

Youth Transition Pathways

VICES Discussion Paper

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Executive Summary

The transformation from youth to early adulthood is one of life's key transitions. During this phase, essential capabilities in skills and education are formed and lifelong social networks established. Economic and social changes over the last two decades have lengthened and made more uncertain the outcome of this transition phase. The structural changes in the economy have increased the importance of knowledge intensive services, and the deregulation of labour markets has made employment at the end of the transition process much less certain. In the advanced economies, jobs in secondary industry have disappeared. Many of the lower skilled jobs in the services sector have been restructured to part-time. They provide little career progression for those seeking full-time jobs, but appeal to, and take advantage of, the army of students seeking income over their extended periods in education.

The *OECD Skills Outlook 2013* which presents the initial results of the Survey of Adult Skills (OECD 2013c) and the *OECD Employment Outlook 2014* (OECD 2014) emphasise the importance of education and skills for successful entry into the labour force. The reports suggest that:

- Educational attainment is the key signalling device for a young person entering the workforce. Together with field of study, it has a major effect on entry wages. For Australia, the return from one extra year's education is about 5 per cent (OECD 2014, p. 219).
- It is not just education, but also generic and information-processing skills and those related to field of study that are significantly and independently associated with the level of hourly wages.

There has been some debate about the inter-relatedness of education and information-processing skills. Does education lead to higher information-processing skills or does an innate ability to process information lead to better educational outcomes? On the whole, the literature suggests that education improves information-processing skills (Falch and Massih 2006; Leuven et al. 2010; Banks and Mazzonna 2012).

The work of James Heckman and his associates have demonstrated that non-cognitive skills – motivation, persistence and self-esteem, are of at least equal importance for employment outcomes as cognitive skills. Indeed, non-cognitive skills contribute more strongly than cognitive skills to the probability of graduating with a 4-year college degree, of being employed at 30, and of being a white-collar worker (Heckman et al. 2006).

The results of an Australian study indicate that completion of a university degree has had the largest impact on occupational status and on earnings, which increased by about 30 per cent (Marks 2008). The impact was slightly higher amongst women. Apprenticeships increased earnings by about 20 per cent, but had little effect on occupational status.

Given the increased time spent in education, few have the resources to devote themselves exclusively to education. The vast majority mix work with education. Fry and Boulton (2013) use pathways analyses to segment the youth population into various education/work strategies. Only 8 per cent go from full-time education to work and a further 14 per cent combine work and study with good effect, both with respect to the level of educational attainment and employment outcomes. However, over half are classified as 'churning with work', which results in both low levels of educational attainment and poor employment outcomes. Of more concern are those in the *Prolonged inactive* pathway (10 per cent) which has a high unemployment rate (14.5 per cent) and very low educational attainment.

With respect to health, while most adolescents enjoy good physical health, mental health issues are more prominent, with a sizeable proportion of adolescents suffering various forms of mental illness. The Global Burden of Disease study (WHO 2014b) indicates that for both males and females the greatest burden is due to mental and behavioural disorders, representing 36 per cent of the total disease burden (or 43 per cent if neurological conditions are included).

Adolescence is a period of emotional development with periods of poor self-identity, alternating with periods of high expectation. The tendency to distance themselves from parents, and a drive for independence, can be destabilising for some adolescents (Sawyer et al. 2012).

While the mental illness itself is important, its co-morbidity with other diseases and disorders increases its impact on the disease burden. Co-morbidity between mental and other disorders can occur with substance abuse, such as use of alcohol, tobacco and other drugs, and with other chronic diseases such as diabetes (Tan et al. 2005; Patel et al. 2007).

Longitudinal studies have indicated the importance of family, school and neighbourhood factors in the treatment of mental disorders by emphasising the life course aspects of mental health problems in adolescence (Richter 2006). A successful transition to young adulthood has been found to depend on access to high levels of social capital in which both family and peer friendships have an important role (Hawkins et al. 2009; O'Connor et al. 2011a, 2011b).

There is strong evidence of a close relationship between health and education amongst youths, although the direction of causality is difficult to establish. While the direction is typically assumed to be education on health (Cutler and Lleras-Muney 2006), there is good evidence that health has a significant bearing on educational outcomes. This arises because of the impact of the large burden of mental health for this age group (Gan and Gong 2007; Fletcher 2008; Ding et al. 2009; Cornaglia et al. 2012).

The analysis of evidence of the key factors in the transition from adolescence to early adulthood presented in this paper provides a basis for selecting a set of health and education indicators consistent with the capabilities approach. The evidence presented would suggest that the most important capabilities acquired are the cognitive and non-cognitive skills required to obtain a high quality job and form an adult social network. However, many adolescents are burdened by various levels of mental illness that circumscribe the choices available, and lead to high risk behaviours and further chronic disease.

1. Introduction

The successful transition of youth from adolescence to early adulthood has a number of elements. In brief, these are that the young adult has a job or is engaged in study (or both), is financially independent, healthy, and making a positive contribution to broader society (Karmel and Liu 2011). Different scholars and policymakers define these in different ways and place different emphasis on the factors that influence these outcomes.

This paper is largely concerned with marshalling evidence of the nature of the transition process from adolescence to young adult, with a focus on education and health to assist in the process of selection and modelling of indicators that have the strongest predictive potential in regards to health and education pathways.

This transition process is not necessarily time bounded. Different aspects of this transition may take place over different timeframes. However, for practical purposes the UN definition of youth covering the age range of 15-24 is adopted (UNDESA nd). Where possible, data for this age range is presented as reflecting the transition period.

Within a life course context, adolescence is one of the major transition stages in the biological development of the individual, as well as in fundamental role changes. The onset of sexual maturity declined in high income countries for much of the 20th century with the mean age of menarche stabilising at about 12-13 years in the 1960s (Sawyer et al. 2012). This earlier biological maturity is in contrast to the much later age for the adoption of adult roles with an extended period of education, achieving financial independence, and independent household formation, which have implications for both youth education and health.

Bynner (2005) argues that the transition from adolescence to young adulthood has changed fundamentally for structural reasons in the last two decades. There is now a greater emphasis in the 'youth phase' on capital accumulation, reflecting the significant rise in educational attainment with an increasing engagement with post-secondary education. However, this increased focus on education and career has come at the cost of social capital. Based on longitudinal data from three cohorts born in 1946, 1958 and 1970, Bynner has found evidence that the more recent cohorts are less engaged in community (for example, through voluntary and community associations), and less likely to be politically engaged (reflected in lower voting turnout or trade union membership).

What is also clear is that the transition has become more uncertain and more complex (Franke 2010). A greater number of transition pathways have developed to accommodate the demand for a larger variety of employment and study combinations. This multiplicity of transition pathways reflects both greater affluence and the increased opportunities it affords, and a more flexible but higher risk labour market. In these circumstances, those who come from families with higher levels of social and financial capital have a greater capacity to recover from mis-steps and embark on new, more suitable pathways.

Some countries, such as Denmark, have developed comprehensive youth policy frameworks to provide wide-ranging public sector support. In Denmark, the main emphasis is on ensuring that emerging adults have a job or the training that will ensure that they can get a job. For those having difficulties, there are comprehensive 'wrap-around' services to keep youth engaged in education, training or employment. For the Danes, this is part of a social contract in which broad support is provided in return for the adoption by youth of Danish values, and becoming participating citizens contributing to the development of the country.

Australia currently has no comprehensive youth policy. The former Rudd Government released a *National Strategy for Young Australians* in 2010 (DEEWR 2010a, 2010b) which articulated a vision 'for all young people to grow up safe, healthy, happy and resilient, and to have the opportunities and skills they need to learn, work, engage in community life and influence decisions that affect them' (DEEWR 2010b, p. 3). This statement of youth transition objectives is on par with those enunciated by national governments and international agencies. It acknowledges the broader aspects of wellbeing and the need for skills and opportunities for education, employment and engagement.

