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Longitudinal Surveys of Australian Youth

Research Report 43

Life Satisfaction of Young Australians: Relationships between Further Education, Training and Employment and General and Career Satisfaction

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Julie McMillan

September 2005

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The views expressed in this report are those of the authors and not necessarily of the
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Contents

Tables	iv
Figures	iv
EXECUTIVE SUMMARY	v
1. INTRODUCTION	1
The concept of ‘well-being’	1
Relationships between education and labour market activity and emotional well-being.....	1
The changing nature of the transition from school	2
The current report	3
2. DATA, MEASURES AND METHODS	4
The sample	4
Emotional well-being and life satisfaction	4
Education and labour market activities	4
Methodology.....	6
3. RELATIONSHIPS BETWEEN LIFE SATISFACTION AND POST-SCHOOL ACTIVITIES	7
Prior satisfaction.....	9
Summary	11
4. MODELLING THE INFLUENCE OF ACTIVITY PATHWAYS ON LIFE SATISFACTION.....	12
Modelling post-school activity change and life satisfaction.....	12
General satisfaction	14
Career satisfaction	18
Summary	21
5. DISCUSSION.....	22
REFERENCES.....	25
APPENDIX 1: The LSAY Sample	28
APPENDIX 2: Variables used in Analyses.....	29
APPENDIX 3: Construction of the Life Satisfaction Measures: General and Career Satisfaction	32
APPENDIX 4: Supplementary Tables	34

Tables

Table 1	Post-school activity groups by gender, 1999 to 2002	5
Table 2	General and career satisfaction by post-school activity groups: adjusted means and standard errors	10
Table 3	Hierarchical regression models of general satisfaction in 2002	17
Table 4	Hierarchical regression models of career satisfaction in 2002	19

Tables in Appendices

Table A 1	Number and percentage of sample members in active sample, by general and career satisfaction in 1997	28
Table A 2	Responses to life satisfaction items, 1999 and 2002	30
Table A 3	Results of principal components analysis (with oblique rotation), 1999 and 2002	32
Table A 4	Descriptive statistics for raw satisfaction scores, 1999 and 2002	33
Table A 5	Descriptive statistics for transformed satisfaction scores, 1999 and 2002	33
Table A 6	General satisfaction by post-school activity groups, 1999-2002 – means, standard errors and F statistics	34
Table A 7	Career satisfaction by post-school activity groups, 1999-2002 – means, standard errors and F statistics	34
Table A 8	General and career satisfaction by post-school activity groups: adjusted means, standard errors and F-statistics	35
Table A 9	Paired-samples <i>t</i> -tests of general and career satisfaction for post-school activity reference groups	35
Table A 10	Unstandardised coefficients (b weights) and standard errors for general satisfaction in 2002	36
Table A 11	Unstandardised coefficients (b weights) and standard errors for career satisfaction in 2002	37

Figures

Figure 1	Average general and career satisfaction scores, 1999 to 2002	7
Figure 2	Average general satisfaction scores by activity groups, 1999 to 2002	8
Figure 3	Average career satisfaction scores by activity groups, 1999 to 2002	8
Figure 4	Activity pathways (incorporating activities from 2000 through 2002)	14

EXECUTIVE SUMMARY

This report is based upon new research that brings together two streams of previous investigation in the Longitudinal Surveys of Australian Youth (LSAY) program—that of emotional well-being and that of transitions to further education, training and work. In particular, it explores how young people’s self-reported life satisfaction is related to educational activities and various labour market outcomes during the early post-school years. Data for this report were collected from a cohort of students who were in Year 9 in 1995. Most sample members completed Year 12 in 1998 and at the time of data collection in 2002, had been out of school for four years. The average age of the 6095 young people who remained in the active sample in 2002 was 21 years.

The report has three broad aims:

- To describe the relationship between life satisfaction and participation in a range of post-school education, training and labour market activities each year between 1999 and 2002.
- To assess whether the relationship between life satisfaction and post-school activities holds after prior levels of life satisfaction are taken into account.
- To assess whether movement between activities in the post-school years is associated with changes in life satisfaction. In particular, are changes in activities that result in an increase in the amount of time spent in formal activities such as study or employment (such as moving from joblessness into employment, or moving from part-time employment into full-time employment) associated with increases in life satisfaction? Are changes in activities that lead to a decrease in time spent in formal activities (such as moving from study or full-time work into part-time work or joblessness) associated with decreases in life satisfaction?

Two aspects of young people’s life satisfaction were examined: satisfaction with their careers and satisfaction with their lives in general. The measure of career satisfaction incorporated cohort members’ reported happiness with their career prospects, their future, the money they receive and the work they do. The measure of general satisfaction incorporated cohort members’ ratings of their happiness with their lives at home, social lives, spare time activities, standards of living, where they live, how they get along with others, their independence and their lives as a whole.

The activities of young people were divided into four categories:

- *Dual role*: Young people who were enrolled to study full-time and who were also working 20 or more hours per week were labelled dual role. In 1999, this group comprised 9 per cent of the sample.
- *Fully Allocated*: Other full-time students who were working less than 20 hours a week, along with young people working full-time (more than 30 hours a week) and part-time students who were also working for 20 hours or more a week, were labelled fully allocated (in that their time was fully allocated to these activities). More than three-quarters of the sample (77%) were in this category in 1999.
- *Partially allocated*: Part-time students who were working less than 20 hours a week and young people working less than 30 hours a week (part-time workers) who were not studying were labelled partially allocated. In 1999, this group comprised around 8 per cent of the sample.

- *Unallocated*: Young people who were not in education, training or paid employment were labelled *unallocated*. Slightly more than 6 per cent of young people were in this category in 1999.

The major findings of the investigation of the relationship between life satisfaction and post-school activities in the years 1999 to 2002 are:

- Overall, the sample members reported quite high levels of life satisfaction, as measured by the scores on the general and career satisfaction scales, which is consistent with the findings of previous Australian research on young people.
- There were small but significant associations between general and career satisfaction and post-school activities in each of the post-school years between 1999 and 2002.
- In 1999 and 2001, young people in the *dual role* and *fully allocated* groups reported higher levels of general satisfaction than those young people whose time was not totally taken up by these activities. This included those who were in the *partially allocated* group and those in the *unallocated* group. In 2000, young people in the *dual role* group again reported higher general satisfaction than those in *fully allocated* activities. There were no significant differences between the general satisfaction levels of those who were in *fully allocated* and *partially allocated* groups, nor between those in *partially allocated* and *unallocated* groups in this year, however.
- For career satisfaction, young people who were in a *dual role* in 1999 reported higher career satisfaction than those who were in the *fully allocated* group, who in turn reported higher career satisfaction than those who were *partially allocated* and those who were *unallocated* in that year. In 2000 and 2001, the same pattern of significant results was found. In 2002, the difference in career satisfaction between those who were in a *dual role* and those who were in the *fully allocated* group was not significant; these two groups both reported higher career satisfaction than those who were *partially allocated*, who in turn were more satisfied than those who were *unallocated*.
- After adjusting for prior general and career satisfaction as measured in 1999 (at age 19), significant differences between the activity groups on the general and career satisfaction scales for 2002 remained. Those who were in *dual role* or *fully allocated* groups reported higher satisfaction than those who were *partially allocated*, who were in turn more satisfied than those who were in *unallocated* activities in 2002.

The major findings of the investigation of the longitudinal relationship between life satisfaction and post-school activity pathways are:

- The results suggested that decreasing the amount of time allocated to study and/or work led to decreased satisfaction levels. Those who moved from *fully allocated* activities into *partially* or *unallocated* activities reported decreased general and career satisfaction compared to those who remained in *fully allocated* activities. Similarly, those who moved from *partially allocated* activities into *unallocated* activities reported lower career satisfaction than those who remained in *partially allocated* activities.
- Findings relating to the relationship between increases in the amount of time allocated to study and/or work and increased satisfaction levels were mixed. For example, among those who had been in the *partially allocated* and *unallocated* groups in 1999, pathways that led to an increase in activities did not lead to an increase in general satisfaction. Moving into *fully allocated* activities, however, was associated with increased career satisfaction among young people who had been in *unallocated* activities in 1999.

As reported in other studies, the relationship between post-school activity pathways and the life satisfaction of young people, although significant, was relatively small. Other factors, not examined in this study, may contribute to young people's life satisfaction to a greater degree. Perhaps unsurprisingly, the relationship between post-school pathways and career satisfaction was stronger than that between post-school pathways and general satisfaction. The relationship reported here between general satisfaction and post-school pathways is important though, and warrants attention, as it suggests that involvement in part-time work, unemployment or withdrawal from the labour force may have a negative impact on young people's levels of satisfaction with broader, non-economic aspects of their lives. Rather than simply becoming dissatisfied with their income, future career direction or the work they do (as measured by career satisfaction), young people who are in these less desirable situations also report decreased satisfaction with their social lives, their use of spare time, their independence and their lives as a whole (general satisfaction).

The results of the analyses reported here have implications for those involved in developing and implementing policies aimed at young people, as well as those who are involved in working directly with young people. Engagement in some form of purposeful activity may have benefits for the healthy functioning of young people that go beyond having sufficient income or a future career, extending to how they see their lives in general. Other research has suggested that young people who are underemployed or unemployed are at greater risk of developing problems with mental health, including depression and anxiety (Argyle, 1999; Diener et al., 1999). It is imperative that future policies and intervention recognise the effects that post-school activities can have on the emotional well-being of young Australians.

Life Satisfaction of Young Australians: Relationships between Further Education, Training and Employment and General and Career Satisfaction

1. INTRODUCTION

Pathways during the early post-school years are becoming increasingly diverse. Some young people find themselves locked in casual or part-time jobs that have no obvious career path or opportunities for advancement; others experience frequent or sustained bouts of unemployment. The post-school experiences of some lead to them opting out of the labour force altogether. For others who follow the path to further education and training, the new experiences of student life may provide a range of emotional and personal challenges along with the academic curriculum. Young people's ability to cope with the decisions and choices they need to make to effect the transition from school to further education, training and employment may affect the success of their transitions. A pertinent issue for those working with young people is how young people navigate the transition from secondary school into post-school education, training and employment, and the impact of the different paths followed on their emotional well-being.

The concept of 'well-being'

In research that focuses on the concept of well-being, a distinction is drawn between psychological and emotional well-being. Psychological well-being refers to a functional state that includes dimensions such as self-acceptance, positive relations with others, personal growth, purpose in life, environmental mastery and autonomy. In contrast, emotional well-being refers to a positive feeling state comprising an affective aspect (happiness) and a more cognitive aspect (life satisfaction) (Bryant & Veroff, 1982; Keyes & Waterman, 2003). While the literature referring to both psychological and emotional well-being is described in this chapter, the focus of the report is on emotional well-being and its component of life satisfaction, in particular.

Relationships between education and labour market activity and emotional well-being

Cross-sectional analyses of the adult population have shown an association between education and labour market activities and aspects of well-being. In general, persons in full-time employment experience higher levels of psychological and emotional well-being, persons who are unemployed or outside the labour force have the highest prevalence of psychological ill health, and students and part-time workers fall between these two extremes. While this association is reportedly weaker among young people than among adults, a number of studies have documented a significant relationship between education and labour market activities and emotional well-being among young people (AIHW, 2003; Mathers, 1994, 1996; Patton & Noller, 1984; Winefield, Winefield, Tiggemann, & Goldney, 1991). Recent data presented in a report from the Australian Institute of Health and Welfare indicated that the highest proportion of young people aged 18 to 24 years who reported being 'delighted', 'pleased' or 'mostly satisfied' with the quality of their lives were employed (83%), while the highest proportion who reported that they felt 'mostly dissatisfied', 'unhappy' or 'terrible' when considering the quality of their lives were unemployed (8%), followed by those who were not in the labour force (not employed and not looking for work) (4%) (AIHW, 2003).

Longitudinal studies have also documented changes in the well-being of young people as they move from school into a range of post-school activities. Participation in tertiary education has been associated with increased emotional well-being since leaving secondary school (Winefield et al., 1991), while underemployment and unemployment have been associated with decreases in psychological health and emotional well-being since leaving school (Hammarstrom & Janlert, 1997; Hammarstrom, Janlert, & Theorell, 1988; Hartnagel & Krahn, 1995; Winefield & Tiggemann, 1989, 1990).

