

Adolescent occupational expectations: two decades of LSAY-based research

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Introduction

For decades, the Longitudinal Surveys of Australian Youth (LSAY) have been one of the best sources of information about the occupational expectations and attainments of young Australians. With comprehensive data collections going back to the 1990s, these surveys have provided high-quality information on the extent to which the educational and occupational plans of teenagers predict their attainments later in life and how this varies by gender and socioeconomic background.

This review presents the key insights from research on expectations that focused on the concepts of teenage ambition, lost talent and occupational uncertainty. Of particular interest are the consequences of teenage career plans and the gender divide in science-related occupational expectations. This last theme is related to recent efforts to enhance gender equity in Australian science through the Science in Australia Gender Equity program (SAGE) and similar initiatives.

Teenage ambition: most youth hope to enter the professions – is this unrealistic?

Figure 13 Occupational plans LSAY Y09



The LSAY data on different cohorts of Australian teenagers who were 15 years of age sometime between 1999 and 2015 consistently show that youth have very ambitious occupational expectations, with most of them expecting a career in professional occupations, which require a university degree at entry. This is illustrated in figure 13, which shows the breakdown of occupational plans among 15-year-olds in the first wave of LSAY Y09 (Sikora & Biddle 2015). The categories are one-digit groups of the Australian and New Zealand Standard Classification of Occupations (ANZSCO). In 2009, 56% of 15-year-old boys and 66% of girls in the same age group planned to become professionals, while the proportions of professionals in the adult population were significantly lower than these figures (Sikora & Biddle 2015). Such a discrepancy raises concerns that many adolescents have unrealistic future plans, which will generate discontent and high levels of stress. The positive interpretation of this phenomenon, however, points out that occupational ambition in young

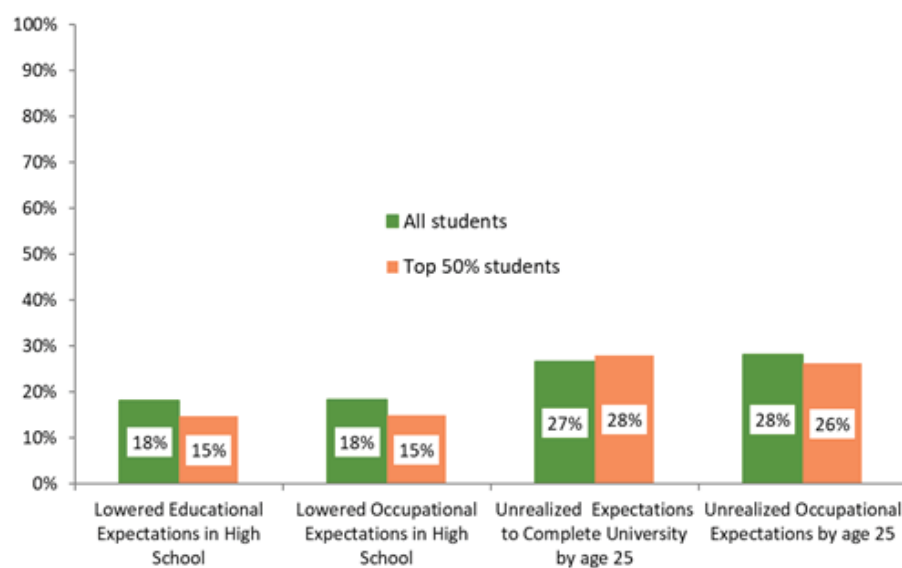
people encourages them to aim for university education, which in the long run is more likely to lead to desirable rather than negative outcomes, even if not all young people realise their most ambitious expectations. Notwithstanding that, occupational optimism, that is, the expectation to enter the highly skilled professional jobs, might be more prevalent among adolescents from advantageous socioeconomic backgrounds. An important question is whether students from less affluent backgrounds are likely to adjust their initially ambitious expectations down even if, at school, they are above-average achievers.

What is talent loss in the context of educational and occupational expectations? Does Australia lose much teenage talent?