2. Pathways to Employment

Rather than formulating a broad youth policy, the emphasis for most governments is on the provision of appropriate education and training that will enable emerging adults to find a job commensurate with their capabilities. Indeed, as the process of economic restructuring accelerated through the 1990s, Cuervo and Wyn (2011) suggest that 'youth policy' in Australia became education and training policy 'with an emphasis on the promotion of the nation's human capital with the creation of higher skills for its workers' (p. 18). More recently, for many European countries in the aftermath of the global financial crisis (GFC), strategies to reduce youth unemployment have become the pressing aspect of 'youth policy'.

This emphasis on youth employment is hardly surprising. Much follows from having a job. Employment provides income and potential financial independence, and promotes social inclusion.

2.1 The need for high level skills in the knowledge economy

Australia, which escaped the worst of the GFC, has been adjusting its education objectives to reflect economic restructuring and the need to increase its global competitiveness for some time. Economic restructuring has changed the labour market quite fundamentally. The shift to knowledge intensive services, particularly health, education and professional services, has created an increased demand for well-qualified university graduates. Many of the relatively low-skilled, full-time jobs previously taken by school leavers have disappeared. They have been replaced, with widespread casualisation, and in key sectors such as retail, by part-time jobs that are less secure.

The need for youth to undertake longer periods of education, and the restructuring of the labour market to be more competitive, has created a new work-education dynamic. Low-skilled jobs have been restructured as part-time to appeal to students requiring money to fund increasingly long periods of education at the cost of low-skilled, young, early school leavers. A student workforce is potentially higher skilled, certainly better educated, and likely to be less concerned about tenure and other conditions of employment, when the job is perceived to be transitory (Coles et al. 2010). This has changed the traditional job pathway, particularly for young men without a post-secondary qualification (Cuervo and Wyn 2011).

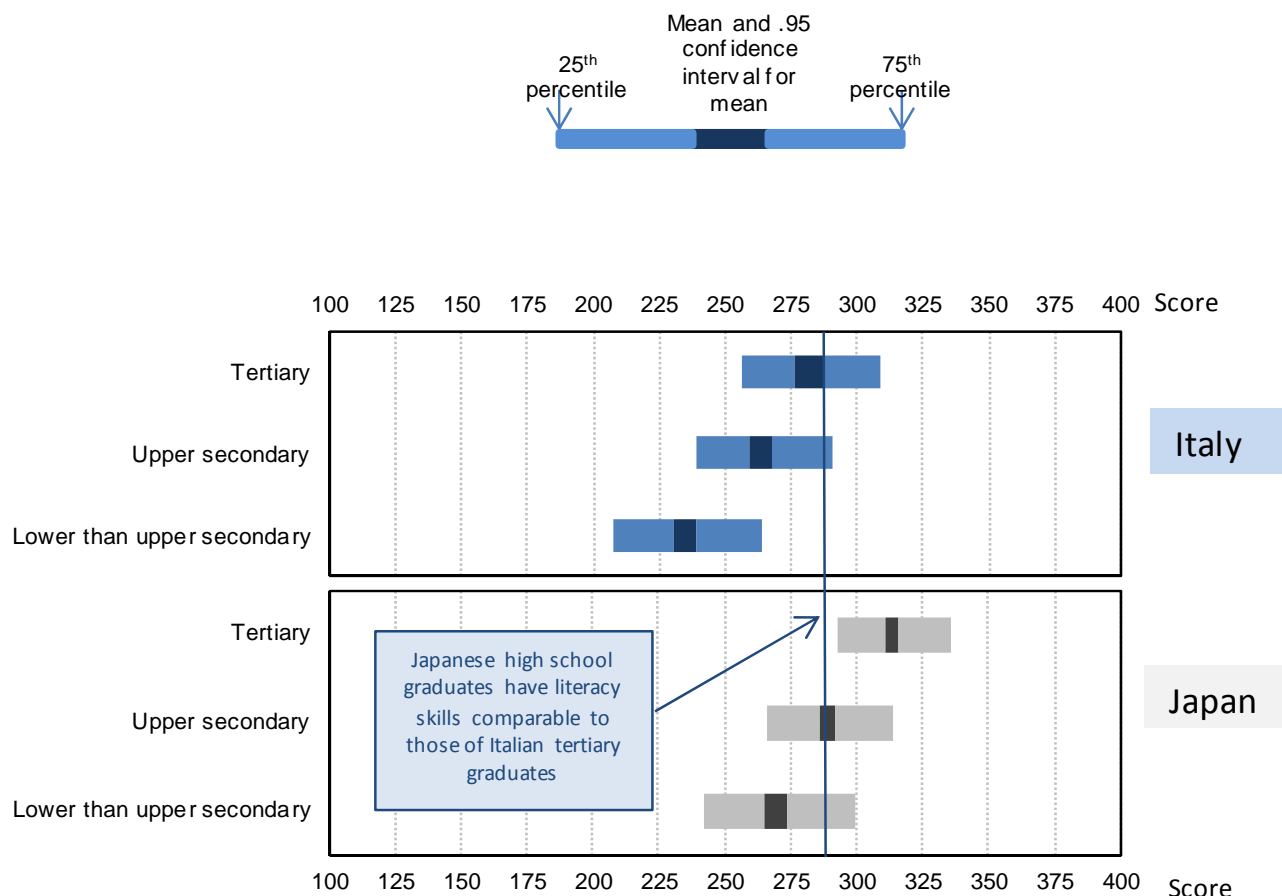
The emergence of the global knowledge economy has brought the need for skills into primary focus for prosperous economic growth. 'Skills transform lives, generate prosperity and promote social inclusion' (OECD 2013c, p. 26). Without the right skills people are marginalised, technological progress doesn't convert to economic growth and national economies lose competitiveness.

In keeping with the countries in which they live, the incomes and employment status of low-skill individuals will fall behind. Jobs in the knowledge economy require analysis and communication

skills. Those with poor literacy and numeracy have poor information-processing skills and find jobs hard to get and hard to retain (OECD 2013c).

The results of the OECD Survey of Adult Skills (OECD 2013d) show that there is wide variation in skill levels between different countries and that more education does not necessarily translate into higher skill levels. For instance, Japanese high school graduates have literacy levels comparable to those of Italian tertiary university graduates (Figure 1).

Figure 1 Distribution of literacy proficiency scores and education in Italy and Japan. Source: OECD.



Of the OECD countries surveyed, adult literacy levels were lowest for Spain and Italy. Japan was the highest. Australia was ranked fifth highest behind Finland, Netherlands and Sweden (as well as Japan). Australia was also well ranked (6th) for proficiency in problem solving in technology-rich environments. However, for numeracy it was ranked below the OECD average, with the same four countries dominating the table as for literacy (Japan, Finland, Netherlands and Sweden).

The survey also examined whether the skills available were being well used. Countries that made use of higher level reading skills tended to have higher levels of labour productivity. Australia has a good match between literacy proficiency of workers and the demands of their jobs. Australian workers use their skills in reading, writing, working with maths, problem solving and in using computers at a somewhat higher level than the OECD average (OECD 2013b).

2.2 Contribution of education and skills to labour market outcomes

While the observations below apply to all workers, the results of the OECD Survey of Adult Skills can be used to examine the contribution of education and skills to labour market outcomes for young people aged 16-29. The results from the OECD (2014) show that:

- Skills matter – those with lower educational attainment and weaker information-processing skills are more likely to be neither in education nor employment (NEET).
- Educational attainment is the key signalling device for a young person entering the workforce. Together with field of study, it has a major effect on entry wages. For Australia, the return from one extra year's education is about 5 per cent (OECD 2014, p. 219).
- It is not just education, but also generic and information-processing skills and those related to field of study that are significantly and independently associated with the level of hourly wages.
- In some countries including Australia, the returns to information processing skills were increasing, while those to education were falling, indicating perhaps that high participation in tertiary education is diminishing its scarcity value. In contrast, information-processing skills that were revealed on the job were likely to be directly rewarded by employers, independently of formal qualifications (OECD 2014, p. 235).
- Over-qualification is a significant problem for young workers, although for Australia the level is relatively low.
- Countries with more rigid wage-setting arrangements show a lower return for information-processing skills.