Movement between activities in the post-school years is also associated with changes in well-being among young people (Feather & O'Brien, 1986; Gurney, 1980; Prause & Dooley, 2001). For example, Graetz (1993) followed persons under the age of 30 for four years and found substantial changes in emotional well-being among those who moved between activities. Students and employed people who became unemployed reported decreases in well-being, while students and unemployed people who became employed reported increases. In addition, those who remained employed or in study throughout the period experienced a slight increase in well-being, while those who remained unemployed for that same period experienced a slight decrease in well-being. Studies have also indicated that length of unemployment is negatively related to psychological health in the late teenage years and early twenties (Fergusson, Horwood, & Woodward, 2001; Hammarstrom & Janlert, 1997; Hammer, 1993; Hartnagel & Krahn, 1995; Winefield & Tiggemann, 1989).

Causal relationships

Three hypotheses regarding the nature of causality in the relationship between well-being and education, training and labour market activities have been debated in the well-being literature. The first posits a selection effect, whereby the least 'healthy' or 'happy/satisfied' become underemployed or unemployed (perhaps through difficulty in working longer hours or at all while depressed, or a hesitation on behalf of employers to hire those who show signs of being negative, unhappy or psychologically unwell). The second hypothesis states that different education, training and labour market activities lead to different well-being outcomes (for example, getting a job makes one happy or increases one's life satisfaction, losing a job makes one unhappy or decreases one's life satisfaction). The third hypothesis states that associations between education, training and labour market activities and well-being are in fact, driven by some other underlying causal factors.

A number of longitudinal studies have tested these hypotheses. General consensus is that while some health and happiness selection effects do occur, education, training and labour market activities do have a direct effect on well-being, even after controlling for the effects of socio-demographic characteristics, prior health and a range of risk factors (Dooley & Prause, 2000; Graetz, 1993; Hammarstrom & Janlert, 1997; Marks & Fleming, 1999; Mathers & Schofield, 1998; Prause & Dooley, 2001; Winefield et al., 1991).

The changing nature of the transition from school

The nature of the transition from school to work has undergone numerous changes since the collection of data used in much of the above research. For example, young people's participation in education and training activities has increased over the past two decades. Retention rates for secondary school students rose from 36 per cent in the early 1980s to a peak of 77 per cent in 1992. Current rates are around 76 per cent (ABS, 1984-2002). The number of young people participating in New Apprenticeships and higher education has also increased (DETYA, 2001; NCVER, 2001). At the same time, the youth labour market has changed considerably. Full-time labour market participation rates of young males and females fell from around 50 per cent in 1978 to around 20 per cent by the late nineties, while part-time participation rates increased dramatically over the same period (McMillan & Marks, 2003; Wooden, 1998). As discussed below, there has also been a substantial increase in the proportion of young people who combine studying and paid employment.

Previous research into the relationship between life satisfaction and education and employment activities has used relatively simple classifications, such as full-time students, full-time workers, part-time workers and the jobless (including the unemployed and those not in the labour force). Such a classification does not take into account the prevalence of full-time students who are also employed part-time or full-time equivalent. For example, of those members of the Year 9 class of 1995 who were full-time tertiary students in 2002, 71% also had paid employment. Recent

research has found that the rate of attrition from tertiary education of students working few hours per week is similar to that of students not in paid employment; it is only when students are engaged in long hours of paid work that they are more likely to discontinue their studies (Vickers, Lamb & Hinkley, 2003; McMillan, 2005; McMillan, Rothman & Wernert, in press).

The current report

The data used in this report are drawn from the Longitudinal Surveys of Australian Youth (LSAY). Longitudinal data from projects such as LSAY are especially valuable for tracking the education, training and labour market pathways undertaken by young people from year to year, and linking this information to changes in their levels of life satisfaction, an important element of emotional well-being. The data used in this research are based upon a nationally representative sample and provide the most up-to-date and detailed information on recent school leavers in Australia. These data permit an assessment of whether past findings regarding the relationship between education, training and labour market outcomes and emotional well-being of young people hold in the current economic climate.¹

Previous analyses of the LSAY data have examined life satisfaction (Marks & Fleming, 1999) and transitions from school (McMillan & Marks, 2003) independent of one another. This report is based upon new research that brings together these two streams. In particular, it explores how young people's self-reported life satisfaction at age 21 years is related to educational activities and various labour market outcomes during the early post-school years.

The report has three broad aims:

1. To describe the cross-sectional relationship between life satisfaction and participation in a range of post-school education, training and labour market activities.
2. To assess whether the relationship between life satisfaction and post-school activities holds after controlling for prior life satisfaction.
3. To assess whether movement between activities in post-school pathways is associated with changes in life satisfaction. In particular:
 - Are activity changes that lead to increases in time spent in formal activities (such as moving from joblessness into employment, or moving from part-time employment into full-time employment) associated with increases in life satisfaction?
 - Are activity changes that lead to decreases in time spent in formal activities (such as moving from study or full-time work into part-time work or joblessness) associated with decreases in life satisfaction?

The following chapter, Chapter 2, provides information on the data, measures and methods of analysis that were employed to investigate the relationships between life satisfaction and education, training and labour force activities. Results pertaining to the first two research aims are reported in Chapter 3, and results pertaining to the third research aim are reported in Chapter 4. A discussion of the findings along with implications for policies regarding young people is presented in Chapter 5.

¹ A number of other ongoing large-scale Australian surveys collect information on well-being, most notably the Australian Temperament Project (ATP), the Australian Unity Well-being Index surveys (from the Australian Centre on Quality of Life), the Household, Income and Labour Dynamics in Australia (HILDA) survey and surveys conducted by the Australian Bureau of Statistics, such as the National Health Survey. However, LSAY is the only data collection to meet all of the following criteria: a nationally representative sample of young people; panel design; includes detailed measures of post-school education, training and labour market pathways; and includes repeated measures of well-being across a range of years.

2. DATA, MEASURES AND METHODS

The sample

Data for this report are based upon a cohort of students who were in Year 9 in 1995 and who form part of the LSAY program. This report focuses on the 6095 young people who participated in LSAY in each year from 1995 through to 2002. At the time of the 2002 survey, most of the young people had been out of secondary school for four years, with an average age of 21 years. A further description of the sample design and data collection is provided in Appendix 1.

It may be suggested that those young people who report lower levels of life satisfaction are at greater risk of dropping out of the active sample, potentially biasing the results of analyses. However, investigation of the retention of young people with different levels of life satisfaction when first asked (in 1997) has indicated that there is little evidence of satisfaction-related bias in sample attrition — 58 per cent of those with the lowest general satisfaction scores and 60 per cent of those with the lowest career satisfaction scores in 1997 remained in the active sample in 2002, while retention for the highest satisfaction groups was 60 and 58 per cent for general and career satisfaction, respectively (see Appendix 1).

Emotional well-being and life satisfaction

In the LSAY program, aspects of emotional well-being are measured by respondents' assessments of how happy they are with various aspects of their lives. The question wording is provided in Appendix 2. Despite the use of the term 'happy', this measure corresponds more closely with the cognitive aspect of emotional well-being (life satisfaction) than with the affective aspect of emotional well-being (happiness). Two elements of life satisfaction are examined: general satisfaction and career satisfaction. The measure of general satisfaction incorporated young people's ratings of their happiness with their lives at home, social lives, spare time activities, standards of living, where they live, how they get along with others, their independence and their lives as a whole. Career satisfaction incorporated their reported happiness with their career prospects, their future, the money they receive and the work they do. The details of the construction, calculation and subsequent transformation of the general and career satisfaction measures are presented in Appendix 3.

Education and labour market activities

As discussed in the introductory chapter, previous research in this area has used relatively simple classifications of education and employment activities, such as full-time students, full-time workers, part-time workers and the jobless (including the unemployed and those not in the labour force). In order to assess whether full-time study combined with large paid work commitments has a negative impact on life satisfaction due to role overload (in addition to its negative impact on the likelihood of completion of study), a different classification of activities is required.

The current classification system focuses instead on time commitment—how much of a young person's time is allocated to formal activities, such as education, training and employment. Preliminary analyses indicated no differences in the satisfaction levels of those in different activities of similar time allocation, such as full-time students compared to full-time workers. The focus of the activity classifications is the *amount of time* allocated to activities, not on the *type* of activity. Data on the post-school education, training and labour market activities at the time of each annual interview were used to construct activity classifications for each of the years 1999 through to 2002. For the purposes of this classification, education and training were defined as courses leading to a recognised qualification, such as a certificate, diploma or bachelor degree. Other forms of education and training, such as single modules and short courses were excluded from the classification. Full-time employment was defined as 30 or more hours per week. A threshold of 20 hours of paid work per week was used to distinguish between full-time

students in dual roles (considered to be working long hours) and full-time students who were fully allocated (not considered to be working long hours).

The classification was designed to distinguish between young people with very large time commitments in education, training and employment activities (*dual role*); those whose total time spent in one or a combination of education, training and employment activities was the equivalent of full-time (*fully allocated*); those whose total time spent in one or a combination of education, training and employment activities was less than full-time (*partially allocated*); and those who were not in education, training or employment (*unallocated*). The operational definition of the four groupings is provided below, and descriptive statistics are provided in Table 1.

<i>Dual role</i>	full-time students who were employed for 20 or more hours per week
<i>Fully allocated</i>	full-time students who were employed for 0-20 hours per week; apprentices and trainees; full-time workers; and part-time students who were employed for 20 or more hours per week
<i>Partially allocated</i>	part-time students who were employed for 0-20 hours per week; and part-time workers who were not enrolled in education or training
<i>Unallocated</i>	young people who were not in education, training or paid employment ²

Table 1 Post-school activity groups by gender, 1999 to 2002

	Male		Female		Total	
	n	%	n	%	n	%
1999						
Dual Role	254	8.5	277	8.9	530	8.7
Fully Allocated	2329	78.2	2350	75.4	4679	76.9
Partially Allocated	203	6.8	290	9.3	494	8.1
Unallocated	192	6.4	201	6.4	392	6.4
2000						
Dual Role	251	8.4	335	10.7	586	9.7
Fully Allocated	2337	78.5	2271	72.8	4608	75.6
Partially Allocated	183	6.1	282	9.0	465	7.6
Unallocated	207	7.0	229	7.3	436	7.2
2001						
Dual Role	285	9.6	366	11.7	652	10.7
Fully Allocated	2242	75.3	2102	67.4	4344	71.3
Partially Allocated	239	8.0	338	10.8	576	9.5
Unallocated	212	7.1	311	10.0	524	8.6
2002						
Dual Role	195	6.5	226	7.2	422	6.9
Fully Allocated	2304	77.4	2111	67.7	4416	72.5
Partially Allocated	214	7.2	433	13.9	647	10.6
Unallocated	264	8.9	346	11.1	610	10.0

Note: Cells may not sum to totals due to rounding.

² Detailed data on unpaid work, including voluntary work and domestic labour, are not collected by LSAY.

Controls

Three control variables, which past research suggests may be related to both well-being and post-school pathways, were used in this report: participants' gender, language background and Year 12 completion status. Further detail on the definitions of these variables is presented in Appendix 2.

Methodology

Three different analytic methodologies were used in assessing relationships in this report.

- One-way between-groups analysis of variance (ANOVA) with post-hoc tests was used to investigate the cross-sectional relationship between general and career satisfaction and post-school education, training and labour market activities in each year between 1999 and 2002.
- Between-group analysis of covariance (ANCOVA) was used to investigate whether differences between activity groups are influenced by previously existing differences in general and career satisfaction, that is, whether the differences remain after controlling for prior levels of satisfaction.
- Hierarchical multiple regression analyses were conducted to assess whether changes in post-school activities influence general and career satisfaction, with controls for background characteristics and prior satisfaction.

3. RELATIONSHIPS BETWEEN LIFE SATISFACTION AND POST-SCHOOL ACTIVITIES

The data presented in Figure 1 indicate that, overall, the sample members reported quite high levels of life satisfaction, as measured by the scores on the general and career satisfaction scales. This is consistent with previous Australian research on young people (AIHW, 2003; Marks & Fleming, 1999; Mathers, 1996). In addition, the average score on both scales was relatively stable across the years 1999 to 2002. Small fluctuations were more apparent in the general satisfaction scale than in the career scale.

