**

SUPPORT DOCUMENT

Which paths work for which young people?: support document

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This document was produced by the authors based on their research for the report *Which paths work for which young people?* and is an added resource for further information. The report is available on the LSAY website: <[http://](http://www.ncver.edu.au/pubs.htm)www.lsay.edu.au>

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# Derived variables

## Description

This section presents the SAS code used to generate the derived fields, in particular, the pathways of interest, and some of the outcomes interest used in the paper.

The SAS format program:

**proc** **format**;

 value pathf /\*First transitions from school\*/

 **1** = 'Early school leaver, no post-school study'

 **2** = 'Early school leaver, Apprenticeship'

 **3** = 'Early school leaver, Traineeship'

 **4** = 'Early school leaver, Other VET'

 **5** = 'Early school leaver, University study'

 **6** = 'Completed year 12, no post-school study'

 **7** = 'Completed year 12, Apprenticeship'

 **8** = 'Completed year 12, Traineeship'

 **9** = 'Completed year 12, Other VET'

 **10** = 'Completed year 12, University study '

 **11** = 'Still at school'

 **99** = 'Other';

 value path\_re /\*First transitions from school- revised\*/

 **1** = 'Early school leaver, no post-school study'

 **2** = 'Early school leaver, Apprenticeship'

 **3** = 'Early school leaver, Traineeship'

 **4** = 'Early school leaver, Other VET'

 **6** = 'Completed year 12, no post-school study'

 **7** = 'Completed year 12, Apprenticeship'

 **8** = 'Completed year 12, Traineeship'

 **9** = 'Completed year 12, Other VET'

 **5**,**10** = 'Completed year 12, University study '

 **11** = 'Still at school'

 **99** = 'Other';

 value path\_m /\*Male pathways - revised\*/

 **1** = 'Early school leaver, no post-school study'

 **2** = 'Early school leaver, Apprentice'

 **3** = 'Early school leaver, Trainee/other VET'

 **4** = 'Completed year 12, no post-school study'

 **5** = 'Completed year 12, Apprentice'

 **6** = 'Completed year 12, Trainee'

 **7** = 'Completed year 12, Other VET'

 **8** = 'Completed year 12, University study '

 **9** = 'Still at school'

 **99** = 'Other';

 value path\_f /\*education paths - Females, A/T combined\*/

 **1** = 'Early school leaver, no post-school study'

 **2** = 'Early school leaver, further study'

 **3** = 'Completed year 12, no post-school study'

 **4** = 'Completed year 12, Apprentice/Trainee'

 **5** = 'Completed year 12, Other VET'

 **6** = 'Completed year 12, University study '

 **7** = 'Still at school'

 **99** = 'Other';

\*reformat explanatory variables to be used in the model;