Causal effect of education on information-processing skills

It is clear that both education and skills in information-processing are important in determining labour market outcomes and that it might be expected that more education enhances one's information-processing skills. However, the causal impact of education on information-processing skills is not straightforward to identify in practice. While individuals with more education tend to have higher information-processing skills, it could simply be that more skilled individuals are more likely to pursue their studies. It is not clear, therefore, in which direction the causality runs: does more education lead to higher information-processing skills, or do higher information-processing skills entail more education (OECD 2014). A number of studies summarised below directly or indirectly address this issue. Most support the proposition that additional education increases the capacity to develop greater information-processing skills.

Leuven et al. (2010) estimate the effects of expanding early enrolment possibilities on early achievement for 4-years olds in the Netherlands. The study found that for disadvantaged students, one additional month of education in the Netherlands increased language skills by 6 per cent of a standard deviation and mathematics scores by 5 per cent of a standard deviation. Non-disadvantaged children did not benefit from expanded enrolment opportunities. This suggests that the school environment provides better learning opportunities than the home environment for disadvantaged students.

Banks and Mazzonna (2012) studied the effect of education on old age cognitive abilities in Britain. In 1947, the minimum school leaving age was increased from 14 to 15 years. This school reform had dramatic effects on educational attainment on around 50 per cent of the population just after the cut-off point of 1 April 1947. There was also a positive effect on male executive function ability measured using an index based on the verbal fluency and letter cancellation tests. Similarly, Brinch

and Galloway (2012) studied the impact of the increase in compulsory schooling from 7 to 9 years in Norway in the 1960s to estimate the effect of education on IQ. The results show that one additional year of schooling increased IQ by a statistically significant 3.7 points.

Falch and Massih (2006) studied the effects of education on cognitive ability in Norway. The results indicate that ability, as measured by commonly used IQ tests, is positively affected by education. Based on ordinary least squares, they estimate the return to one year of schooling to be 2.8–3.5 IQ points on average. The results also indicate that it is difficult to distinguish between the return on education and the return on ability in the labour market. The total return on education may include both a direct effect and an indirect effect via the impact on general ability.

Schneeweis et al. (2012) studied the relationship between education and cognitive functioning at older ages by exploiting compulsory schooling reforms, implemented in Austria, the Czech Republic, Denmark, France, Germany and Italy during the 1950s and 1960s. The results found a clear and robust causal effect of education on immediate memory and even more so on delayed memory. One year of education increased the memory score by around 16 per cent of the standard deviation. The study also indicates that longer schooling can lead to a significant decline in the prevalence of dementia among women. In summary, the study suggests that lengthening compulsory schooling can lead to long-term improvements in cognitive ability and mental health.

This evidence suggests that schooling helps raise cognitive ability and a range of other skills. In particular, increased education helps to narrow performance gaps in a range of cognitive skills for those otherwise disadvantaged.

The importance of cognitive and non-cognitive skills

The paper to date has been largely concerned with the importance of cognitive skills, but James Heckman and his team have argued that non-cognitive skills – motivation, persistence and self-esteem – are of at least equal importance for employment outcomes. Heckman et al. (2006) develop a simulation model linking wages, other employment outcomes and the uptake of risk behaviours to the level of schooling, cognitive and non-cognitive skills. The methodology employs a life-cycle model of youth and adult decision making. Level of schooling includes high school dropout, high school graduate, 2-year college degree and 4-year college degree.

The modelling shows that overall non-cognitive skills have about the same effect on wages as cognitive skills. This is particularly so for wages paid to high school dropouts and high school graduates, but less so for 4-year college graduates where cognitive skills are more important. However, non-cognitive skills contribute more strongly than cognitive skills to the probability of graduating with a 4-year college degree, of being employed at 30 and of being a white-collar worker. Equally, poor outcomes, such as the probability of participating in illegal activities and being incarcerated, were more highly associated with non-cognitive skills than cognitive skills.

2.3 Relationship for young Australians between education and training, and occupations and earnings

Marks (2008) provides a detailed examination of the relationship for young Australians between education and training, and occupations and earnings. This work is based on the Longitudinal Surveys of Australian Youth (LSAY). It takes a nationally representative sample of about 10,000 year 9 students in 1995 whose employment and study outcomes are tracked on an annual basis. The most recent data incorporated into this study are for 2005. The majority of students were in Year 12

in 1998 and those that went to university enrolled in 1999. By 2005 only 5 per cent were engaged in full-time study.

In 1995, 100 per cent were at school. By 1997 and 1998, this had declined to 80 per cent in full-time study. In 1999, those in full-time work rose to 35 per cent, increasing to 77 per cent by 2005. The proportion in part-time work in 1999 was only 6 per cent, increasing to about 10 per cent by 2001 and 2002. The proportion looking for work but not working or studying was 5 per cent in 1999, and declined to only 2 per cent by 2005. As such, this represented a highly successful transition from education to employment, in part reflecting the favourable economic conditions in Australia at that time.

Almost 90 per cent participated in some form of post-school education and training, such as:

- 46 per cent university bachelor degree;
- 21 per cent TAFE certificate;
- 15 per cent TAFE diploma;
- 15 per cent traineeship; and
- 13 per cent apprenticeship.

There were important gender differences, with women much less likely to take up an apprenticeship (4 per cent versus 22 per cent for males), but much more likely to enrol for a bachelor degree. About 75 per cent of those who started completed their course of post-school education.

Between 1997 and 2005, the number engaged in professional and managerial occupations had increased to 46 per cent. Those engaged in semi/unskilled work fell from 28 per cent in 1997 to only 10 per cent in 2005, while those engaged in sales, clerical and personal services fell from 56 per cent to 31 per cent.

The decline in lower-skilled occupations and the rising proportion in professional and managerial occupations are explained by the increase in qualifications and the transfer from low-skilled part-time work to higher-skilled full-time work. Although annual variability in the total number of cases makes it difficult to precisely quantify the transition, in 1999, the year of likely university entry, about 2,000 were employed part-time in sales, clerical and personal services. This had fallen to less than 300 by 2005.

Table 1 Australian youth engaged in full-time or part-time work by occupation groups, 1997-2005

	1997	1999	2001	2005
Full-time & part-time work (n=)	5,307	6,367	5,580	3,827
Professional/managerial	3.2%	8.5%	17.6%	45.6%
Trade & skilled manual	12.9%	16.6%	15.6%	13.6%
Sales, clerical, personal	56.2%	53.2%	51.2%	31.0%
Semi/unskilled manual	27.6%	21.8%	15.6%	9.8%

Source: Marks (2008, p. 16).

Completion of a university degree had the largest impact on occupational status and on earnings, which increased by about 30 per cent. The impact was slightly higher amongst women. Other forms of training, including apprenticeships, had little effect on occupational status, but apprenticeships increased earnings by about 20 per cent. Work experience had only a small impact on occupational status and earnings.

In certain circumstances, training can help make up for lack of education. Within an Australian setting, Messinis and Olekalns (2007) show that training can compensate for being under educated for a particular job. Compared with a person who is formally qualified at the appropriate level, those without the formal qualifications, but having received training for the position, are paid less than those formally qualified, but nonetheless receive a boost to their wages of between 5 and 7 per cent for having received relevant training (p. 302).

Karmel and Liu (2011) also investigated the most successful school-to-work transition pathways based on the Longitudinal Survey of Australian Youth. They measured success from a variety of economic and personal viewpoints. This included self-reported 'satisfaction with life', as well as occupational status, earnings and engagement with full-time work or study.

They also identified differences in the experience of males and females. For women, the completion of a university degree after completing year 12 was the superior pathway, both for a range of economic outcomes, as well as personal satisfaction.