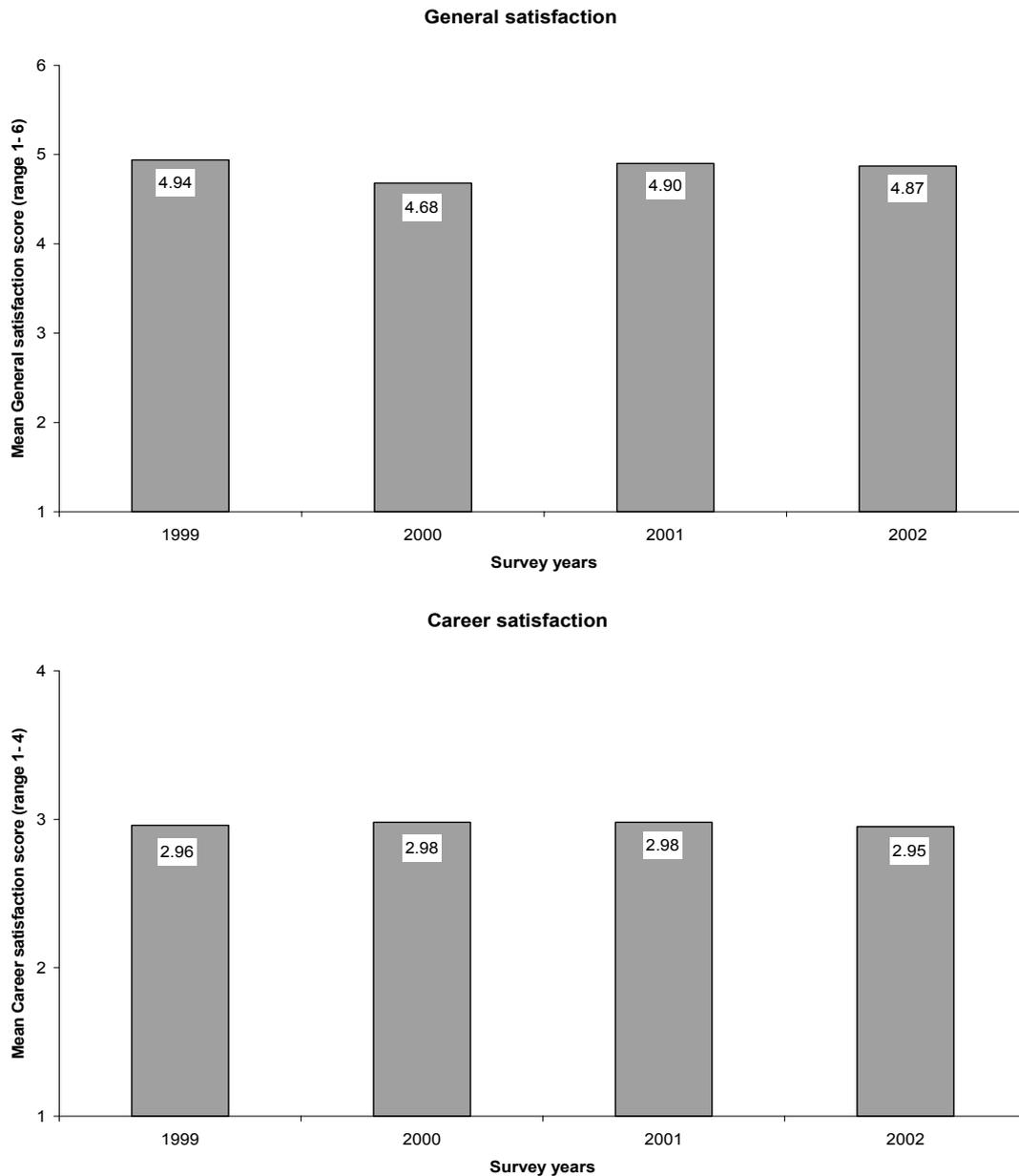


Figure 1 Average general and career satisfaction scores, 1999 to 2002

Previous research has indicated a pattern in which those who are engaged in activities such as full-time education or employment report higher levels of well-being than those who are not engaged in such activities. There is also a suggestion in the literature that full-time study combined with large paid work commitments may have a negative impact on emotional well-

being due to role overload. Therefore, for the purposes of the current report, an activity classification was developed to distinguish between young people who are combining heavy study and employment work-loads (the dual role group) and other young people who are studying or working the equivalent of full-time hours. If there is indeed a relationship between role overload and life satisfaction, those in the dual role group would report lower general and career satisfaction than those in fully allocated group.

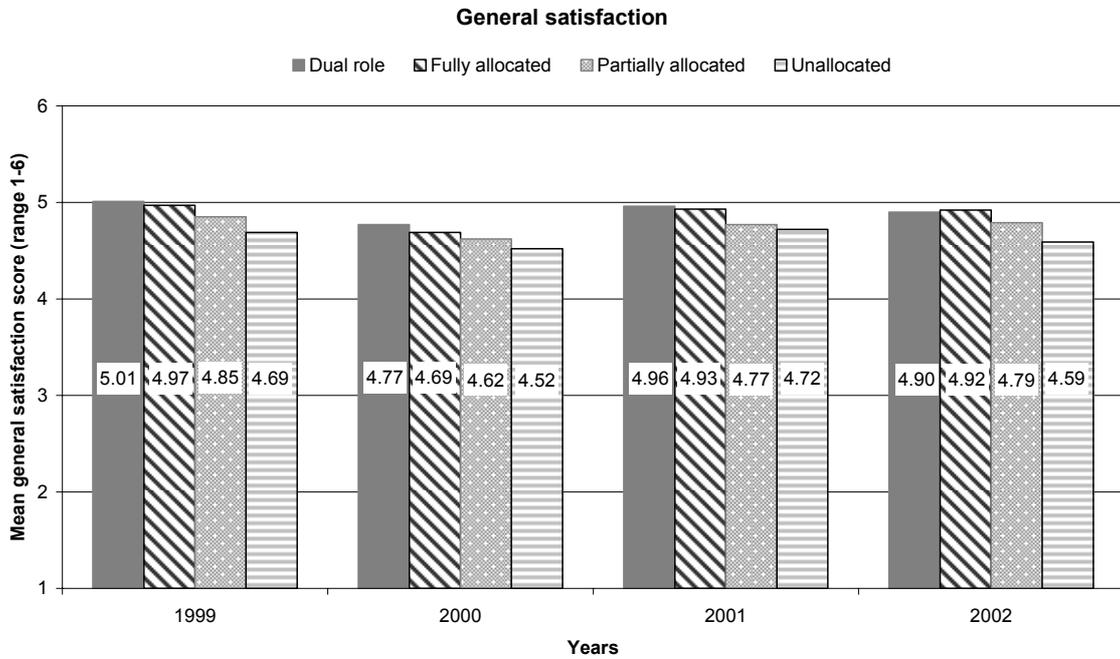


Figure 2 Average general satisfaction scores by activity groups, 1999 to 2002

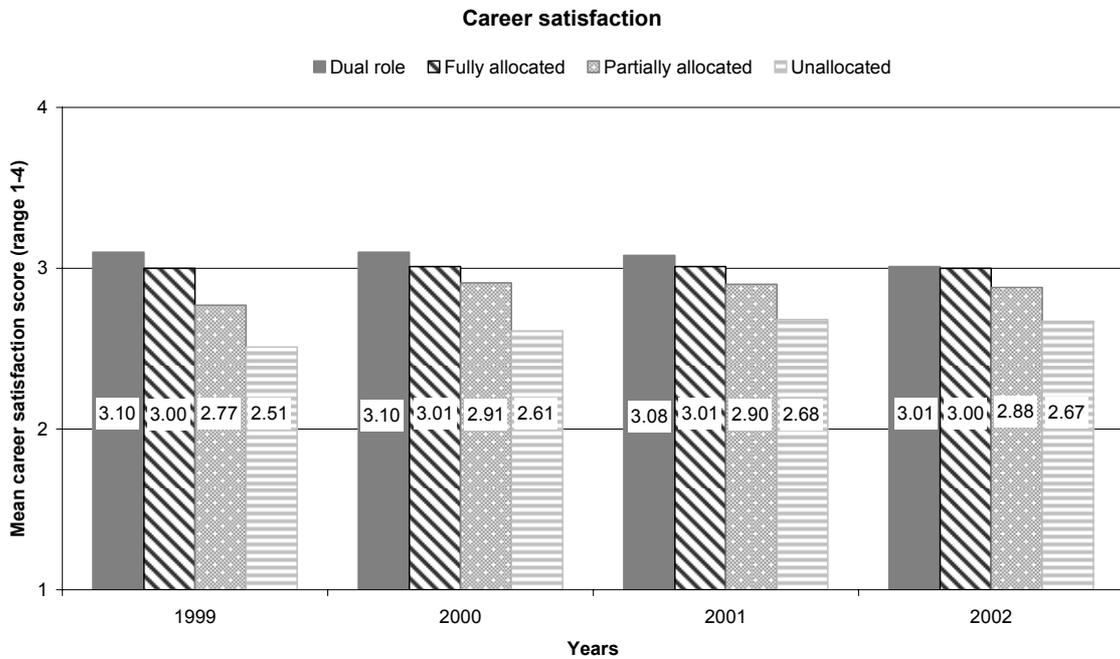


Figure 3 Average career satisfaction scores by activity groups, 1999 to 2002

Figure 2 and Figure 3 present the mean general and career satisfaction scores for four groups of young people based on their activities in 1999. In contrast to the suggestion that young people in the dual role group may be less satisfied with their situation, it appears that young people who are combining long hours of work with full-time study report slightly higher levels of general and career satisfaction than young people in the fully allocated group.

The significance of the association between the post-school activity groups and satisfaction scores was tested using one-way between group analysis of variance (ANOVA). Activity group was used as the independent variable each time, and the levels of general and career satisfaction for each year were used as the dependent variables. The results of these analyses, presented in Appendix 4 (Table A6 and Table A7), show a small but significant association between levels of satisfaction and the post-school activity groups.

General satisfaction

Post-hoc comparisons of the activity group means (using Dunnett's C test) indicated that those who were in a dual role or who were in fully allocated activities in 1999 reported significantly higher general satisfaction than those who were in partially allocated activities and those who were unallocated. Despite the appearance in Figures 2 and 3 that the dual role group may have been slightly more satisfied than the fully allocated group, the post-hoc comparisons found that the general satisfaction scores of these two groups were not statistically significantly different from one another. Those who were partially allocated reported statistically significantly higher general satisfaction than those who were unallocated. In 2000, young people in dual role activities reported higher general satisfaction than those in fully allocated activities. There were no significant differences between the general satisfaction levels of those who were in fully allocated and partially allocated activities, nor between those in partially allocated and unallocated activities in this year, however. In 2001, young people in dual role activities again reported significantly higher levels of general satisfaction than young people in fully allocated activities, who in turn reported significantly higher general satisfaction than those in partially allocated activities. Young people in partially and unallocated activities did not report significantly different levels of general satisfaction. The same general pattern was evident in 2002, except that the difference in general satisfaction between those who were in dual roles and those who were partially allocated, although in the expected direction, was not significant.

Career satisfaction

Those who were in a dual role in 1999 reported higher career satisfaction than those who were in fully allocated activities, who in turn reported higher career satisfaction than those who were partially allocated and those who were unallocated in that year. In 2000 and 2001, the same pattern of significant results was found. In 2002, the difference in career satisfaction between those who were in a dual role and those who were in fully allocated activities was not significant; these two groups both reported higher career satisfaction than those who were partially allocated, who in turn were more satisfied than those who were unallocated.

