48	= '11' /*TECHNOLOGY*/
53-55	= '12' /*COMPUTING*/
32	= '13' /*AGRICULTURE */
56	= '14'; /*OTHER */