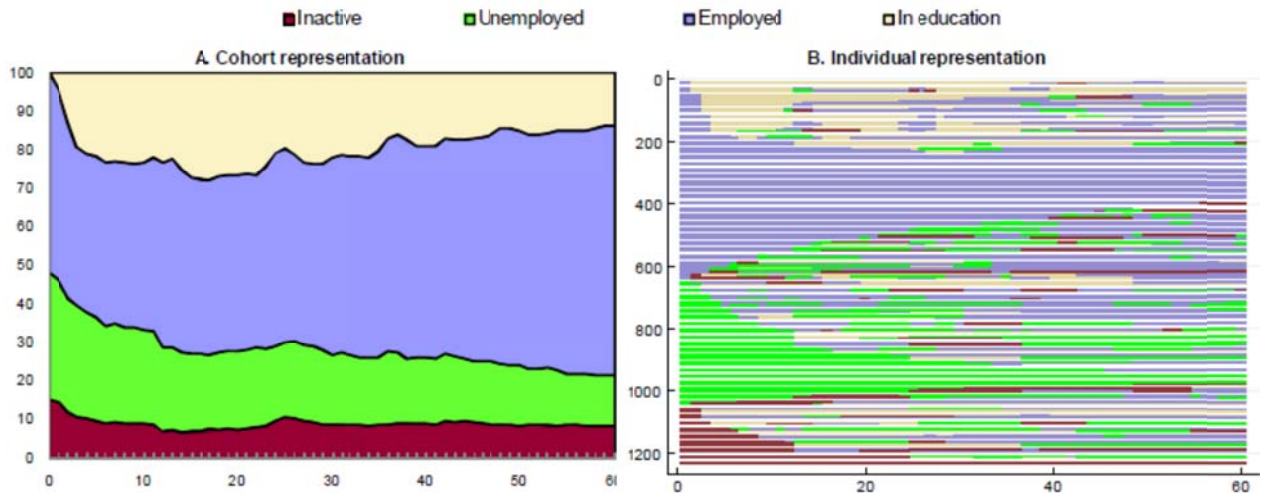
For males, the pathway outcomes were more ambivalent. University delivered the higher occupational status, but apprenticeships gave the highest earnings, at least up to age 25 (the survey cut-off). In general, apprenticeships and traineeships gave higher levels of satisfaction with life compared to university attendance.

2.4 School-to-work transition pathways

The importance of transition pathways has led to detailed studies of school-to-work transitions, which have demonstrated the multiplicity of pathways adopted by young people in moving between school and work. The data from longitudinal surveys enables the pathways chosen by individuals to be clustered around common transition patterns. Quintini and Manfredi (2009) analyse transition pathways for the US and European countries, using a technique known as Optimal Matching (borrowed from DNA matching in molecular biology). Individual pathways are simplified so as to assign only one primary activity for any one month – employed, unemployed, NEET or in education and like pathways clustered around particular themes.

Figure 2 shows two graphical representations of the clusters. The cohort representation (A) shows the changing overall proportions of the cohort in each activity over 60 months. However, this representation masks the changing activity spells for each individual over time, shown in the individual representation (B). While some individuals remained employed or unemployed for the whole period, many individuals moved between employment and study, with periods of inactivity.

Figure 2 Sequence of labour market and activity spells, an example based on selected European countries



Source: Quintini and Manfredi (2009, p. 20).

A number of clusters were identified by Quintini and Manfredi (2009). These include: the ‘express’ pathway for youth who are mostly continuously employed; an ‘in-out’ pathway, where periods of employment are interspersed with period of unemployment; the ‘gap year’, where a period is spent in employment or inactivity prior to full-time education; and the ‘disconnected’ pathway, where the individual is inactive most of the time.

Fry and Boulton (2013) of the Productivity Commission used the same methodology to identify five pathway clusters for Australian youth aged 15-24 from HILDA data involving a sample of 877 individuals. The largest cluster with 52 per cent was ‘churning with work’, ‘prolonged NILF’ (not in labour force or inactive) was 10 per cent, and those in ‘education to work’ were only 8 per cent of the sample. The two other groups combined work and study in different proportions as shown in Table 2.

Table 2 also shows the educational and employment outcomes for each of the segments after nine years. The mean age of the cohort in 2000 was 19 years, so after nine years the mean age was 28. The group had a disproportionately high number of females (54 per cent).

Table 2 Pathways, prevalence and outcomes for the youth segment, 15-24 years of age

Pathway	In 2001			By 2010			
	% youths	Mean age	% female	% high education	% med. education	% unemp.	NILF
Education to work	8.2	16.8	63.9	38.9	52.8	8.3	20.8
Work and study to work	13.9	18.6	54.1	50.8	46.7	1.6	6.6
Churning with work	51.7	20.2	49.7	19.7	63.8	3.1	8.4
Work, with or without study	16.8	17.5	53.7	57.8	40.8	3.4	3.4
Prolonged inactive	9.5	20.3	80.7	4.8	50.6	14.5	49.4
Total	100.0	19.2	54.4	30.6	55.4	4.5	12.2

Note: n=877. High education = bachelor degree or higher, Medium education = year 12 or equivalent, NILF = not in the labour force.

Source: Fry and Boulton (2013, pp. 18, 96-104).

The highest proportion of youths with ‘high’ education (bachelor’s degree or better) were found to *Work and study to work* (51 per cent) or *Work, with or without study* (58 per cent). These segments

had comparatively low unemployment rates of 1.6 per cent and 3.4 per cent, respectively. Those in the segment *Churning with work* had relatively low educational attainment, with 63.8 per cent 'medium' (Year 12 or equivalent) and only 19.7 per cent 'high' educational level, but nonetheless had a relatively low unemployment rate of 3.1 per cent. Both *Education to work* and *Prolonged inactive* (i.e. not in the labour force) had high female proportions and high levels of NILF, the former to study and the latter dedicated to child care/home duties. The *Prolonged inactive* pathway also had high unemployment rates (14.5 per cent) and very low educational attainment, with only 4.8 per cent achieving 'high' levels of education (Fry and Boulton 2013).

The segments indicate that study and work can be successfully combined with good longer term educational attainment and employment outcomes.

Table 2 shows that a large majority choose pathways that combine work and study. Indeed, the OECD Survey of Adult Skills shows that for young people aged 16-29 in Australia, the percentage combining work and study is the second highest of OECD countries surveyed (OECD 2014).

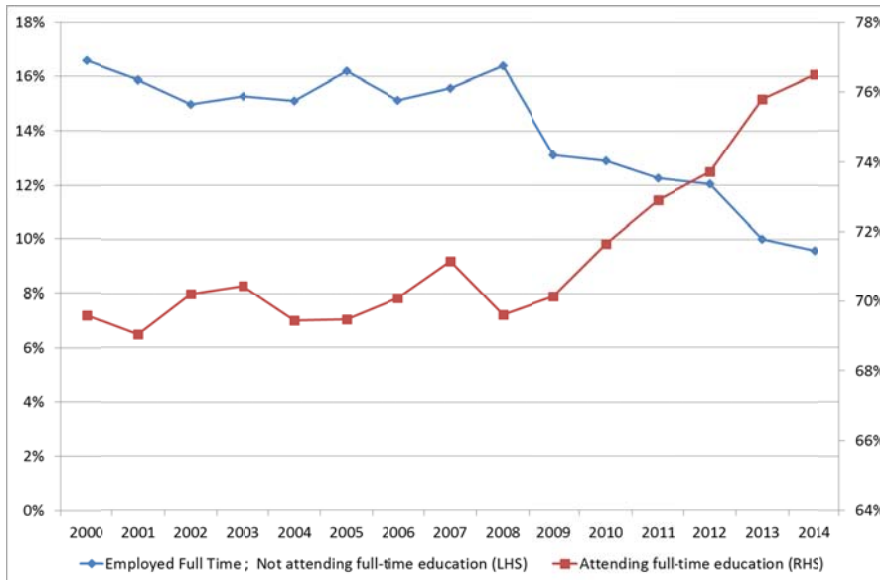
Compared with OECD countries, a higher than average proportion of Australians aged 15-29 make a successful transition to work (OECD 2013a). In 2011, 42.9 per cent of Australians aged 15-29 were employed, but longer in education compared with the OECD average of 37 per cent. Australia also had a relatively high proportion (25.2 per cent) of those aged 15-29 who were in education but also employed, mostly part-time (OECD 2013a). This was twice the OECD average, although lower than some countries, such as Denmark, which conduct 'work-study' programs. Almost one quarter of Danish 15-29 year olds are in education and also working part-time compared to 16.6 per cent in Australia (OECD 2013a).