Prior satisfaction

As discussed in the introductory chapter, one of the possible explanations for relationships between a young person's satisfaction levels and his or her main activity is that of selection: a young person who is satisfied with life presents as a happy, attractive personality and is thus more likely to find employment. In order to rule out the possibility that the relationships found in the analyses presented above were driven by these selection effects, further analyses were conducted that included levels of satisfaction from previous years. One-way between-groups analyses of covariance included respondents' 1999 levels of general and career satisfaction as covariates. These methods allow investigation of whether there is a significant relationship between the 2002 levels of general and career satisfaction and the earlier measure of general and

career satisfaction, and then whether there is a significant relationship between activity group in 2002 and the 2002 satisfaction levels after accounting for any differences between the activity groups in the measure of 1999 satisfaction. The results of these analyses are presented in Table 2 (see also Appendix 4, Table A8).

Table 2 General and career satisfaction by post-school activity groups: adjusted means and standard errors

Activity group in 2002	General satisfaction 2002	Career satisfaction 2002
	Adjusted mean (standard error)	Adjusted mean (standard error)
Dual role (n=412)	4.93 (0.035)	2.99 (0.026)
Fully allocated (n=4415)	4.91 (0.011)	2.99 (0.008)
Partially allocated (n=636)	4.82 (0.028)	2.91 (0.021)
Unallocated (n=604)	4.63 (0.029)	2.72 (0.021)

Notes: Levels of general and career satisfaction in 1999 entered as covariates.

General satisfaction

After adjusting for prior general satisfaction, there was a significant difference between the activity groups on the general satisfaction scale for 2002. A significant relationship between level of general satisfaction in 1999 and general satisfaction in 2002 was found, although the degree of association was small (partial eta-squared value = 0.18).

There was a significant association between general satisfaction in 2002 and the activity groups, $F_{(3,6062)} = 27.95, p < 0.001$. The estimated effect size of the activity groups on general satisfaction was quite small, explaining slightly more than one per cent of the variance in general satisfaction. Those who were in a dual role or who were fully allocated were not significantly different from one another.³ Those who were in fully allocated activities reported significantly higher general satisfaction than those who were in partially allocated and unallocated activities. Those who were in partially allocated activities reported significantly higher levels of general satisfaction than those who were in unallocated activities.

Career satisfaction

After adjusting for prior career satisfaction, there was a significant difference between the activity groups on the career satisfaction scale for 2002. Again, a significant relationship between career satisfaction in 1999 and 2002 was found, although the partial eta-squared value was small at 0.10.

The association between career satisfaction in 2002 and activity groups was also significant after adjusting for the covariate (career satisfaction in 1999), $F_{(3,6062)} = 48.97, p < 0.001$. The estimated effect size of activity group on career satisfaction was larger than that for general satisfaction, but again explained a small proportion of the variance, around two per cent. As with the analysis of general satisfaction, those who were in a dual role or who were in fully allocated activities reported significantly higher career satisfaction than those who were in partially allocated and unallocated activities, but were not significantly different from one another.⁴ Those who were in partially allocated activities reported significantly higher career satisfaction than those who were in unallocated activities.

³ Differences between activity groups were tested using pair-wise comparisons of the means, with alpha levels adjusted for multiple comparisons using Bonferroni adjustments.

⁴ See Footnote 3.

Summary

The results presented in the first section of this chapter showed a small but significant cross-sectional relationship between general and career satisfaction, and post-school activities. In most years between 1999 and 2002, young people whose time was fully allocated, either to study, work or a combination of both (dual role and fully allocated activities), reported higher levels of general and career satisfaction than those young people whose time was not totally taken up by these activities (both those who were in partially allocated and unallocated activities).

The second section investigated whether the differences between activity groups remained after controlling for prior levels of satisfaction. After adjusting for 1999 general and career satisfaction, significant differences between the activity groups on the general and career satisfaction scales for 2002 remained. Those who were in dual role or fully allocated activities reported higher satisfaction than those who were partially allocated, who were in turn more satisfied than those who were in unallocated activities in 2002.

4. MODELLING THE INFLUENCE OF ACTIVITY PATHWAYS ON LIFE SATISFACTION

Consistent with the findings of previous research, the results reported in the previous chapter indicated that a young person's life satisfaction at one point in time was associated with his or her educational activities or employment status at that same time point. What these cross-sectional results do not address is whether changes in activity are associated with changes in satisfaction, that is, whether the pathway a young person follows over a number of years is related to his or her levels of satisfaction, or whether the amount of time spent in one activity is related to satisfaction. In order to answer such questions, longitudinal analyses of life satisfaction and post-school activities are required.

Modelling post-school activity change and life satisfaction

The analyses presented in the following sections examine the relationship between life satisfaction and pathways (or movement between activities) over a number of years. They were designed to address the question of whether movement between educational and labour market activities would influence the well-being of young people. In particular, would activity changes that lead to an increase in the amount of time allocated to formal activities – such as moving from unallocated or partially allocated activities into dual role or fully allocated activities – be associated with increases in general and career satisfaction, and would activity changes that lead to a decrease in the amount of time allocated to formal activities – such as moving from dual role or fully allocated activities into partially allocated or unallocated activities – be associated with decreases in general and career satisfaction?

A second issue of interest is whether the amount of time spent in particular types of activities would influence the life satisfaction of young people. In particular, would pathways involving mainly dual or fully allocated activities over a number of years be associated with relatively high levels of satisfaction, and pathways involving mainly partially or unallocated activities over a number of years with lower levels of well-being?

In order to address these questions, a series of hierarchical multiple regression analyses was conducted. Separate analyses were performed for each of four activity groups: those who had been in dual role activities in 1999; those who had been in fully allocated activities in 1999; those who had been in partially allocated activities in 1999; and those who had been in unallocated activities in 1999. In each model, satisfaction at the final time-point (general or career satisfaction in 2002) was the dependent variable. Three control variables (gender, language background and Year 12 completion) were entered in the first step. In the next step, a baseline measure of life satisfaction (general or career satisfaction in 1999) was added to the model. In the final step, a series of dummy variables representing educational and labour market pathways were added to the model.

Pathways

The educational and labour market pathways were measured by the sequence of activities undertaken in the three years from 2000 to 2002. As there were a large number of different sequences of activities followed by sample members, it was necessary to combine some sequences into separate pathway categories. In particular:

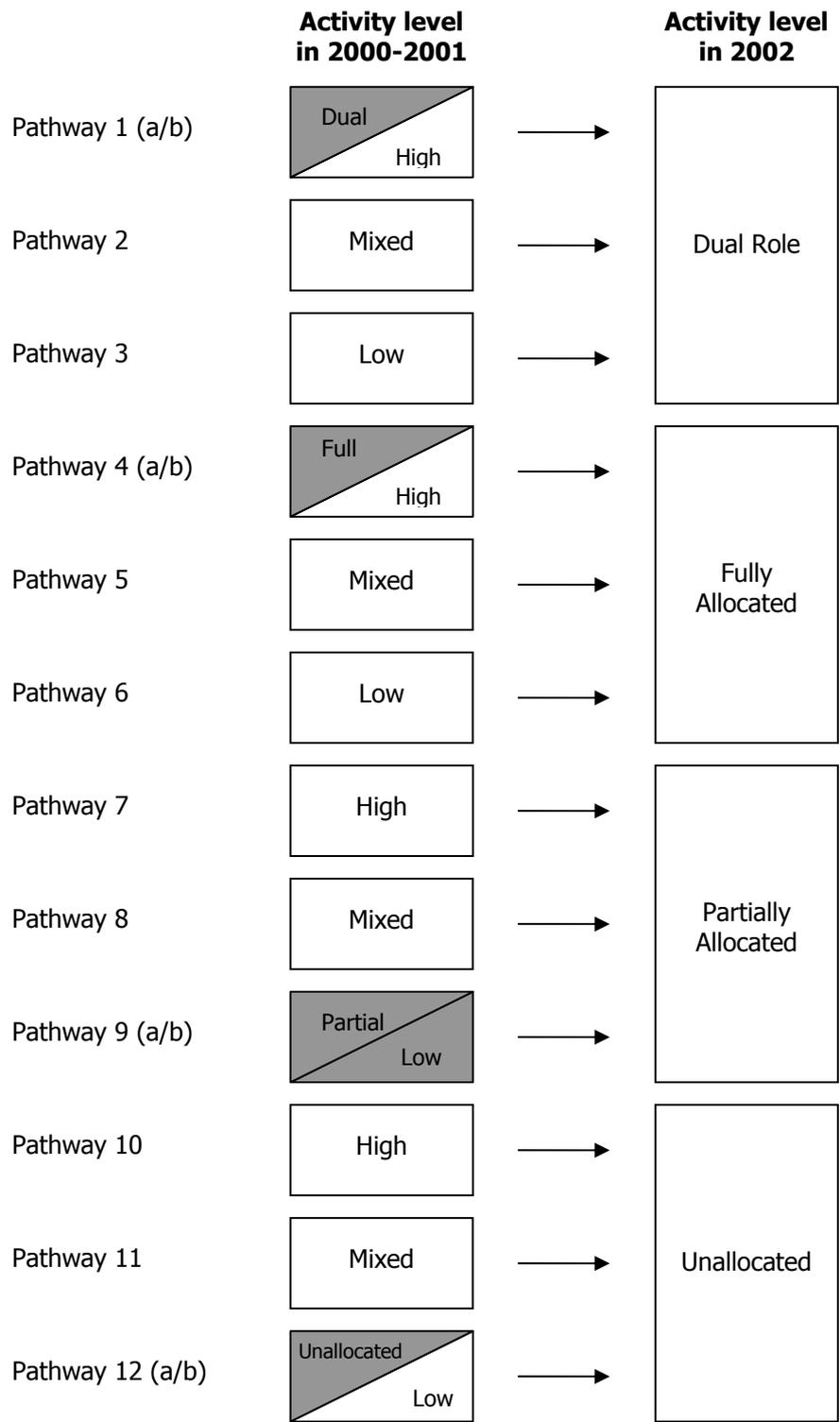
- For 2000 and 2001, dual role and fully allocated activities were treated as educational and labour market activities marked by *high* levels of time commitment. Partially allocated and unallocated activities were grouped together as activities with *low* levels of time commitment, and *mixed* activities refer to pathways involving both high and low activities.

- For 2002, the four categories of dual role, fully allocated, partially allocated and unallocated were used. A young person's activity pathway was thus determined by whether his or her activities in 2000 and 2001 were best described as representing a *high*, *mixed* or *low* level of time commitment, and then whether he or she was in a dual role, fully allocated, partially allocated or unallocated activity in 2002. Figure 4 provides a pictorial representation of the post-school activity pathways. The classification was designed to provide two types of information. First, the classification specifies the activity at the final time point (2002), as preliminary analysis found that current activities have a larger effect than earlier activities on current well-being. Second, the classification permits the assessment of whether overall pathways (or time spent in particular activities) rather than just current activities are associated with current well-being.

The combination of three activity groups for 2000-2001 and four activity groups for 2002 results in 12 pathways over the three year period. In addition, a reference category representing 'no activity change' between 1999 and 2002 was chosen in order to permit an assessment of whether pathways involving activity changes were associated with changes in satisfaction relative to pathways not involving activity change. This involved disaggregating four of the basic pathways shown, resulting in a total of 16 pathways, illustrated in Figure 4:

- In the regression analyses for young people who had been engaged in dual role activities in 1999, those remaining in dual role activities up to 2002 (path 1a) were used as a reference group against which activity and satisfaction changes could be compared (reference group 1).
- In the regression analyses for young people who had been engaged in fully allocated activities in 1999, the group that remained fully allocated for the years 2000 through 2002 (path 4a) were used as a reference group (reference group 2).
- In the regression analyses for young people who had been in partially allocated activities in 1999, those remaining in partially allocated activities over the four-year period (path 9a) were used as the reference group. However, due to small cell sizes, it was necessary to also include those in path 9b in this reference group (reference group 3).
- In the regression analyses for young people who had been in unallocated activities in 1999, persons remaining in such activities throughout the four-year period (path 12a) were used as the reference group (reference group 4).

Preliminary analyses indicated that, in general, young people in each of the four reference groups reported relatively stable levels of satisfaction between 1999 and 2002 (see Appendix 4, Table A9 for details). The model for those who were in partially allocated activities in 1999 should be interpreted with caution, however, due to the need to combine paths to form a reference group and the small number of cases comprising the resultant reference group.