 value unicom /\*University commencement\*/

 **1** = 'Commenced university'

 **0** = 'Did not commence university';

 value STATE /\* State of school attended In 1995 \*/

 **1** = 'ACT'

 **2** = 'NSW'

 **3** = 'VIC'

 **4** = 'QLD'

 **5** = 'SA'

 **6** = 'WA'

 **7** = 'Tas'

 **8** = 'NT' ;

 value SCHTYP /\* School Type In 1995 \*/

 **1** = 'Government'

 **2** = 'Catholic'

 **3** = 'Independent' ;

 value SIZE /\* Size of place of residence \*/

 **10** = 'Metro area'

 **20** = 'Regional area'

 **30** = 'Rural and Remote' ;

 value SEX /\* Sex \*/

 **1** = 'Male'

 **2** = 'Female' ;

 value INDIG /\* Aboriginal or Torres Strait Islander \*/

 **1** = 'ATSI'

 **2** = 'non-ATSI' ;

 value COB\_S3F /\* Respondent's Country of Birth: 3 Categories \*/

 **1** = 'Born in Australia'

 **2** = 'Born overseas Eng Speaking country'

 **3** = 'Born overseas Non-Eng Speaking country' ;

 value LANG\_2F /\* Home Language: 2 Categories \*/

 **1** = 'English'

 **2** = 'Other than English' ;

 value EDUCP /\* Parent's Education: 5 Categories \*/

 **1** = 'Didn''t complete Secondary school'

 **2** = 'Completed Secondary school'

 **3** = 'Trade/Technical Qualification'

 **4** = 'Higher Education Qualification';

value sesf /\*SES - Parental occupation based on ANU3\*/

 **1** = 'High SES'

 **2** = 'Mid-high SES'

 **3** = 'Low-mid SES'

 **4** = 'Low SES';

 value paoccf /\*Parental occupation type\*/

 **1** = 'Manager or administrator'

 **2** = 'Professionals'

 **3** = 'Para-professionals'

 **4** = 'Tradesperson'

 **5** = 'Clerks'

 **6** = 'Salespersons & personal service workers'

 **7** = 'Plant & machine operators & drivers'

 **8** = 'Labourers & related workers';

 value fin /\*Managing financially\*/

 **1** = 'Fairly/Very easy'

 **0** = 'Not Fairly/Very easy';

 value fulltime /\*full-time emp\*/

 **1** = 'Working full-time in main job'

 **0** = 'Not working full-time in main job';

 value fte /\*full-time engagement\*/

 **1** = 'Full-time engagement'

 **0** = 'Not in full-time engagement';

 value child /\*having children\*/

 **0** = '0 Children'

 **1** = '1 or more Children';

**run**;

### Deriving the education pathways

/\*Education pathways (as their first transition from school)\*/

**data** libname.dataset;

 set libname.dataset;

\*Still at school;

 if XCSL1995 in (**1**,**2**,**3**,**4**,**5**) then path1995 = **11**;

\*Early school leaver, no post-school study;

else if XHSL1995 ne **1** and XCSL1995 = **6** and XVET1995 = **4** and XBACH1995 = **4** then path1995 = **1**;

\*Early school leaver, Apprenticeship;

else if XHSL1995 ne **1** and XCSL1995 = **6** and xatrain1995 in
(**1**,**2**,**3**) and xocc1995 = **4** and XBACH1995 = **4** then path1995 = **2**;

\*Early school leaver, Traineeship;

else if XHSL1995 ne **1** and XCSL1995 = **6** and xatrain1995 in
(**1**,**2**,**3**) and xocc1995 ^= **4** and XBACH1995 = **4** then path1995 = **3**;

\*Early school leaver, other VET (excluding A/T);

else if XHSL1995 ne **1** and XCSL1995 = **6** and xatrain1995 = **4** and XVET1995 in (**1**,**2**,**3**) and XBACH1995 = **4** then path1995 = **4**;

\*Early school leaver, University study (may include VET);

else if XHSL1995 ne **1** and XCSL1995 = **6** and XBACH1995 in
(**1**,**2**,**3**,**5**) then path1995 = **5**;

\*Completed year 12, no post-school study;

else if XHSL1995 = **1** and XCSL1995 = **6** and XVET1995 = **4** and XBACH1995 = **4** then path1995 = **6**;

\*Completed year 12, Apprenticeship;

else if XHSL1995 = **1** and XCSL1995 = **6** and xatrain1995 in (**1**,**2**,**3**) and xocc1995 = **4** and XBACH1995 = **4** then path1995 = **7**;

\*Completed year 12, Traineeship;

else if XHSL1995 = **1** and XCSL1995 = **6** and xatrain1995 in (**1**,**2**,**3**) and xocc1995 ^= **4** and XBACH1995 = **4** then path1995 = **8**;

\*Completed year 12, other VET (excluding A/T);

else if XHSL1995 = **1** and XCSL1995 = **6** and xatrain1995 = **4** and XVET1995 in (**1**,**2**,**3**) and XBACH1995 = **4** then path1995 = **9**;

\*Completed year 12, University study (may include VET studies);

else if XHSL1995 = **1** and XCSL1995 = **6** and XBACH1995 in (**1**,**2**,**3**,**5**) then path1995 = **10**;

 else path1995 = **99**;

**run**;

Once the pathways for 1995 have been determined, a macro is created to create them for the rest of the LSAY waves/years. The macro variables include the relevant derived variables and a variable for what you want to call the path, and the variable name of the previous path (ppath). The macro appears below.

**%macro** path(yr,hsl,vet,atrain,occ,bach,csl,path,ppath,title);

**data** libname.dataset;

set libname.dataset

\*if already been assigned a pathway then remain in that pathway;

if &yr = **1** and &ppath in (**1**,**2**,**3**,**4**,**5**,**6**,**7**,**8**,**9**,**10**) then &path = &ppath;

\*Early school leaver, no post-school study;

else if &yr = **1** and &hsl ne **1** and &csl = **6** and &vet = **4** and &bach = **4**

 then &path = **1**;

\*Early school leaver, Apprenticeship;

else if &yr = **1** and &hsl ne **1** and &csl = **6** and &atrain in (**1**,**2**,**3**) and &occ = **4** and &bach = **4** then &path = **2**;