A measure of unsuccessful transition to the workforce is given by the proportion of those neither in education or employment (NEET). There are two components – the proportion unemployed and those simply inactive. The NEET rate for Australia for those aged 15-29 was lower than the OECD average at 11.5 per cent, compared with 15.8 per cent. It was marginally higher than the Nordic countries but well below those for the US and the UK of 15.9 and 15.5 per cent, respectively.

Overall this suggests a relatively successful transition to work for Australian youth, which appears to be the result of a high demand for labour, as evidenced by a low unemployment rate, particularly for the tertiary qualified.

Where Australia has had a problem is with school participation amongst 15-19 year olds. However, the current position is a good deal better than it was in the early 2000s. Since 2008, the participation rate for those attending school full-time has increased from 70 per cent to 77 per cent in 2014. Similarly, the proportion of 15-19 year olds working full-time, not in full-time education has declined from 16.4 per cent to 9.6 per cent over the same period (Figure 3).

Figure 3 Education and employment status, 15-19 year olds, Australia

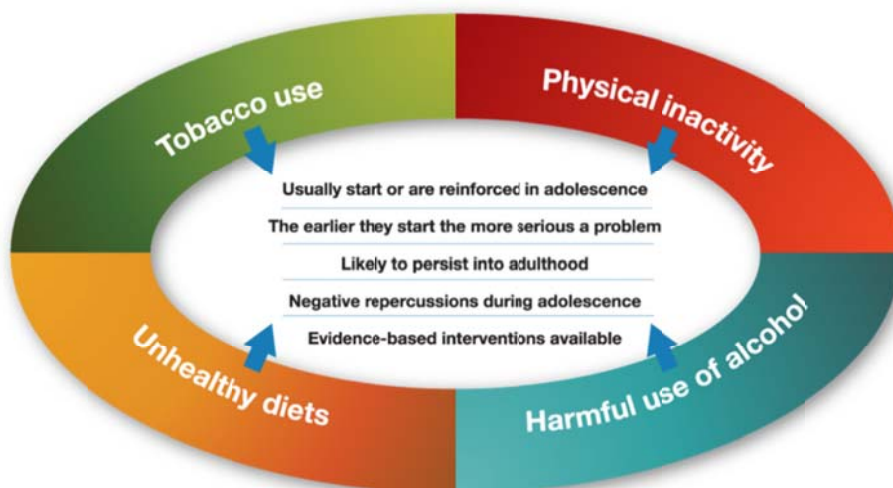


Source: ABS.

3. Impact of Health on Transition Pathways

Most adolescents enjoy robust physical health, but the future patterns of adult health, as suggested in Figure 4, are set by behaviours established in adolescence. In particular, unhealthy diets, tobacco and harmful alcohol use, and physical inactivity establish high risk behaviour patterns with implications for later life.

Figure 4 Short and longer term implications for health of high risk behaviours in adolescence



Source: WHO 2014a, at http://apps.who.int/adolescent/second-decade/section/section_1/level1_3_page5.php

While most adolescents may enjoy good physical health, mental health issues are more prominent with a sizeable proportion of adolescents suffering various forms of mental illness. Adolescence is a period of emotional development with periods of poor self-identity, alternating with periods of high expectation. The tendency to distance themselves from parents, and a drive for independence, can be destabilising for some adolescents (Sawyer et al. 2012).

Adolescent health is affected by structural determinants, such as national income (in cross country studies national income and health status are positively associated), access to education and relevant health services, and support from and connectedness to family and school (Sawyer et al. 2012). The neighbourhood in which young people grow up has a considerable bearing on their health. A strong connection between youth, their parents and their school has a positive impact on their health outcomes. The link between adolescence and their families is particularly important (Viner et al. 2012).

The generally robust good physical health of most adolescents and young adults has deflected attention from health issues facing this age group – partially the result of a focus on mortality, rather than the more difficult to measure morbidity. Mortality rates for adolescents and young adults are low compared with most other age groups. However, relative to children, mortality for youth has worsened. Since the 1970s, mortality rates for those aged 15-24 in high income countries have been higher than for those aged 1-4 (Viner et al. 2012). Although deaths from communicable diseases has been falling for both groups, the more dramatic effect has been a greater reduction in deaths due to accidents for children, compared with adolescence and young adults. The older age group has benefited from reductions in deaths due to traffic accidents, but this has had a less marked effect than the increased safety precautions for young children.

3.1 Health status of Australian youth and some international comparisons

Unlike the labour market data available through the OECD that allows Australia to be compared with its international peers, there is limited health data to make a similar comparison (Patton and Sawyer 2014). However, the WHO Global Burden of Disease studies for 2000 and 2012 permit an analysis of the disease burden for adolescence and young adults, which provides estimates of morbidity, as well as mortality.

Global Burden of Disease Study for Australia

Morbidity is measured by Years Lost to Disability (YLD) and the impact of premature mortality by Years of Life Lost (YLL). The sum of YLDs and YLLs provides an overall measure of health burden – Disability Adjusted Life Years (DALYs). These measures include an allowance for the early onset of disability or death. One reservation about the data is that the closest matching relevant age group is 15-29 rather than the preferred age range of 15-24.

Figure 5 shows the change in DALYs (and its components, YLLs and YLDs) per 1,000 persons, for Australian males and females aged 15-29 between 2000 and 2012. The health status for both males and females has improved over the period. The improvement, as measured by the reduction in DALYs, was 25 per cent for males compared with 14 per cent for females. Most of the reduction occurred in mortality, with the decline in YLLs for males being 43 per cent over the period 2000 to 2012, whereas the reduction in disability rates was only about 7 per cent for both males and females.

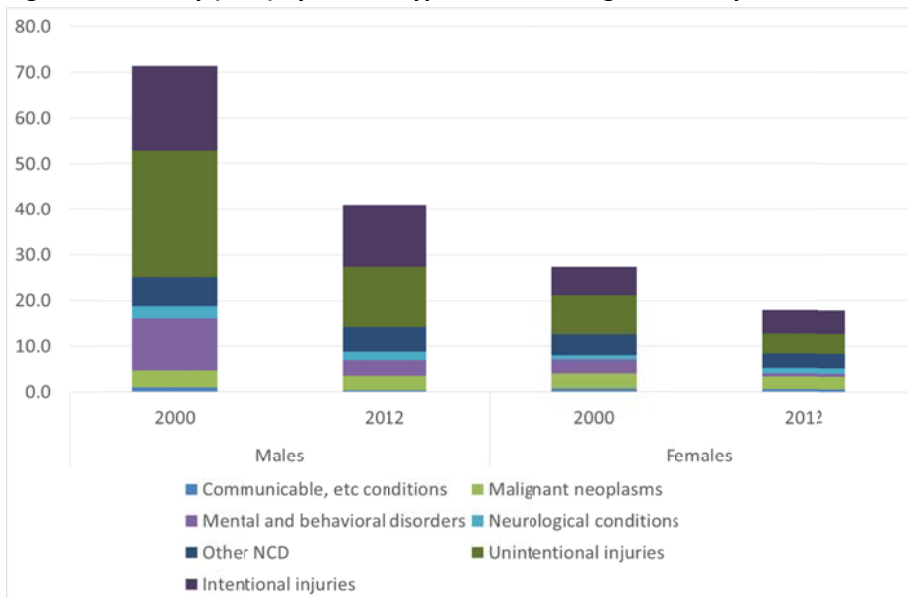
Figure 5 YLDs, YLLs and DALYs per '000 by sex for Australians aged 15-29, 2000 and 2012



Source: WHO 2014b.

Figure 6 helps explain the reason for the large fall in male mortality. YLLs due to mental and behavioural disorders and unintentional injuries fell most dramatically for males between 2000 and 2012, by 70 per cent and 52 per cent, respectively. Similar improvements were recorded for women although the absolute effect was smaller.