Note: The shaded highlighted groups refer to those used as the reference groups in regression analyses. These groups remained in similar states across all years. See Table 3 for more details

Figure 4 Activity pathways (incorporating activities from 2000 through 2002)

General satisfaction

Results of the hierarchical regression analysis of general satisfaction in 2002 are reported in Table 3; unstandardised regression coefficients are reported in Appendix 4, Table A10. The models, which include socio-demographic characteristics, prior general satisfaction and post-school pathways, explained around 16 per cent of the variance in general satisfaction for those who had been in dual role activities in 1999, 21 per cent for those in fully allocated activities in 1999, 19 per cent of the variance for those who had been in unallocated activities in 1999, and 13 per cent of the variance for those who had been in partially allocated activities in 1999. In general, measures of prior general satisfaction explained the greater proportion of the variance in the models, between 10 and 18 per cent of the variance explained was attributable to the relationship between general satisfaction in 1999 and 2002.

Young people who had been in dual role activities in 1999

The results for the group of young people who had been in dual role activities in 1999 are presented in the first column of Table 3. Among this group, none of the socio-demographic factors were associated with general satisfaction in 2002. There were no significant associations between general satisfaction in 2002 and gender, language background or Yr 12 completion in the final model. General satisfaction in 1999 was, however, strongly associated with satisfaction levels in 2002—young people who reported high levels of general satisfaction in 1999 also tended to report higher levels of general satisfaction in 2002 ($\beta = 0.391$).

Overall, the results for the activity pathways did not support the hypothesis that changes in activity would lead to changes in satisfaction among those who had been in dual role activities in 1999. The additional of the activity pathways to the model did not add significantly to the variance explained ($F\text{-change}_{(10,483)} = 1.157, p = 0.318$).

Young people who had been in fully allocated activities in 1999

The results for the group of young people who had been in fully allocated activities in 1999 are presented in column 2 of Table 3. Among this group, language background was the only socio-demographic factor that was associated with general satisfaction in 2002—coming from a non-English speaking background was associated with lower levels of general satisfaction for those young people who were in fully allocated activities in 1999 ($\beta = -0.083$). Persons from language backgrounds other than English reported slightly lower levels of satisfaction than persons from English-speaking backgrounds. General satisfaction in 1999 was strongly associated with satisfaction levels in 2002 ($\beta = 0.426$). As expected (given the significant association between prior and current satisfaction levels reported in Table 2 in the previous chapter), higher levels of general satisfaction in 1999 were associated with higher levels of general satisfaction in 2002.

Among those who had been in fully allocated activities in 1999, subsequent activity pathways influenced general satisfaction in 2002. The results providing some support for the hypothesis that activity changes that decreased the amount of time allocated to formal education, training and employment activities would lead to decreased satisfaction levels. Compared with young people who remained in fully allocated activities across the four-year period (path 4a), the following groups had lower levels of general satisfaction in 2002: those who had been in mixed activities between 2000 and 2001 and who ended up in partially allocated activities in 2002 (path 8); and those who ended up in unallocated activities in 2002 (paths 10, 11 and 12b).

The results provided mixed support for the hypothesis that the amount of time spent in low time allocation activities would be associated with the size of the decrease in satisfaction. Among young people who ended up in unallocated activities in 2002, spending the lowest amount of time in low time allocation activities (path 10) was associated with a small decrease in general satisfaction, spending somewhat more time in low time allocation activities (path 11) was

associated with a larger decrease in general satisfaction, and spending the most time in low activities (path 12b, $low_{2000-2001}$, $unallocated_{2002}$) was associated with the largest decrease in general satisfaction. The results pertaining to those who ended up in dual role or fully allocated activities or partially allocated activities in 2002 (paths 1-9), however, did not support the hypothesis.

The results provide some evidence of a recency effect, in which the current activity remains the most important influence on satisfaction. Moving from fully allocated activities in 1999 to low time allocation activities in 2000 and 2001, before returning to fully allocated activities in 2002 (path 6) was associated with slightly higher levels of general satisfaction compared with remaining in fully allocated activities over all years (path 4a). In addition, paths leading to unallocated activities in 2002 were associated with the lowest levels of satisfaction in 2002 (paths 10, 11 and 12b).

Young people who had been in partially allocated activities in 1999

The results relating to the group of young people who had been in partially allocated activities in 1999 are reported in column 3 of Table 3. None of the socio-demographic factors included in the model was associated with general satisfaction in 2002. Prior satisfaction was, however, associated with satisfaction in 2002 ($\beta = 0.342$), indicating that those young people with higher prior general satisfaction also reported higher general satisfaction in 2002, as suggested in the earlier analyses.

The results for the activity pathways did not support the hypothesis that changes in activity would lead to changes in satisfaction among those who had been in partially allocated activities in 1999. Although the introduction of the pathways variables increased the explanatory power of the model at a significant level for this group ($F\text{-change}_{(11, 456)} = 1.981, p = 0.029$), adding 4 per cent to the variance explained, none of the individual pathways was significantly different from the reference group.

Young people who had been in unallocated activities in 1999

The results relating to the group of young people who had been in unallocated activities in 1999 are reported in column 4 of Table 3. For this group, Year 12 completion status was associated with general satisfaction in 2002 ($\beta = 0.195$), indicating that young people who had completed a Year 12 qualification reported slightly higher general satisfaction than young people who had not completed Year 12, all other things being equal. School completers reported higher general satisfaction than school non-completers. Prior general satisfaction was also associated with satisfaction levels in 2002 ($\beta = 0.354$).

The results for the activity pathways provide no support for the hypothesis that positive changes in activity would lead to an increase in satisfaction among those who had been in unallocated activities in 1999. The introduction of the pathways variables failed to increase the explanatory power of the model at a significant level for this group ($F\text{-change}_{(11, 358)} = 1.542, p = 0.115$). Path 12b, a combination of partially allocated and unallocated activities in 2000 and 2001 followed by unallocated activities in 2002, was, however, associated with slightly lower levels of general satisfaction in comparison to the reference group (young people who had remained in unallocated activities over all years). In this case, a decrease in the amount of time allocated to formal activities was associated with a decrease in general satisfaction.

Table 3 Hierarchical regression models of general satisfaction in 2002

	Dual role in 1999	Fully allocated in 1999	Partially allocated in 1999	Unallocated in 1999
Number in reference group	25	2517	115	71
Standardised coefficients - β				
<i>Controls</i>				
Language background (LBOTE=1)	0.019	-0.083***	-0.004	-0.068
Gender (Female =1)	0.011	0.009	0.077	0.009
Yr 12 completion (Yes=1)	-0.008	0.022	0.034	0.195***
General satisfaction in 1999	0.391***	0.426***	0.342***	0.354***
<i>Activity pathways</i>				
Path 1a: dual role ₂₀₀₀₋₂₀₀₂	Reference gp 1			
Path 1b: high ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	-0.110	0.016	0.062	-0.040
Path 2: mixed ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	-0.024	-0.007	-0.002	0.040
Path 3: low ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	No members	0.015	-0.024	No members
Path 4a: fully allocated ₂₀₀₀₋₂₀₀₂		Reference gp 2		
Path 4b: high ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.126	0.013	0.127	-0.054
Path 5: mixed ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.081	-0.014	0.132	-0.026
Path 6: low ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.138*	0.033*	-0.048	-0.091
Path 7: high ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.034	-0.025	0.052	0.079
Path 8: mixed ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.043	-0.043***	-0.025	0.019
Path 9a: partially allocated ₂₀₀₀₋₂₀₀₂			Reference gp 3	
Path 9b: low ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.055	-0.026		0.060
Path 10: high ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.082	-0.054***	-0.006	0.003
Path 11: mixed ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.024	-0.065***	0.011	-0.002
Path 12a: unallocated ₂₀₀₀₋₂₀₀₂				Reference gp 4
Path 12b: low ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	No members	-0.071***	-0.073	-0.120*
Model statistics				
<i>Step 1 (socio-demographic characteristics)</i>				
R squared change	0.003	0.018	0.010	0.064
F change, p values	0.443	26.982***	1.518	8.511***
<i>Step 2 (+ prior satisfaction)</i>				
R squared change	0.162	0.181	0.103	0.120
F change, p values	95.903***	1018.411***	54.276***	54.442***
<i>Step 3 (+ activity pathways)</i>				
R squared change	0.020	0.016	0.040	0.037
F change, p values	1.157	7.649***	1.981*	1.542
R squared	0.184	0.214	0.153	0.221
Adjusted r squared	0.161	0.212	0.125	0.189

Note: Negative coefficients indicate decreased levels of satisfaction relative to the reference group.
 * $p < 0.05$ ** $p < 0.005$ *** $p \leq 0.001$

Career satisfaction

Results of the hierarchical regression analysis of career satisfaction in 2002 are reported in Table 4. The regression models that include socio-demographic characteristics, prior levels of career satisfaction and post-school pathways explained around 7 per cent of the variance in career satisfaction for those who had been in dual role activities in 1999, 13 per cent of the variance for those who had been in fully allocated activities, 15 per cent of the variance for those who had been in partially allocated activities in 1999, and 11 per cent for those who had been in unallocated activities in 1999. As with general satisfaction in 2002, the greater part of the explained variance in career satisfaction was attributable to levels of career satisfaction in 1999.

Young people who had been in dual role activities in 1999

The results relating to the group of young people who had been in dual role allocated activities in 1999 are reported in column 1 of Table 4. Among this group, language background was the only socio-demographic factor associated with career satisfaction in 2002 ($\beta = -0.083$). Young people from language backgrounds other than English reported slightly lower levels of satisfaction than young people from English-speaking backgrounds. Prior career satisfaction was strongly associated with satisfaction levels in 2002 ($\beta = 0.232$).

Overall, the results for the activity pathways did not support the hypothesis that changes in activity would lead to changes in career satisfaction among those who had been in dual role activities in 1999. The additional of the activity pathways to the model did not add significantly to the variance explained (F -change_(10,483) = 1.801, $p = 0.058$).

Young people who had been in fully allocated activities in 1999

The results relating to the group of young people who had been in fully allocated activities in 1999 are reported in column 2 of Table 4. Among this group also, language background was the sole socio-demographic characteristic associated with career satisfaction in 2002 ($\beta = -0.055$). As with those in dual role activities in 1999, young people in fully allocated activities in 1999 who were from language backgrounds other than English reported lower levels of satisfaction than those from English-speaking backgrounds. Prior career satisfaction was strongly associated with satisfaction levels in 2002 ($\beta = 0.305$).

Among those who had been in fully allocated activities in 1999, subsequent activity pathways influenced career satisfaction in 2002, with the results providing support for the hypothesis that decreases in the amount of time allocated to formal activities would lead to decreased satisfaction levels. Compared with young people who remained in fully allocated activities over the four-year period (path 4a), those who ended up in partially or unallocated activities in 2002 (paths 7 through 12b) had lower levels of career satisfaction in 2002.

The analysis found little evidence of an association between the amount of time spent in low time-allocation activities and the size of the decrease in satisfaction. Larger coefficients (reported in column 2 of Table 4), representing greater influence on satisfaction, were not found for those pathways that included larger amounts of time spent in low time-allocation activities. For example, among those who ended up in unallocated activities in 2002 (paths 10, 11 and 12b), coefficients were not larger for those who had spent more time in low time-allocation activities. The largest activity pathway coefficients (indicating the greatest impact on levels of general satisfaction) were, in fact, for those who had spent 2000 and 2001 in high time-allocation activities (path 10) or a combination of high and low time-allocation activities (path 11) and were in unallocated activities in 2002. Paths including the highest amount of time spent in low time-allocation activities (paths 9b and 12b) had relatively smaller coefficients, representing a much smaller influence on satisfaction. Rather than an association between length of time spent in low time-allocation activities and size of decrease in satisfaction levels, these findings suggest that more recent changes in activity status, such as moving from high time-allocation activities (including full-time employment and study) into unallocated activities may have a greater impact on levels of career satisfaction.