Researchers investigating occupational optimism have long been interested in students' socioeconomic status (SES) as a potential determinant of adolescent ambitions (Sikora & Saha 2011). In this context, different definitions of talent loss have been proposed, but all of them hinge on measuring student expectations at different life stages and then determining whether these become less ambitious as students mature and gain more awareness of the potential social-structural barriers to their attainment (Sikora & Saha 2011).

For instance, LSAY Y98 secondary students were asked about their occupational expectations in 1999 and 2001, that is, in Years 10 and 12. Figure 14 presents the proportions of students who lowered or failed to realise their educational or occupational expectations. Four understandings of talent loss are considered in turn. First, ‘lowered educational expectations’, are taken to be equivalent to the changes in students’ initial expectations to attend university. A student is assumed to have experienced talent loss if initially, that is, in 1999, they reported an intention to go to university, but at some point between 1999 and 2001 they made a permanent switch to obtaining a non-university qualification. According to this definition, 15% of students whose academic performance placed them in the top 50% lowered their educational expectations in upper secondary school (figure 14).

Figure 14 Prevalence of talent loss in LSAY Y98

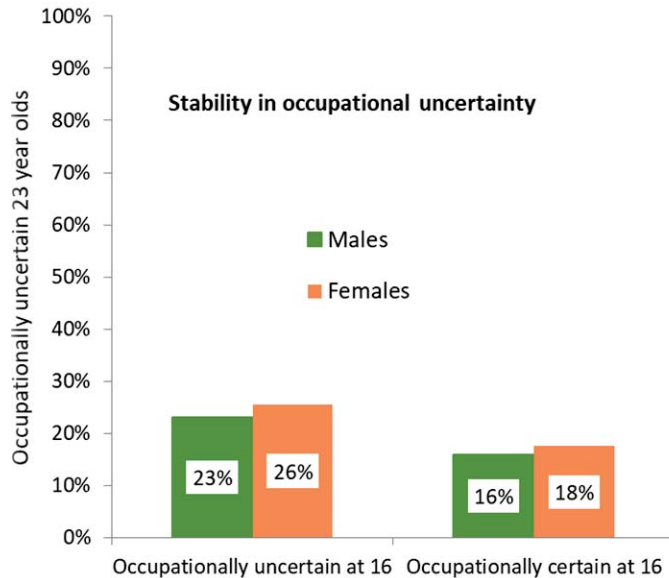


The second definition of talent loss depicts changing occupational expectations from highly skilled professional destinations to careers that require more on-the-job and less formal training. Students who initially planned to work in professional or managerial occupations and later reported other occupations as their expected careers are considered to have made a downward adjustment in terms of occupational status. Among the top 50% achievers, there were 15% of such students. Finally, over one-quarter of Y98 participants failed to achieve their teenage goals by the time they had turned 25, which can be also seen as talent loss, at least for strong academic performers. These are the remaining two types of talent loss. However, it must be borne in mind that for some of these young people the realisation of their early ambitions might have occurred after their 25th birthday, so these are not conservative estimates.

Overall, the occurrence of talent loss has been no more than moderate among young Australians, which is reassuring, given the need for well-educated workers in the Australian economy. However, one concerning aspect of the pattern in figure 14 is the fact that students from lower SES backgrounds had a significantly stronger propensity for downward adjustments of their initially ambitious educational and occupational expectations, all else being equal. Thus, Australian teenagers who come from disadvantaged socioeconomic backgrounds are more likely to experience some form of talent loss.

What proportion of Australian youth does not know what job they want in adulthood? Does it matter if they don't know? How?