Figure 6 Mortality (YLLs) by disease type Australians aged 15-29 by sex, 2000 and 2012

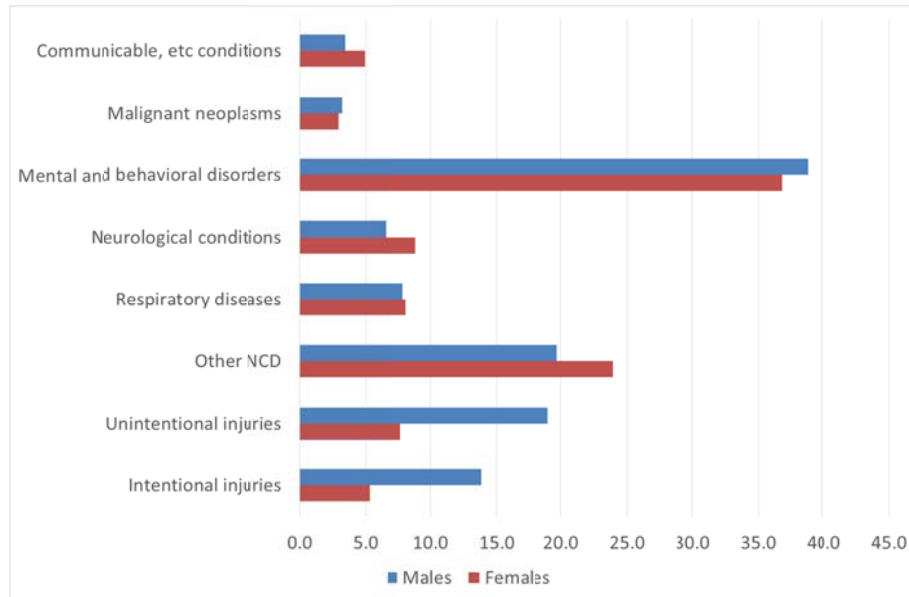


Source: WHO 2014b.

Figure 7 provides a more detailed examination of the burden of disease for young Australians by condition. This shows that for both males and females the greatest burden is due to mental and behavioural disorders, representing 36 per cent of the total disease burden (or 43 per cent if neurological conditions are included). Injuries, both intentional and unintentional, represent almost 30 per cent of the disease burden for males, but only about 13 per cent for females. The other conditions of consequence include asthma, which afflicts males and females almost equally (8 per

cent of the total burden), and some forms of cancer, of which leukaemia imposes the greatest burden.

Figure 7 Burden of disease by condition Australians aged 15-29, 2012, DALYs per '000



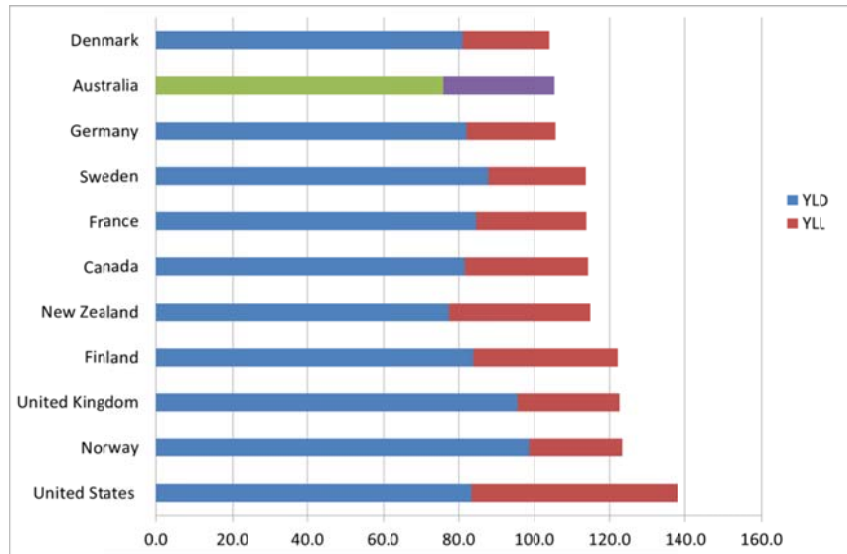
Source: WHO 2014b.

The Global Burden of Disease study shows clearly that for a high income country such as Australia, where fatal communicable diseases have all but been eliminated and effective public education and enforcement programs have reduced unintentional injuries, mental disorders impose the most significant health burden to adolescents and young adults.

Australia compared with other high income countries

The patterns observed for Australia are replicated in other high income countries such as US, UK, Germany, France, Canada and the Nordic countries. However, there are also important differences. Figure 8 compares the overall burden of disease for those aged 15-29 for Australia and the selected countries divided between morbidity (YLDs) and mortality (YLLs). Australia has the second lowest disease burdens of all the selected countries, with only Denmark’s being lower. It has, however, the lowest morbidity burden. United States has by far the highest disease burden of 138 years per 1,000 persons compared with 106 for Australia. This is mostly attributed to difference is mortality (YLLs), which are 55 years per 1,000 persons for the United States compared with only 30 YLLs per 1,000 persons for Australia. Both the UK and Norway have relatively high morbidity burdens of 95 and 98 YLDs per 1,000 persons compared with 76 YLDs per 1,000 persons for Australia.

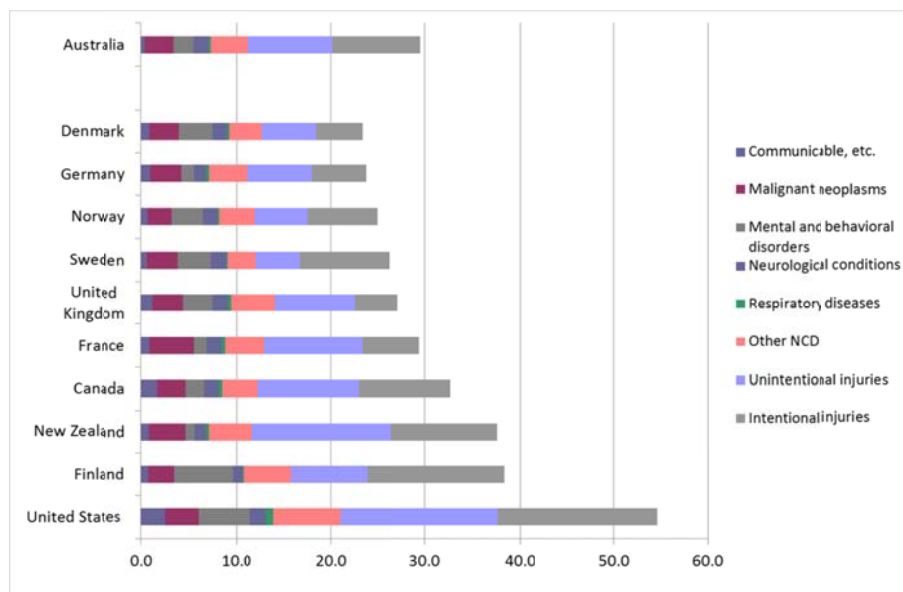
Figure 8 Burden of disease (DALYs) for those aged 15-29, Australia and other selected countries, 2012



Source: WHO 2014b.

Comparing the disease burden due to mortality with other countries shows that Australia has a relatively high mortality rate (YLL), although the US has the highest amongst this group of countries by some margin (Figure 9). Not only is YLL for each condition in the US substantially higher than for Australia, the mortality burden due to mental disorders is more than twice that for Australia (5.5 YLL per 1,000 persons compared with 2.1). These major differences reflect the significantly higher levels of mortality in the US due to traffic accidents and homicide. The rate of injuries, both intentional and unintentional, is far higher for the US than the other countries. The mortality burden due to injuries is also relatively high for Australia, largely responsible for the higher YLL experienced compared with many European countries. Compared with the Nordic countries, YLL due to traffic accidents are significantly higher, as is the Australian suicide rate for this age group compared with some European countries.

