SUPPORT DOCUMENT

Which paths work for which young people?: support document

TOM KARMEL

SHU-HUI LIU

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://www.lsay.edu.au>

Contents

Tables and figures

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 1: 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 1: Scree plot: Satisfaction with work and life eigenvalues - males
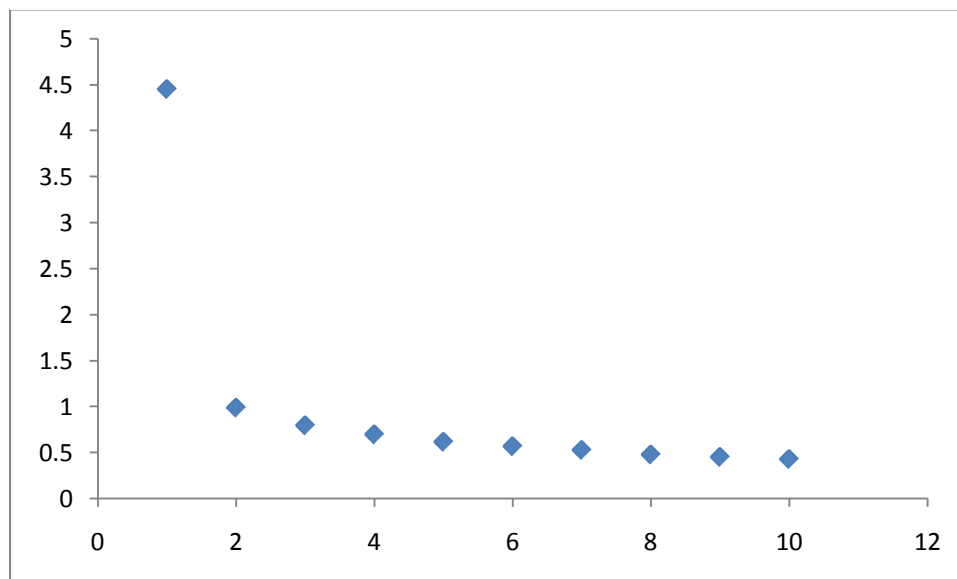
Table 2: Satisfaction with work and life: rotated factor pattern - males

		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 3: 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

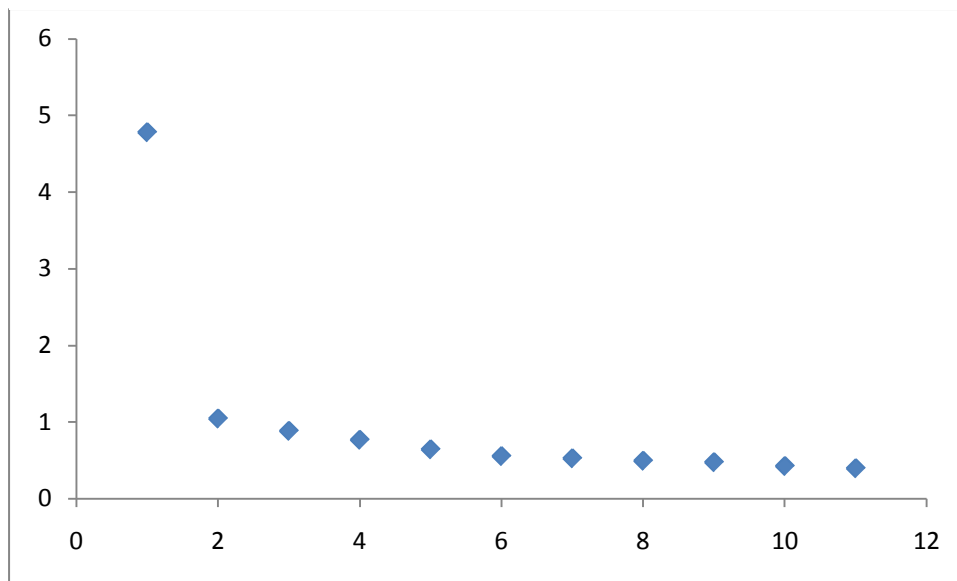**Figure 2: Scree plot: Satisfaction with work and life eigenvalues - females**

Table 4: 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 '*'.