Figure 15 Occupational uncertainty LSAY Y06



The LSAY data on teenage occupational expectations also highlight that some young people are unable to articulate the occupation they want to pursue at the age of 30 years (Sikora 2018). In the older tradition of youth studies this occupational uncertainty was usually construed as a form of social disadvantage, or aimlessness, mostly because teenagers from disadvantaged socioeconomic backgrounds

were more likely to be occupationally uncertain; the occupationally uncertain youth in the United States were found to attain less than their more vocationally decided peers (Sikora 2018). In the last two decades, however, a counter-argument has been proposed, in which occupational uncertainty in adolescence was not viewed as a cause for concern but rather a form of flexibility, which enables youth to explore several potential roles and which can be beneficial in the preparation for the volatile and fluid labour market of the 21st century. The analysis of this issue for the cohort who were 15 years of age in 2006 (figure 15) shows that occupational uncertainty, which is essentially not being able to name the occupation in which one wants to work on their 30th birthday, persists from adolescence to young adulthood. Twenty-six per cent of females who are occupationally uncertain at age 15 were also unsure what their future career would be when they reached 22 years of age. The corresponding figure for males was 23%. This contrasted with 16% and 19% for men and women respectively who did have some career plan at the age of 15 years but could not articulate what they wanted to do when they were asked again around their 22nd birthday. So, teenage uncertainty raises the chances of occupational uncertainty in young adulthood by 45% (the estimates in figure 15 are adjusted predicted probabilities from table 2 in Sikora 2018, which controlled for academic achievement, enjoyment of school and student socioeconomic background, as well as Indigenous and migration status). What is not shown in figure 15 is that occupationally uncertain young adults have lower expected lifetime earnings than their comparable peers. The disadvantage is not as large as what was found in the United States, nevertheless, the negative effect is statistically significant, amounting to about a 6% decrease in expected lifetime earnings. So, in Australia occupational uncertainty among young adults is a form of aimlessness rather than beneficial flexibility. This is the case both for young men and women.

Do boys and girls prefer different jobs? Are girls in recent cohorts as likely as boys to expect a career in science?

Figure 16 Gender gap in science-related career expectations



*The samples in 1999 and 2001 are grade-based, while all later samples are age-based.

The careers that teenagers expect to pursue vary significantly between boys and girls. This gender divide is particularly interesting to consider in the context of science professions because of the often-voiced concerns about women's underrepresentation in Australian science (Sikora 2014b). However, not all areas of science are affected by female underrepresentation. The fields of science related to biology, environmental sciences, health services and medicine attract more teenage females than males. In contrast, computing, engineering and mathematics appeal to relatively few young women (Sikora 2014a; Sikora & Pokropek 2012).

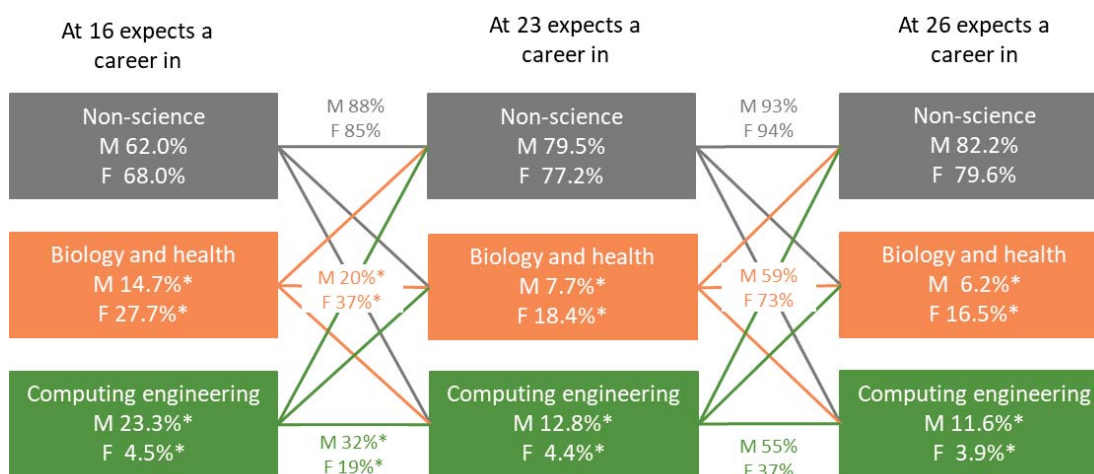
This gender segregation in the science-related career expectations of adolescents is an ongoing phenomenon.