Figure 9 Disease burden due to mortality (YLLs) for those aged 15-29, Australia and other selected countries, 2012

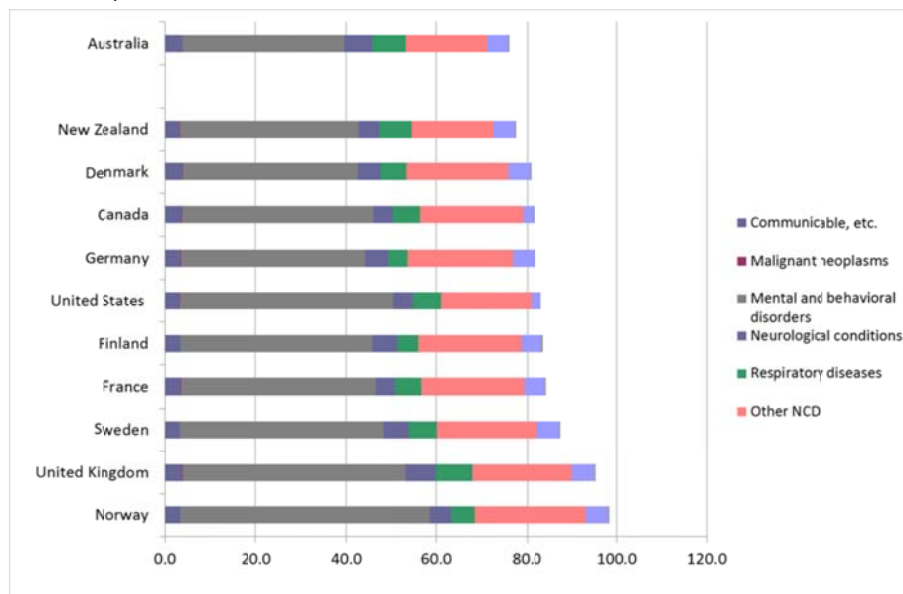


Source: WHO 2014b.

Australia has the lowest morbidity burden (YLD) for 15-29 year olds among the selected countries (Figure 10). While the largest single contributor to morbidity for all countries is mental and behavioural disorders, the rate for Australia is the lowest of the selected countries. Compared with the average for all countries of 45 YLD per 1,000 persons for mental and behavioural disorders, it is only 36 for Australia. The highest is Norway with 55 YLD per 1,000 persons. The UK is the second highest with 50 YLD per 1,000 persons, which is a major contributor to its high overall rate.

Australia also has low rates for other non-communicable diseases (NCDs) with sizeable disability impact, such as back and neck pain, where Norway is again the highest at 13 YLD per 1,000 persons, almost twice the Australian rate, which is the lowest.

Figure 10 Disease burden due to morbidity (YLD) for those aged 15-29, Australia and other selected countries, 2012



Source: WHO 2014b.

Mental health of young people

Mental and behavioural disorders (whether including or excluding neurological disorders) contribute the greatest burden of disease to Australian youth (WHO 2014b). The extensive literature investigating the link between these disorders and youths include a number of Australian studies. Using the Victorian Burden of Disease study, Patel et al. (2007) estimates that 60-70 per cent of total DALYs for those aged 15-24 is due to mental disorders (including self-inflicted injuries). Using the same criteria, the GBD study estimates mental disorders are responsible for roughly half the total disease burden experienced by this age group (WHO 2014b). Nonetheless, mental disorders and their impact on mortality through suicide are a significant health issue for this age group.

While the condition itself is important, its co-morbidity with other diseases and disorders increases its impact on the disease burden. Co-morbidity can occur with other mental disorders, with substance abuse, and with other chronic diseases. For instance, the use of alcohol, tobacco and other drugs is associated with psychopathology (Patel et al. 2007). Chronic diseases such as diabetes are associated with increased risk of mental disorders (Tan et al. 2005; Patel et al. 2007).

Traditionally, risk factor studies have compared the behaviours of those with and without mental disorders. However, the availability of longitudinal data has offered an alternative developmental epidemiology perspective on the treatment of mental disorders by emphasising the life course

aspects of the disease in which family, school and neighbourhood factors in childhood create the conditions for mental health problems in adolescence (Richter 2006).

Patton et al. (2014), in a 14-year study of Victorian school adolescents beginning in 1992, found a relatively high level of persistence of episodes of depressive and anxiety symptoms from adolescence to young adulthood. Almost one third of men and more than half of women had an episode of depressive and anxiety symptoms in adolescence. Around half of males and two thirds of females went on to have at least one further episode as a young adult. Most of those with young adult disorders had been adolescent cases. This persistence varied with severity in adolescence.

Positive development

Mental wellbeing and the avoidance of high risk behaviours are important preconditions for adolescents to progress successfully to early adulthood. The Australian Temperament Project (ATP), a 30-year longitudinal study designed to track the psychosocial development of a representative group of Victorians from birth to age 30, has investigated the extent to which positive development at late adolescence influenced the range of developmental outcomes in early adulthood (Smart et al. 2009). Positive development focusses on the success, rather than the failings, of young people. It seeks evidence of the extent to which, with the acquisition of new skills, adolescents and young adults are thriving (Vassallo and Sanson 2013). It encompasses both functional aspects of human behaviour (such as assets and strengths) and successful development outcomes (such as being in employment).

Hawkins et al. (2009) sought to identify the components of positive development. These encompassed a number of domains, including social competence, life satisfaction, trust of others and institutions, and civic engagement. In establishing the predictors of positive development they used data drawn from the ATP. The results showed that the social capital constructs of trust and tolerance of others and institutions were important, as were the psychosocial construct of social competence and the psychological construct of life satisfaction. Civic engagement was weaker than the other components.

O'Connor et al. (2011a) used the same model of positive development and although taking a somewhat different approach the results indicated that:

Higher positive development in emerging adulthood was predicted by higher socioeconomic status, having better control of emotions, better adjustment to the school setting, having stronger relationships with parents and peers, and greater community engagement. (O'Connor et al. 2011a, p. 869)

O'Connor et al. (2011b) explores the relationship between depression during the transition to adulthood and a range of variables representing social capital. Social capital refers to 'the network of social ties between individuals in a community' (p. 26). Social capital is divided into proximal and distal. Proximal social capital is concerned with relationships with parents and peers while distal social capital is a product of trust with others and institutions and measures of civic action and engagement. The results indicated that relations with peers had a greater influence than with parents in protecting against depression. Lower levels of depression were found with those who were more trusting. However civic engagement was not an influential factor, reflecting the diminished role of formal engagement by contemporary youth. Nor was alcohol use, an indication of its role in normal peer group relations in Australia.

4. Relationship Between Education Outcomes and Health

The first two parts of this paper have discussed firstly education transition pathways taken by contemporary youth to either successful or unsuccessful employment outcomes, and secondly, the health status of young people in Australia and how that compares with similar age groups for other high income countries.

The continuing transformation of the modern knowledge-based economy, the growth of services, decline of manufacturing, and associated deregulation of labour markets in Australia and other similar economies, mean the path from school to employment has for the majority become longer and more fractured. Only a small proportion passes directly from school to post-secondary education to employment without significant breaks in education due to employment or periods of inactivity. The labour market itself has become more deregulated and tenure less secure. Not only have the education pathways become more disjointed but also the employment prospects at the completion of post-secondary education have become more uncertain.

As discussed in the second section on adolescent health, the greatest disease burden for this age group transitioning from adolescence to early adulthood arises from mental health conditions. This transition period has always been challenging given the size and complexity of the issues confronted, but the degree of uncertainty in the transition from school to employment has undoubtedly grown over the last several decades. Given the increased insecurity it is not surprising that mental health issues and related high risk behaviours are so prominent in this age group.

Health status and educational attainment are highly correlated. Those with better education are in better health and vice versa, but factors that drive the relationships are not well established. Moreover, both education and health are likely to be co-determined by additional factors, such as income and other socioeconomic variables. Cutler and Lleras-Muney (2006) conclude that while the relationship between health and education is strong, it varies between conditions and the direction of causation is difficult to establish. Their analysis indicates that the relationship between years of schooling and a range of health behaviours is linear, but in certain cases not until after 10 years of schooling. This includes behaviours such as smoking, colorectal screening, and use of seat belts and smoke detectors (Cutler and Lleras-Muney, 2006). Depression and 5-year mortality also decline in a relatively linear fashion with years of education after 10 years of schooling (Cutler and Lleras-Muney, 2006). Possible reasons for this association are proposed as:

- income and access to health care;
- highly educated have 'better' jobs that provide health insurance, safer work environments;
- different valuations of the future, with higher income earners placing a higher value on their future wellbeing;
- better information about health and greater cognitive skills to evaluate it; and
- support systems and social networks that value health and exert social disciplines.