\*Early school leaver, Traineeship;

else if &yr = **1** and &hsl ne **1** and &csl = **6** and &atrain in (**1**,**2**,**3**) and &occ ^= **4** and &bach = **4** then &path = **3**;

\*Early school leaver, other VET (excluding A/T);

else if &yr = **1** and &hsl ne **1** and &csl = **6** and &atrain = **4** and &vet in (**1**,**2**,**3**) and &bach = **4** then &path = **4**;

\*Early school leaver, University study;

else if &yr = **1** and &hsl ne **1** and &csl = **6** and &bach in (**1**,**2**,**3**,**5**) then &path = **5**;

\*Completed year 12, no post-school study;

else if &yr = **1** and &hsl = **1** and &csl = **6** and &vet = **4** and &bach = **4** then &path = **6**;

\*Completed year 12, Apprenticeship;

else if &yr = **1** and &hsl = **1** and &csl = **6** and &atrain in (**1**,**2**,**3**) and &occ = **4** and &bach = **4** then &path = **7**;

\*Completed year 12, Traineeship;

else if &yr = **1** and &hsl = **1** and &csl = **6** and &atrain in (**1**,**2**,**3**) and &occ ^= **4** and &bach = **4** then &path = **8**;

\*Completed year 12, other VET;

else if &yr = **1** and &hsl = **1** and &csl = **6** and &atrain = **4** and &vet in (**1**,**2**,**3**) and &bach = **4** then &path = **9**;

\*Completed year 12, University study;

else if &yr = **1** and &hsl = **1** and &csl = **6** and &bach in (**1**,**2**,**3**,**5**) then &path = **10**;

\*Still at school;

else if &yr = **1** and &hsl ne **1** and &csl in (**1**,**2**,**3**,**4**,**5**) then
&path = **11**;

else if &yr = **0** or missing(&yr) then &path = **.**;

else &path = &ppath;

run;

**%mend**;

Once these pathways have been created for each year, they are then recoded into a reduced set of pathways. This is due to small sample sizes for some of the pathways.

/\*Recode ESL and university to Completed year12 and university \*/

/\*Combine groups 3 and 4 for males\*/

**data** pathways.y95\_nogap\_m;

 set pathways.y95\_nogap\_m;

 if in2006 = **1** and path2006 = **1** then path2006\_re = **1**;

 else if in2006 = **1** and path2006 = **2** then path2006\_re = **2**;

 else if in2006 = **1** and path2006 in (**3**,**4**) then path2006\_re = **3**;

 else if in2006 = **1** and path2006 = **6** then path2006\_re = **4**;

 else if in2006 = **1** and path2006 = **7** then path2006\_re = **5**;

 else if in2006 = **1** and path2006 = **8** then path2006\_re = **6**;

 else if in2006 = **1** and path2006 = **9** then path2006\_re = **7**;

 else if in2006 = **1** and path2006 in (**5**,**10**) then path2006\_re = **8**;

 else path2006\_re = path2006;

**run**;

/\*Combine groups 2,3 and 4, and groups 7 and 8 for females\*/

**data** pathways.y95\_nogap\_f;

 set pathways.y95\_nogap\_f;

 if in2006 = **1** and path2006 = **1** then path2006\_re = **1**;

 else if in2006 = **1** and path2006 in (**2**,**3**,**4**) then path2006\_re =**2**;

 else if in2006 = **1** and path2006 = **6** then path2006\_re = **3**;

 else if in2006 = **1** and path2006 in (**7**,**8**) then path2006\_re = **4**;

 else if in2006 = **1** and path2006 = **9** then path2006\_re = **5**;

 else if in2006 = **1** and path2006 in (**5**,**10**) then path2006\_re = **6**;

 else path2006\_re = path2006;

**run**;

# Satisfaction variables

Two key outcomes measured in the paper include how happy respondents are with their life and work. A factor analysis was undertaken of the satisfaction variables measured in LSAY. This factor analysis identified two underlying factors. The first factor identified correlated with the satisfaction with life variables, whilst the second identified factor correlated with satisfaction with work. The results of the factor analysis appear here.