Table 4 Hierarchical regression models of career satisfaction in 2002

	Dual role in 1999	Fully allocated in 1999	Partially allocated in 1999	Unallocated in 1999
Number in reference group	25	2517	115	71
Standardised coefficients - β				
<i>Controls</i>				
Language background (LBOTE=1)	-0.083***	-0.055***	0.084	-0.023
Gender (Female =1)	0.024	-0.003	0.064	0.072
Yr 12 completion (Yes=1)	-0.075	0.008	-0.093*	-0.003
General satisfaction in 1999	0.232***	0.305***	0.377***	0.247***
<i>Activity pathways</i>				
Path 1a: dual role ₂₀₀₀₋₂₀₀₂	Reference gp 1			
Path 1b: high ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	-0.065	0.010	0.025	0.065
Path 2: mixed ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	0.037	0.000	0.004	0.047
Path 3: low ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	No members	0.018	0.023	No members
Path 4a: fully allocated ₂₀₀₀₋₂₀₀₂		Reference gp 2		
Path 4b: high ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.053	0.017	-0.073	0.215**
Path 5: mixed ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.095	-0.010	-0.091	0.094
Path 6: low ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.143**	0.033*	-0.054	0.070
Path 7: high ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.100	-0.046***	0.003	0.048
Path 8: mixed ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.056	-0.031*	-0.086	0.110
Path 9a: partially allocated ₂₀₀₀₋₂₀₀₂			Reference gp 3	
Path 9b: low ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	0.012	-0.040**		0.070
Path 10: high ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.045	-0.094***	-0.155**	-0.100
Path 11: mixed ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.093	-0.094***	-0.111*	-0.045
Path 12a: unallocated ₂₀₀₀₋₂₀₀₂				Reference gp 4
Path 12b: low ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	No members	-0.041**	-0.153*	-0.073
Model statistics				
<i>Step 1 (socio-demographic characteristics)</i>				
R squared change	0.008	0.008	0.007	0.012
F change	1.365	12.317***	1.099	1.518
<i>Step 2 (+ prior satisfaction)</i>				
R squared change	0.055	0.098	0.128	0.063
F change	28.782***	494.956***	69.314***	25.096***
<i>Step 3 (+ activity pathways)</i>				
R squared change	0.034	0.024	0.041	0.075
F change	1.801	10.209***	2.051*	2.870***
R squared	0.096	0.130	0.176	0.150
Adjusted r squared	0.070	0.127	0.149	0.114

Note: Negative coefficients indicate decreased levels of satisfaction relative to the reference group.
 * $p < 0.05$ ** $p < 0.005$ *** $p \leq 0.001$

Young people who had been in partially allocated activities in 1999

The results relating to the group of young people who had been in partially allocated activities in 1999 are reported in column 3 of Table 4. Among these young people, Year 12 completion was associated with career satisfaction in 2002 ($\beta = -0.093$). Those who had completed Year 12 reported lower levels of career satisfaction than those who did not have a Year 12 qualification. Prior career satisfaction was again strongly associated with satisfaction levels in 2002 ($\beta = 0.377$).

Among those who had been in partially allocated activities in 1999, subsequent activity pathways influenced career satisfaction in 2002, with the results providing support for the hypothesis that a reduction in time allocated to formal activities would lead to decreased satisfaction levels. Compared with young people who were in low time-allocation activities between 2000 and 2001 and were partially allocated in 2002 (Reference group 3: paths 9a and b), those who ended up in unallocated activities in 2002 (paths 10, 11 and 12b) had lower career satisfaction in 2002. In contrast, changes in activity that led to an increase in the amount of time allocated to formal activities (paths 1 through 6) were not associated with increased satisfaction in 2002.

The hypothesis that the amount of time spent in low time-allocation activities would be associated with the size of the decrease in satisfaction found little support in the analysis. For example, among those who ended up in unallocated activities in 2002 (paths 10, 11 and 12b), coefficients were not larger for those who had spent more time in low time-allocation activities. The largest coefficient ($\beta = -0.155$) was for path 10, made up of those young people who had moved from high time-allocation activities over 2000 and 2001 into unallocated activities in 2002.

Young people who had been in unallocated activities in 1999

The results relating to the group of young people who had been in unallocated activities in 1999 are reported in the final column of Table 4. For this group, language background, gender and Year 12 completion status were not associated with career satisfaction in 2002. Prior levels of career satisfaction, however, were associated with satisfaction levels in 2002 ($\beta = 0.247$).

The results provide little support for the hypothesis that changes in activity that increased time allocation would lead to increased satisfaction among young people who had been in unallocated activities in 1999. Only those who moved into high time-allocation activities in 2000 and remained in fully allocated activities in 2002 (path 4b) experienced a significant increase in career satisfaction relative to those who remained in unallocated activities over the four-year period (Reference group 4: path 12a). This path represented one of the largest possible positive changes in activities for this group. The other paths, representing smaller changes in activities, were unrelated to career satisfaction in 2002.

Summary

The analyses presented in this chapter investigated whether changes in post-school activities influenced general and career satisfaction, after controlling for background characteristics and prior satisfaction.

- For young people who had been in dual roles in 1999, subsequent activity pathways did not influence general or career satisfaction levels in 2002.
- Among young people who had been in fully allocated activities in 1999, subsequent pathways influenced general and career satisfaction in 2002, with the results providing some support for the hypothesis that activity changes resulting in less time being allocated to formal activities such as study and/or employment would lead to decreased satisfaction levels.
- Among those who had been in partially allocated activities in 1999, the results provided no support for the hypothesis that changes in activity that increased time allocation would lead to an increase in general satisfaction. Changes in activity that decreased time allocated to formal activities, however, did lead to decreased career satisfaction levels among this group.
- For those who had been in unallocated activities in 1999, the results for the activity pathways provided no support for the hypothesis that movement into high time-allocation activities would lead to an increase in general satisfaction. There was some support, however, for the hypothesis that increases in the amount of time allocated to formal activities would lead to increased career satisfaction among this group.
- Finally, there was little support overall for the hypothesis that the amount of time spent in particular types of activities would influence the life satisfaction of young people.

5. DISCUSSION

The current report used data from Longitudinal Surveys of Australian Youth to examine the education, training and employment pathways young people follow between the ages of 19 and 22, and the relationship these transitions have with their reported levels of two aspects of life satisfaction:- their general satisfaction and their career satisfaction. The broad aims were three-fold:

- To describe the relationship between life satisfaction and participation in a range of post-school education, training and labour market activities at different points in time.
- To assess whether the relationship between life satisfaction and post-school activities holds after controlling for prior levels of satisfaction.
- To assess whether movement between activities is associated with changes in life satisfaction. In particular, are changes in activities that lead to an increase in the amount of time allocated to study and or employment (such as moving from joblessness into employment, or moving from part-time employment into full-time employment) associated with increases in life satisfaction. Are changes in activities that decrease the amount of time spent in these activities (such as moving from full-time study or work into part-time work or joblessness) associated with decreases in life satisfaction?

Results from analyses of the relationship between post-school activities and general and career satisfaction found that young people who are occupied full-time in education, training, employment or a combination of these activities report higher levels of satisfaction, with both their careers and their lives in general, than young people who are occupied in these activities only part-time. Those who are occupied part-time are in turn more satisfied than those who are not in education, training or employment. These differences hold, even after controlling for prior levels of satisfaction. This is consistent with previous research on the relationship between employment status and emotional well-being, which has found that education, training and labour market activities have a direct effect on emotional well-being, even after controlling for the effects of prior health and a range of risk factors, while the influence of health and happiness selection effects, whereby the least 'healthy' or 'happy' are posited to be at greater risk of becoming underemployed or unemployed, is limited.

Of interest was the lack of difference in satisfaction levels between the dual role group and the group in fully allocated activities. The dual role group consisted of those young people who were combining full-time study or training with 20 or more hours of paid work per week, a group of young people who research has shown to be at greater risk of dropping out of tertiary education. The results reported here found few differences in career or general satisfaction between those who were in the dual role group and those who were fully allocated. Although this increased time load may lead to higher absenteeism, assignments not being completed on time and eventually attrition from education, it does not appear to be influencing the young people's satisfaction with their social lives, their spare time, their career prospects or their lives in general.

The possible explanations for this lack of a difference are many. It may be that those who find the combination of student and employee roles difficult choose to stop one or the other activity fairly quickly, and so do not remain overloaded long enough for it to have an adverse affect on their wider satisfaction. On the other hand, those who remain in this category may have different personality traits, require higher levels of stimulation and activity, or may simply see their 'overload' as a temporary state, a current challenge that, while necessary for now, will reap benefits in the longer term.

The results from the longitudinal analyses found an association between the post-school pathways followed by young people and their life satisfaction. Specifically, some changes in activity status that led to increased amounts of time allocated to study and or employment were related to positive changes in life satisfaction although this was limited to the largest changes in activities, such as moving from unallocated activities into dual role or fully allocated activities and to increases in career satisfaction only. The association between activity changes that decreased the total amount of time allocated to formal activities and decreased satisfaction levels was stronger. Those young people who moved from fully allocated activities into partially allocated or unallocated activities reported lower general and career satisfaction than their compatriots who remained in fully allocated activities. Results from the analysis for those young people who were in partially allocated activities in 1999 also showed some evidence of this association, in that members of this group who moved into unallocated activities reported lower career satisfaction than those who remained in partially allocated activities.

There was little support found for the hypothesis that the amount of time spent in activities is related to the size of change in satisfaction. Those who had spent more time in partially allocated or unallocated activities did not report lower general or career satisfaction than their counterparts. Instead, the results suggested a strong recency effect, in which the most recent activity seemed to drive the level of satisfaction reported. Other research has indicated that when well-being is considered, recent events usually have a greater impact than events that have happened further in the past (see Diener et al., 1999), although others have claimed that the length of time spent in unemployment is negatively related to emotional well-being.

Overall, the relationships between young people's post-school activity pathways and their life satisfaction, although significant, were not strong, generally accounting for less than ten per cent of the variance in general and career satisfaction. This is in line with previous research that suggests the relationship between employment status and well-being may be stronger among older people than among young people. Unsurprisingly, the relationship between post-school pathways and career satisfaction was stronger than that between post-school pathways and general satisfaction. Changes in activity and employment status would be expected to have a direct influence on how satisfied young people are with their level of income, their career prospects and the work they do; losing a job will almost always result in a decrease of income, if not a complete loss, and the loss of a full-time position can seriously impede a young person's progress in establishing a career.

The relationship reported here between general satisfaction and post-school pathways is important though, and warrants attention, as it indicates that involvement in part-time work not coupled with full-time study, being unemployed and withdrawal from the labour force can have a negative effect on young people's levels of satisfaction with broader, more social aspects of their lives. Rather than simply becoming dissatisfied with their income, future career direction or the work they do, young people who are in these less desirable situations also report lower levels of satisfaction with other aspects of their lives, such as their social lives, their use of spare time, their independence and their lives as a whole.

The relationship between the more personal and social aspects of emotional well-being and employment is described in Jahoda's (1981, 1982) deprivation model of employment, in which a distinction is drawn between the manifest and latent consequences of work. Manifest consequences are deliberately intended, with earning a living considered the central goal (these may correspond with the aspects of career satisfaction measured here). Latent consequences are seen as unintended by-products of purposeful activity that are nonetheless necessary for healthy psychological functioning. Five of these latent consequences of employment have been described in Jahoda's model: Employment imposes a time structure on the waking day; it usually involves regular shared contact and experiences with people other than the nuclear family; it often involves common goals that transcend the personal goals of individuals; it provides an individual with status

and an identity; and it enforces activity. The lower levels of general satisfaction reported by those who were not fully engaged in education, training or the labour market may be related to missing out on the latent consequences of employment listed above.

Although young people who are neither studying nor working and those who work with them are undoubtedly aware of the manifest consequences of employment that they are missing, as indicated by their lower levels of career satisfaction, particularly with their income, they may not be aware of the latent consequences of being engaged in education, training or employment, and so not be prepared for the loss of these benefits upon leaving. The lower levels of satisfaction with their independence, social lives and lives as a whole reported by these young people should be a warning to those who work with young people that the consequences of underemployment or unemployment can go beyond not having enough money for the week to have an impact on aspects of life that are commonly linked with psychological and emotional health. Other research has suggested that young people who are underemployed or unemployed are at greater risk of developing problems with mental health, including depression and anxiety, and have higher rates of suicide and alcoholism than their compatriots who are employed full-time (Argyle, 1999; Diener et al., 1999).