Figure 16 shows the breakdown by gender for youth who were about 15 years of age in 1999, 2001, 2003, 2006, 2009 and 2015. In all cohorts the gender gap is evident, so the efforts to encourage boys and girls to opt for non-traditional areas of science specialisation so far have had only moderate success. Why do more males opt for different areas of science than females? One of the most common explanations is that girls are socialised to choose occupations they think of as working with other people or helping others, while boys are socialised to opt for occupations that deal with technological problem-solving and construction. Therefore, even when young people of different genders have comparable mathematical aptitudes, they often choose to apply their quantitative skills in different fields of science (Sikora & Pokropek 2012). Adolescent expectations also reflect to some degree the actual segregation in the labour force: women are underrepresented in computing, engineering and mathematics but not at all or considerably less so in biology, health services or environmental sciences.

Are teenage expectations consequential? How many 25-year-olds still plan on entering science careers chosen at age 15?

Teenage expectations to enter specific occupations would have little information value if they were poor predictors of the later educational and occupational attainment of young people (Sikora 2015). In fact, they are quite good predictors. This does not mean, however, that adolescents do not change their minds, as they enter adulthood. Figure 17 shows that vocational orientation towards science begins relatively early; of males who knew at age 15 that science occupations were not of interest to them, 88% were still of this view at the age of 22, and of these males, 93% still thought so when they turned 25. The corresponding proportions of females were very similar. Science-oriented teenagers, boys and girls alike, tended to switch to non-science occupational plans as they got older.

Figure 17 Stability of science-related career expectations LSAY Y06 (Sikora 2019)



Note: *Statistically different at $p = .05$ between males and females

Of 14.7% of teenage males interested in biology or health-related occupations, only 20% retained the same preference until age 22, but still this was over twice the average preference among males at 23, which was only 7.7% of males. Over the next three years 59% of those males kept the same occupation plan, contributing to the overall 6.2% males who still planned to work in biology or health at the age of 25. For women, the exit rates in this expectation pathway were lower, reducing from 27.7% to 16.5% by the age of 25, but many females in this group also switched to a non-science occupation, with only 37% retaining their initial plan (which, nevertheless, was significantly higher than 20% of men). Plans stabilised for females between the ages of 22 and 25, as 73% of the 18.4% women who wanted a biology- or health-related job at age 22 years still wanted one at age 25 years.

The stability in teenage plans concerning computing and engineering, where males are overrepresented, formed a different pattern. Youth in this pathway also tend to switch to non-science jobs as they get older, but females are more likely than males to abandon this career plan between the ages of 16 and 23 years (as 32% of teenage men retain it in contrast to only 19% of females). Later, the exit rates are similar for men and women, as they were in case of the biology and health career plans. Yet, the proportion of women who plan a computing or engineering career, although very low, remains very stable at ages 15, 22 and 25. Women switch to non-science but at rates that leave about 4% of them always in this career expectation path. These patterns raise questions for future research. For instance, what are the key reasons why youth abandon their teenage plans to specialise in

science? The analyses shown here suggest that interventions at tertiary level to bridge the gender segregation in these science fields come too late, unless their sole goal is to help students who have already started a science degree not to drop out. The real challenge, however, is to raise the supply of science applicants to tertiary institutions and, particularly, to encourage more males and females to form an interest in careers in science fields that are atypical for their sex or gender (Sikora 2014b).

Summary

While the two decades of LSAY-based research on the occupational expectations of young Australians delivered many important insights into the role that youth motivation plays in educational and occupational careers and attainments, many questions remain open. Some of them concern the consequences of unrealised ambitious expectations: do teenagers adjust, or do they suffer if their teenage ambitions remain unrealised? Others are associated with understanding the consequences of talent loss: does the downward adjustment of educational and occupational plans have any serious consequences for youth from lower socioeconomic backgrounds who were above-average school achievers? What are the key processes that sustain the youth focus on professional occupations and what are the key factors that sustain gender segregation in science-related plans across generations? Finally, what are the best ways to retain youth in science-career pathways? As LSAY data collections on the occupational expectations of young Australians continue, data on how and why occupational expectations matter in Australia will hopefully provide comprehensive answers to these questions.

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