## Satisfaction with work and life

### Males

Table : Satisfaction with work and life: Eigenvalues and proportion variation explained - males

|  |
| --- |
| Eigenvalues of the Correlation Matrix: Total = 10 Average = 1 |
|  | Eigenvalue | Difference | Proportion | Cumulative |
| 1 | 4.45350405 | 3.46571731 | 0.4454 | 0.4454 |
| 2 | 0.98778674 | 0.19252659 | 0.0988 | 0.5441 |
| 3 | 0.79526015 | 0.09832011 | 0.0795 | 0.6237 |
| 4 | 0.69694004 | 0.08119712 | 0.0697 | 0.6933 |
| 5 | 0.61574292 | 0.04842453 | 0.0616 | 0.7549 |
| 6 | 0.56731839 | 0.04027394 | 0.0567 | 0.8117 |
| 7 | 0.52704445 | 0.04975276 | 0.0527 | 0.8644 |
| 8 | 0.47729169 | 0.02605690 | 0.0477 | 0.9121 |
| 9 | 0.45123479 | 0.02335802 | 0.0451 | 0.9572 |
| 10 | 0.42787677 |  | 0.0428 | 1.0000 |

Figure : Scree plot: Satisfaction with work and life eigenvalues - males

Table : Satisfaction with work and life: rotated factor pattern - males

|  |
| --- |
| Rotated Factor Pattern |
|  | Factor1  |  | Factor2  |  |
| LJ002B | J2(b) Happy: What you do in your spare time | 75 | \* | 13 |  |
| LJ002E | J2(e) Happy: Your social life | 75 | \* | 17 |  |
| LJ002I | J2(i) Happy: Your life at home | 73 | \* | 23 |  |
| LJ002C | J2(c) Happy: How you get on with people in general | 65 | \* | 24 |  |
| LJ002M | J2(m) Happy: Where you live | 64 | \* | 25 |  |
| LJ002J | J2(j) Happy: Your standard of living | 62 | \* | 37 |  |
| LJ002F | J2(f) Happy: Your independence - being able to do what you want | 59 | \* | 29 |  |
| LJ002A | J2(a) Happy: The work you do, at study, at home or in a job | 23 |  | 77 | \* |
| LJ002G | J2(g) Happy: Your career prospects | 24 |  | 76 | \* |
| LJ002D | J2(d) Happy:The money you get each week | 21 |  | 68 | \* |
| Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.4 are flagged by an '\*'. |

### Females

Table : Satisfaction with work and life: Eigenvalues and proportion variation explained - females

|  |
| --- |
| Eigenvalues of the Correlation Matrix: Total = 11 Average = 1 |
|  | Eigenvalue | Difference | Proportion | Cumulative |
| 1 | 4.78232414 | 3.73679363 | 0.4348 | 0.4348 |
| 2 | 1.04553050 | 0.16097474 | 0.0950 | 0.5298 |
| 3 | 0.88455577 | 0.11627753 | 0.0804 | 0.6102 |
| 4 | 0.76827824 | 0.12436809 | 0.0698 | 0.6801 |
| 5 | 0.64391015 | 0.08840360 | 0.0585 | 0.7386 |
| 6 | 0.55550655 | 0.02867713 | 0.0505 | 0.7891 |
| 7 | 0.52682942 | 0.03223807 | 0.0479 | 0.8370 |
| 8 | 0.49459135 | 0.01844703 | 0.0450 | 0.8820 |
| 9 | 0.47614432 | 0.05058690 | 0.0433 | 0.9252 |
| 10 | 0.42555743 | 0.02878531 | 0.0387 | 0.9639 |
| 11 | 0.39677212 |  | 0.0361 | 1.0000 |

Figure : Scree plot: Satisfaction with work and life eigenvalues - females

Table : Satisfaction with work and life: rotated factor pattern - females

|  |
| --- |
| Rotated Factor Pattern |
|  | Factor1  |  | Factor2  |  |
| LJ002I | J2(i) Happy: Your life at home | 74 | \* | 14 |  |
| LJ002N | J2(n) Happy: Your life as a whole | 72 | \* | 30 |  |
| LJ002E | J2(e) Happy: Your social life | 71 | \* | 17 |  |
| LJ002B | J2(b) Happy: What you do in your spare time | 69 | \* | 19 |  |
| LJ002F | J2(f) Happy: Your independence - being able to do what you want | 66 | \* | 23 |  |
| LJ002C | J2(c) Happy: How you get on with people in general | 63 | \* | 24 |  |
| LJ002M | J2(m) Happy: Where you live | 62 | \* | 15 |  |
| LJ002J | J2(j) Happy: Your standard of living | 60 | \* | 35 |  |
| LJ002G | J2(g) Happy: Your career prospects | 25 |  | 77 | \* |
| LJ002A | J2(a) Happy: The work you do, at study, at home or in a job | 24 |  | 76 | \* |
| LJ002D | J2(d) Happy: The money you get each week | 16 |  | 67 | \* |
| Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.4 are flagged by an '\*'. |