The results in this report underline the importance of all young people being engaged in some form of purposeful activity. Research can assist policymakers meet this substantial challenge by identifying effective strategies for engaging and supporting young people at risk of disconnecting from education and work.

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APPENDIX 1: THE LSAY SAMPLE

The sampling design for LSAY's 1995 Year 9 cohort was a two-stage cluster sample, with schools selected with a probability proportional to school size in each State and Territory, and whole classes of students randomly selected within each participating school. The initial sample included 13 613 students from approximately 300 government, Catholic and independent schools (see Long, 1996 for details).

The students were first surveyed in their school in 1995, where they completed a questionnaire about themselves and their families. Further data on educational, training and labour market activities have been collected from the sample members on an annual basis: by mail questionnaire in wave 2, and by computer-assisted telephone interviews in subsequent waves. Questions on emotional well-being (satisfaction with various aspects of their lives) have been included in the telephone interviews since 1997.

Most sample members completed Year 12 in 1998 and at the time of the annual survey in 2002, had been out of school for four years. The average age of participants at the time of the 2002 survey was 21. This report is based upon the 6095 young people who remained in the active sample in 2002. Further details on the 2002 active sample are provided in Hillman (2003). All analyses have been weighted to correct for the original sample design and attrition over subsequent years (Marks & Long, 2000). There is little evidence of satisfaction-related bias in the sample attrition (Table A 1).

Table A 1 Number and percentage of sample members in active sample, by general and career satisfaction in 1997

	1997 Active sample		2002 Active sample		% Retained 1997 to 2002
	Unweighted	Weighted	Unweighted	Weighted	Weighted
General satisfaction					
Lowest quartile	2620 (25%)	2605 (25%)	1508 (25%)	1524 (25%)	58
Third quartile	2744 (27%)	2728 (26%)	1644 (27%)	1627 (27%)	60
Second quartile	2329 (23%)	2321 (23%)	1379 (23%)	1362 (22%)	59
Highest quartile	2614 (25%)	2651 (26%)	1564 (26%)	1581 (26%)	60
Career satisfaction					
Lowest quartile	2701 (26%)	2740 (27%)	1578 (26%)	1635 (27%)	60
Third quartile	2495 (24%)	2463 (24%)	1443 (24%)	1406 (23%)	57
Second quartile	3143 (30%)	3127 (30%)	1936 (32%)	1913 (31%)	61
Highest quartile	1968 (19%)	1977 (19%)	1138 (19%)	1141 (19%)	58

APPENDIX 2: VARIABLES USED IN ANALYSES

Life satisfaction: General and Career

The life satisfaction questions were first used in the Youth in Transition studies (a precursor to the LSAY program) in 1979. A sample of young people born in 1961 responded to 15 questions in annual mailed questionnaires between the ages of 18 and 33 years. These questions were also administered to samples of young people born in 1965, 1970 and 1975. The LSAY items are based on the YIT life satisfaction questions, with some revisions to allow for use in a telephone interview⁵.

The LSAY life satisfaction items (as they are read to participants in the survey) are presented in Box 1.

Box 1 LSAY life satisfaction questions

I am now going to read out a list of different aspects of your life. As I read them, please tell me whether you are *very happy*, *happy*, *unhappy*, or *very unhappy* with each one. Firstly, how happy are you with....

- a. The work you do, at school, at home or in a job
- b. What you do in your spare time
- c. How you get on with people in general
- d. The money you get each week
- e. Your social life
- f. Your independence - being able to do what you want
- g. Your career prospects
- h. Your future
- i. Your life as a whole
- j. Your standard of living
- k. The way the country is run
- l. The state of the economy
- m. Where you live
- n. Your life at home

The LSAY items were first administered to the 1995 Year 9 cohort in 1997, and have been included in each annual survey since then. Life satisfaction data collected in the early post-school years (from 1999 to 2002) are analysed in this report. The distribution of responses to each item in 1999 and 2002 is presented in Table A 2.

⁵ The items are similar to those used in the Australian Unity Well-being Index for Personal Well-being, in that there are a number of domains. The 'life as a whole' item is also similar to the single-item measures used in the HILDA study and in the National Health Survey (AIHW, 2003; Shields & Wooden, 2003).

Table A 2 Responses to life satisfaction items, 1999 and 2002 (row per cent)

<i>How happy are you with....</i>	Year	Very happy	Happy	Unhappy	Very unhappy	Unsure/ Don't know
The work you do- at school, at home or in a job	1999	34.8	57.6	5.2	0.6	1.8
	2002	34.6	58.5	5.4	1.0	0.5
What you do in your spare time	1999	59.1	37.8	2.8	0.3	0.1
	2002	51.1	45.5	3.0	0.3	0.2
How you get along with people in general	1999	56.4	42.3	1.2	0.1	0.0
	2002	61.2	38.0	0.6	0.1	0.1
The money you get each week	1999	27.2	54.0	14.0	3.8	1.1
	2002	21.6	58.7	14.6	4.8	0.3
Your social life	1999	51.0	44.5	3.7	0.7	0.2
	2002	56.8	39.7	2.9	0.5	0.1
Your independence- being able to do what you want	1999	43.4	49.0	6.4	1.1	0.1
	2002	65.8	31.0	2.7	0.3	0.1
Your career prospects	1999	32.1	55.6	9.0	0.9	2.4
	2002	42.7	49.3	5.6	0.8	1.5
Your future	1999	33.2	58.1	5.4	0.4	2.9
	2002	43.6	52.0	2.1	0.3	2.0
Your life as a whole	1999	46.8	50.6	2.0	0.2	0.3
	2002	53.2	45.8	0.8	0.1	0.1
Your standard of living	1999	62.6	36.2	0.9	0.2	0.1
	2002	62.6	36.0	1.2	0.1	0.1
The way the country is run	1999	6.9	63.2	19.7	4.8	5.4
	2002	5.6	62.3	19.8	6.4	5.8
The state of the economy	1999	3.5	55.9	24.8	3.8	12.1
	2002	3.5	54.0	26.1	7.4	8.9
Where you live	1999	58.2	36.4	4.5	0.8	0.1
	2002	56.6	39.1	3.5	0.8	0.1
Your life at home	1999	59.7	37.4	2.5	0.3	0.2
	2002	57.6	39.6	2.2	0.4	0.2

Responses such as 'don't know' and 'unsure' were coded to the mid-point, and the underlying structure of the well-being items was determined by a principal components analysis with oblique rotation (direct oblimin). Three factors with eigenvalues greater than one were extracted. A similar factor structure, with similar eigenvalues and explained variance, was found in each year (see Appendix 3).

Eight items loaded highly on a *general satisfaction* factor. They included:

- your life at home;
- your social life;
- your life as a whole;
- what you do in your spare time;
- your standard of living;
- where you live;
- how you get along with people in general; and
- your independence—being able to do what you want.

Four items that loaded highly on a *career satisfaction* factor. They included:

- your career prospects;
- your future;
- the work you do—at school, at home or in a job; and
- the money you get each week.

Two items loaded highly on a third factor relating to the political and economic climate:

- the state of the economy; and
- the way the country is run.

As these last two items do not relate to the immediate lives of young people, they are not analysed in the report.

The remaining items were summed to form separate scales measuring two aspects of life satisfaction—general satisfaction and career satisfaction—with scores calculated for each year from 1999 to 2002. Cross-loadings were disregarded. As the resultant scale scores were highly skewed (with the majority classified as satisfied), the scores were transformed to approximate a normal distribution (see Appendix 3 for details). The transformed scales ranged from one to six for general satisfaction and one to four for career satisfaction, with higher scale scores representing higher levels of satisfaction.

Controls

Gender: The dichotomous variable measuring gender was derived from the respondents' self-reports in wave 1. Male respondents were coded as 0 and female respondents were coded as 1. Among the 2002 active sample, 49 per cent were male and 51 per cent were female.

Language background: The dichotomous measure of language background was derived from respondents' reports of the main language spoken at home in wave 1. English-speaking background was coded as 0 and language background other than English (LBOTE) was coded as 1. Among the 2002 active sample, 88 per cent were from an English-speaking background and 12 per cent were from another language background.

Year 12 completion: The dichotomous measure of Year 12 completion was derived from respondents' reports of their completion status in each of the years surveyed. Those respondents who indicated that they had completed Year 12 with the appropriate school-leaving certificate for their state at any point in the years covered were coded as 1 and those who did not obtain a certificate were coded as 0. Among the 2002 active sample, 80 per cent had completed Year 12 and 20 per cent had not.

APPENDIX 3: CONSTRUCTION OF THE LIFE SATISFACTION MEASURES: GENERAL AND CAREER SATISFACTION

Table A 3 Results of principal components analysis (with oblique rotation), 1999 and 2002

	1999			2002		
	I	II	III	I	II	III
General satisfaction						
Your life at home	0.697	0.029	0.002	0.759	-0.015	0.038
Where you live	0.687	0.104	0.123	0.711	0.053	0.098
You social life	0.682	-0.049	0.005	0.703	0.012	0.000
Your standard of living	0.671	0.035	0.025	0.636	0.045	-0.058
How you get along with people in general	0.602	-0.045	-0.091	0.671	-0.040	-0.015
What you do in your spare time	0.599	-0.030	-0.057	0.639	0.009	-0.032
Your life as a whole	0.586	-0.014	-0.244	0.619	-0.032	-0.220
Your independence – being able to do what you want	0.554	-0.032	-0.001	0.642	-0.040	0.008
Career satisfaction						
Your career prospects	-0.106	0.035	-0.863	-0.058	0.025	-0.812
Your future	0.007	0.038	-0.773	0.166	0.032	-0.617
The work you do – at school, at home or in a job	0.069	-0.066	-0.642	-0.042	-0.076	-0.763
The money you get each week	0.128	0.074	-0.373	0.048	0.075	-0.500
Macro issues satisfaction						
The state of the economy	-0.024	0.858	-0.031	-0.026	0.864	-0.023
The way the country is run	0.020	0.847	-0.016	0.014	0.860	0.004
Model statistics						
Eigen value (post rotation)	3.918	1.670	2.944	4.310	1.699	3.024
Percentage variance explained	30.853	10.267	8.146	33.257	10.714	7.970
Correlation with first factor	1.000	1.64	-0.482	1.00	0.154	-0.486

Note: Analyses conducted on unweighted data

Transformation of life satisfaction scales

In calculating the raw scale scores for each respondent, the following coding system was used: Very happy = +2; Happy = +1; Unsure/Don't know = 0; Unhappy = -1; Very unhappy = -2. The scores for each scale were then calculated as the sum of the scores for the contributing items. For the sake of simplicity, cross-loadings were disregarded in calculating scores for general and career satisfaction. The raw scores for the general satisfaction scales could range from -16 to +16, and the raw scores for the career satisfaction scales could range from -8 to +8. Examination of the descriptive statistics (Table A4), and the frequency distributions (histograms and box-plots) of the raw satisfaction scales indicated that assumptions of normality had been violated.

Table A 4 Descriptive statistics for raw satisfaction scores, 1999 and 2002

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
General satisfaction								
1999	-13	16	12.17	3.423	-1.176	0.031	2.314	0.063
2002	-16	16	11.89	3.462	-0.957	0.031	2.036	0.063
Career satisfaction								
1999	-8	8	4.50	2.443	-1.039	0.031	1.596	0.063
2002	-8	8	4.55	2.357	-0.912	0.031	1.268	0.063

Note: Analyses conducted on unweighted data

The raw satisfaction scales were transformed in the following steps:

1. Addition of a constant value to remove zero and negative values

General satisfaction = Previous score + 17

Career satisfaction = Previous score + 9

2. Reflection of scores to eliminate negative skewness, followed by square transformation applied to improve normality of distribution, using the formula below:

New variable = Square root (K - Old variables), where K is a constant equal to the largest score + 1.

Due to the reflection of scores, lower scores on the transformed general and career satisfaction scales would indicate higher levels of satisfaction, while higher scores would indicate lower levels of satisfaction in these areas. For ease of interpretation, these scales were reversed by subtracting the new scores from a constant. Higher scores thus represent higher levels of satisfaction. Descriptive statistics for the final transformed versions of general and career satisfaction scales are reported in Table A5.

Table A 5 Descriptive statistics for transformed satisfaction scores, 1999 and 2002

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
					Statistic	Std. Error	Statistic	Std. Error
General satisfaction								
1999	2	6	4.94	0.778	-0.342	0.031	-0.512	0.063
2002	1	6	4.87	0.784	-0.135	0.031	-0.739	0.063
Career satisfaction								
1999	1	4	2.96	0.580	-0.214	0.031	-0.010	0.063
2002	1	4	2.95	0.560	-0.087	0.031	-0.041	0.063

Note: Analyses conducted on unweighted data

APPENDIX 4: SUPPLEMENTARY TABLES

Table A 6 General satisfaction by post-school activity groups, 1999-2002 – means, standard errors and F statistics

	General satisfaction			
	1999	2000	2001	2002
	mean (standard error)	mean (standard error)	mean (standard error)	mean (standard error)
Total sample	4.94 (0.010)	4.68 (0.009)	4.90 (0.010)	4.87 (0.010)
Activity groups				
Dual role	5.01 (0.032)	4.77 (0.027)	4.96 (0.029)	4.90 (0.037)
Fully allocated	4.97 (0.011)	4.69 (0.010)	4.93 (0.011)	4.92 (0.012)
Partially allocated	4.85 (0.035)	4.62 (0.031)	4.77 (0.033)	4.79 (0.030)
Unallocated	4.69 (0.042)	4.52 (0.035)	4.72 (0.034)	4.59 (0.031)
df1	3	3	3	3
df2	6090	6090	6090	6090
F	19.63***	13.65***	19.55***	33.04***
Eta-squared	0.009	0.007	0.009	0.016

* $p < 0.05$ ** $p < 0.005$ *** $p \leq 0.001$

Table A 7 Career satisfaction by post-school activity groups, 1999-2002 – means, standard errors and F statistics

	Career satisfaction			
	1999	2000	2001	2002
	mean (standard error)	mean (standard error)	mean (standard error)	mean (standard error)
Total sample	2.96 (0.007)	2.98 (0.007)	2.98 (0.007)	2.95 (0.007)
Activity groups				
Dual role	3.10 (0.022)	3.10 (0.020)	3.08 (0.020)	3.01(0.025)
Fully allocated	3.00 (0.008)	3.01 (0.008)	3.01 (0.008)	3.00 (0.008)
Partially allocated	2.77 (0.028)	2.91 (0.028)	2.90 (0.024)	2.88 (0.023)
Unallocated	2.51 (0.029)	2.61 (0.030)	2.68 (0.025)	2.67 (0.022)
df1	3	3	3	3
df2	6090	6090	6090	6090
F	120.55***	85.26***	19.80***	68.12***
Eta-squared	0.056	0.040	0.032	0.032

* $p < 0.05$ ** $p < 0.005$ *** $p \leq 0.001$

Table A 8 General and career satisfaction by post-school activity groups: adjusted means, standard errors and F-statistics

	General satisfaction 2002	Career satisfaction 2002
	Adjusted mean (standard error)	Adjusted mean (standard error)
Activity group in 2002		
Dual role (n=412)	4.93 (0.035)	2.99 (0.026)
Fully allocated (n=4415)	4.91 (0.011)	2.99 (0.008)
Partially allocated (n=636)	4.82 (0.028)	2.91 (0.021)
Unallocated (n=604)	4.63 (0.029)	2.72 (0.021)
Covariate effect : partial eta-squared		
	0.181	0.108
df1	3	3
df2	6062	6062
F	27.95***	48.97***
Dependent effect: partial eta-squared		
	0.014	0.024

Note:

Levels of general and career satisfaction in 1999 entered as covariates. * $p < 0.05$ ** $p < 0.005$ *** $p \leq 0.001$

Table A 9 Paired-samples *t*-tests of general and career satisfaction for post-school activity reference groups

	Satisfaction 1999 Mean (standard error)	Satisfaction 2002 Mean (standard error)	df	t	Two- tailed signif.
General satisfaction					
Reference group 1 (followed path 1a: dual role ₂₀₀₀₋₂₀₀₂)	5.11 (0.150)	5.12 (0.137)	24	-0.017	0.986
Reference group 2 (followed path 4a: fully allocated ₂₀₀₀₋₂₀₀₂)	5.00 (0.015)	4.94 (0.015)	2516	3.875	0.000*
Reference group 3 (followed path 9*: low ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂)	4.82 (0.081)	4.72 (0.070)	114	1.221	0.225
Reference group 4 (followed path 12a: unallocated ₂₀₀₀₋₂₀₀₂)	4.64 (0.094)	4.63 (0.095)	70	0.080	0.937
Career satisfaction					
Reference group 1 (followed path 1a: dual role ₂₀₀₀₋₂₀₀₂)	3.16 (0.105)	3.09 (0.091)	24	0.556	0.583
Reference group 2 (followed path 4a: fully allocated ₂₀₀₀₋₂₀₀₂)	3.04 (0.011)	3.01 (0.011)	2516	2.373	0.018*
Reference group 3 (followed path 9*: low ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂)	2.79 (0.052)	2.85 (0.050)	114	-0.908	0.366
Reference group 4 (followed path 12a: unallocated ₂₀₀₀₋₂₀₀₂)	2.60 (0.071)	2.75 (0.069)	70	-1.855	0.068

* Note: Paths 9a (partially allocated₂₀₀₀₋₂₀₀₂) and 9b (partially allocated or unallocated₂₀₀₀₋₂₀₀₁ and partially allocated₂₀₀₂) were merged due to small cell sizes, only 17 respondents remained in partially allocated activities from 1999 to 2002.

The results of the analyses for the fully allocated group reached significance, reported in Table A9, suggesting that there was a significant change in the levels of general and career satisfaction reported by these young people between 1999 and 2002. In both analyses, this change indicated a decrease in levels of satisfaction for a group that was hypothesised to be more satisfied than others.

However, examination of the effect sizes for these analyses, using $\eta^2 = t^2 / (t^2 + (N-1))$, found that the effect sizes were extremely small, .006 and .002 for general and career satisfaction respectively, suggesting that the significance of the results is being driven largely by the large degrees of freedom value, rather than a strong difference in the means.

Table A 10 Unstandardised coefficients (b weights) and standard errors for general satisfaction in 2002

	Dual role in 1999	Fully allocated in 1999	Partially allocated in 1999	Unallocated in 1999
Number in reference group	25	2517	115	71
Constant	3.131 (0.290)	2.763 (0.072)	2.798 (0.277)	2.952 (0.229)
<i>Controls</i>				
Language background (LBOTE=1)	0.047 (0.106)	-0.197 (0.032)	-0.012 (0.130)	-0.178 (0.129)
Gender (Female =1)	0.016 (0.064)	0.014 (0.021)	0.124 (0.071)	0.014 (0.081)
Yr 12 completion (Yes=1)	-0.022 (0.111)	0.044 (0.028)	0.060 (0.079)	0.307 (0.079)
General satisfaction in 1999	0.419 (0.043)	0.431 (0.013)	0.349 (0.045)	0.334 (0.046)
<i>Activity pathways</i>				
Path 1a: dual role ₂₀₀₀₋₂₀₀₂	Reference gp 1			
Path 1b: high ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	-0.287 (0.183)	0.053 (0.045)	0.302 (0.261)	-0.249 (0.308)
Path 2: mixed ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	-0.166 (0.322)	-0.072 (0.139)	-0.012 (0.362)	0.493 (0.577)
Path 3: low ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	No members	0.541 (0.465)	-0.728 (1.334)	No members
Path 4a: fully allocated ₂₀₀₀₋₂₀₀₂		Reference gp 2		
Path 4b: high ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.192 (0.158)	0.035 (0.037)	0.202 (0.162)	-0.096 (0.122)
Path 5: mixed ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.190 (0.178)	-0.034 (0.034)	0.272 (0.172)	-0.060 (0.138)
Path 6: low ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.918 (0.312)	0.215 (0.086)	-0.156 (0.204)	-0.251 (0.157)
Path 7: high ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.098 (0.189)	-0.080 (0.044)	0.290 (0.284)	0.446 (0.276)
Path 8: mixed ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.232 (0.270)	-0.218 (0.067)	-0.073 (0.194)	0.063 (0.173)
Path 9a: partially allocated ₂₀₀₀₋₂₀₀₂			Reference gp 3	
Path 9b: low ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.476 (0.387)	-0.197 (0.102)		0.183 (0.164)
Path 10: high ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.329 (0.223)	-0.206 (0.052)	-0.029 (0.259)	0.014 (0.213)
Path 11: mixed ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.133 (0.274)	-0.325 (0.067)	0.042 (0.225)	-0.007 (0.168)
Path 12a: unallocated ₂₀₀₀₋₂₀₀₂				Reference gp 4
Path 12b: low ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	No members	-0.477 (0.090)	-0.243 (0.205)	-0.443 (0.190)

Note: Negative coefficients indicate decreased levels of satisfaction relative to the reference group.

Table A 11 Unstandardised coefficients (b weights) and standard errors for career satisfaction in 2002

	Dual role in 1999	Fully allocated in 1999	Partially allocated in 1999	Unallocated in 1999
Number in reference group	25	2517	115	71
Constant	3.170 (0.081)	2.098 (0.048)	2.094 (0.157)	2.026 (0.148)
<i>Controls</i>				
Language background (LBOTE=1)	-0.049 (0.080)	-0.094 (0.024)	0.174 (0.091)	-0.044 (0.098)
Gender (Female =1)	0.026 (0.049)	-0.003 (0.016)	0.073 (0.050)	0.083 (0.061)
Yr 12 completion (Yes=1)	-0.142 (0.184)	0.011 (0.021)	-0.117 (0.055)	-0.004 (0.060)
General satisfaction in 1999	0.254 (0.049)	0.301 (0.014)	0.342 (0.039)	0.240 (0.049)
<i>Activity pathways</i>				
Path 1a: dual role ₂₀₀₀₋₂₀₀₂	Reference gp 1			
Path 1b: high ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	-0.123 (0.139)	0.024 (0.034)	0.086 (0.182)	0.295 (0.234)
Path 2: mixed ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	0.185 (0.244)	-0.003 (0.104)	0.019 (0.255)	0.415 (0.440)
Path 3: low ₂₀₀₀₋₂₀₀₁ , dual role ₂₀₀₂	<i>No members</i>	0.444 (0.349)	0.509 (0.937)	<i>No members</i>
Path 4a: fully allocated ₂₀₀₀₋₂₀₀₂		Reference gp 2		
Path 4b: high ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.059 (0.120)	0.032 (0.028)	-0.083 (0.114)	0.277 (0.093)
Path 5: mixed ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.161 (0.135)	-0.018 (0.026)	-0.134 (0.121)	0.157 (0.105)
Path 6: low ₂₀₀₀₋₂₀₀₁ , fully allocated ₂₀₀₂	-0.686 (0.237)	0.151 (0.064)	-0.126 (0.144)	0.140 (0.121)
Path 7: high ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.206 (0.144)	-0.105 (0.033)	0.011 (0.199)	0.197 (0.211)
Path 8: mixed ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.218 (0.205)	-0.112 (0.051)	-0.181 (0.137)	0.257 (0.133)
Path 9a: partially allocated ₂₀₀₀₋₂₀₀₂			Reference gp 3	
Path 9b: low ₂₀₀₀₋₂₀₀₁ , partially allocated ₂₀₀₂	-0.075 (0.295)	-0.218 (0.077)		0.156 (0.125)
Path 10: high ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.132 (0.170)	-0.255 (0.039)	-0.535 (0.182)	-0.302 (0.163)
Path 11: mixed ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	-0.369 (0.208)	-0.334 (0.050)	-0.313 (0.158)	-0.104 (0.128)
Path 12a: unallocated ₂₀₀₀₋₂₀₀₂				Reference gp 4
Path 12b: low ₂₀₀₀₋₂₀₀₁ , unallocated ₂₀₀₂	<i>No members</i>	-0.197 (0.068)	-0.362 (0.144)	-0.197 (0.145)

Note: Negative coefficients indicate decreased levels of satisfaction relative to the reference group.