Of these, Cutler and Lleras-Muney (2006) suggest that information and cognitive skills may have the greatest bearing, especially in the context of medical innovations. Grossman (2000) develops a productive efficiency model which hypothesises that higher levels of schooling facilitate higher returns from health. Those earning more arising from higher schooling levels have a greater incentive to stay healthy to maintain those earnings.

Suhrcke and de Paz Nieves (2011) conducted a comprehensive review of the literature on the impact of health, and unhealthy behaviours during childhood and adolescence, on education. In doing so

they developed an analytical framework to test for the causal association between health and educational attainment and performance. The explanatory variables were allocated to health conditions and health behaviours.

Although a focus of the review by Suhrcke and de Paz Nieves (2011) is on early childhood (e.g. McLeod and Kaiser 2004; Currie and Stabile 2007), a number of authors address health, health behaviours of adolescents, and their effects on education. The first section below deals with the effect of health on education, while the following one focusses on health behaviours.

5. Effect of Adolescent Health on Education

Gan and Gong (2007) use a dynamic structural equation model based on the US National Longitudinal Surveys of Youth (NLSY79) for a representative sample of youth beginning at age 16. The data set provides longitudinal information on school enrolment, grade transcripts, work status, wages, assets, sickness (causing a health limitation on attendance at work), and the duration of sickness. The study shows that an individual's health status measured by the probability of sickness significantly affects academic success. 'On average, having been sick before the age of 21 decreases education by 1.4 years' (p. 4).

Fletcher (2008) uses the National Longitudinal Study of Adolescent Health (Add Health) to study the relationship between depression in high school, subsequent attainment and propensity to enrol in college. The study employs a range of control variables, such as mother's education, income level, family structure and neighbourhood characteristics, to exclude the effects of socioeconomic status and other variables on the relationship between depression and education. The association is found to be particularly robust for females but not males. Females with depression were 3.5 per cent less likely to graduate from high school, 6 per cent less likely to enrol in college, particularly in a four-year college (Fletcher 2008). This could be offset by having married parents, which increased the chances of females attending college by almost six percentage points.

In a follow up study, Fletcher (2010) controlled for family variables by confining the study to siblings. The study indicates that depression reduces years of schooling largely by those depressed dropping out. The study did not however report on gender effects.

Cornaglia et al. (2012) conducted a similar study using the Longitudinal Survey of Young People in England which incorporates the General Health Questionnaire, a self-reported measure of psychological morbidity. The methodology does not use one of the accepted methods to establish causation, but the authors argue that there is a sufficiently comprehensive set of indicators to control for a very large number of individual and family characteristics. The study investigates the importance of mental health on examination performance and schooling decisions e.g. dropping out. The study finds that 'poor mental health in early adolescence has a strong negative association with subsequent examination performance and dropout from the labour market and education'. The pattern is stronger for girls than for boys, consistent with other literature.

An innovative study by Ding et al. (2009) sought to establish causation using longitudinal data which include genetic markers. These are used as instrumental variables to relate independently to health status and education performance. Given that certain genetic markers are correlated with a set of mental health outcomes, these genetic differences are used to estimate the impact of depression and obesity on educational outcomes. The study finds that depression and obesity both lead to a 0.45 reduction in GPA score or roughly one standard deviation reduction in performance. The study found that females were adversely affected by negative health conditions, but not males.

5.1 Effects of health behaviours on educational outcomes

Health-related behaviours include alcohol consumption, drug use, smoking, nutritional deficiencies and obesity. Evidence indicates that smoking or poor nutrition has a greater negative effect on education outcomes than that of alcohol consumption or drug use. Sleeping disorders, anxiety and depression can hinder academic performance. We examine below in more detail the health-related behaviours of alcohol consumption, drug use and smoking that can adversely impact youth in later life stages.

Alcohol drinking

A 2004 USA national survey found that 29 per cent of high school seniors reported binge drinking (5 or more drinks) in the previous 2 weeks. Chatterji and DeSimone (2005), using an instrumental variables model, studied the causal effect of binge drinking by adolescents on high school dropout using the USA 1979 National Longitudinal Survey of Youth. The results show the causal nature of the relationship between binge drinking at 15-16 years of age and the probability of not being enrolled or graduating from high school 4 years later.

DeSimone and Wolaver (2005) studied the relationship between alcohol consumption and educational outcomes by investigating the association between drinking and academic performance among high school students. The results indicate a large negative association between alcohol consumption and academic performance, for both binge and non-binge drinking (DeSimone and Wolaver 2005). However, the study was unable to draw a conclusive inference about causality.

Drug use

Many studies investigating the relationship between drug use and school achievement focus on marijuana use. Chatterji (2006) uses data from the National Longitudinal Survey of Youth to estimate the relationship between illegal drug use in high school and the number of years of high school completed. The results provide suggestive, but not conclusive, evidence that cocaine and marijuana use reduces the number of years of high school completed and can alter student's long-term educational trajectories (Chatterji 2006).

Pacula et al. (2003) examine the relationship between marijuana use and human capital formation by examining performance on standardized tests among a nationally representative sample of youths from the National Education Longitudinal Survey. The study found that marijuana use was statistically associated with a 15 per cent reduction in performance on standardised math tests across 10th and 12th grade (Pacula et al. 2003). This is of concern given that studies have shown that standardised test scores are predictive of future earnings.

Smoking

Although causality cannot be inferred, evidence reveals a negative correlation between smoking and education. Cook and Hutchinson (2006) demonstrated that in the United States as of the late 1990s, smoking in 11th grade was a uniquely powerful predictor of whether the student finished high school, and if so whether the student matriculated in a four-year college. Smoking by an 11th grade student is one indicator of them being unlikely to continue in school. The study did not address the question of whether smoking has a causal effect on schooling.

5.2 Impact of health on education: some conclusions

There is strong evidence of a close relationship between health and education amongst youths, although the direction of causality is difficult to establish. While the direction is typically assumed to

be education on health (Cutler and Lleras-Muney 2006), there is good evidence that health has a significant bearing on educational outcomes. This arises because of the impact of the large burden of mental health for this age group.

Accordingly, there is a focus on estimating the impact of mental health, and in particular depression, on educational outcomes. These mainly relate to length of schooling and examination performance.

Table 3 Studies on adolescent mental health and educational outcomes

Author	Data source	Variables	Findings
Fletcher (2008)	National Longitudinal Study of Adolescent Health	Depression in high school, attainment and propensity to enrol	Females with depression were 3.5 % less likely to graduate from high school and 6% less likely to enrol in college.
Cornaglia et al. (2012)	Longitudinal Survey of Young People in England	Poor mental health – loss of confidence or self-esteem for boys and anhedonia and social dysfunction for girls.	Poor mental health is positively associated with the probability of being NEET by 2.7 and 3.3 percentage points for girls and boys respectively. High association in the context of overall NEET rates of 10.6% and 7.6% for boys and girls in this sample. And lower examination performance of between 0.083 and 0.158 standard deviations for boys and girls respectively
Ding et al. (2009)	Georgetown Adolescent Tobacco Research (GATOR)	Depression and obesity with exam scores (GPA)	Depression and obesity both lead to 0.45 reduction in GPA score or roughly one standard deviation reduction in performance

For each of these studies, the estimated impact of mental health on educational outcome was of significant magnitude. However, the impact of female depression on educational outcomes was lower than the impact of male depression.

6. Concluding Remarks

This paper outlines recent research establishing that the pathway for most adolescents from school to employment is disjointed and uncertain. With economic restructuring in favour of a knowledge economy with a high demand for knowledge intensive services, those seeking higher status occupations are spending increased time in post-secondary education. Few make this transition in a linear fashion. Most incorporate lengthy periods of employment or inactivity before completing their qualifications. A significant proportion remains inactive or unemployed without completing training or post-secondary education. Those who have completed post-secondary education experience lower levels of unemployment, but nonetheless face a more deregulated labour market, which ultimately values experience, information-processing and other cognitive skills and a range of non-cognitive skills above formal education. The tenure of employment for the best qualified has become much less secure, and for those less qualified, work may be short term and/or part-time.

Economic changes are not only impacting on the labour market, but also affecting the relationship between the individual and society. Studies demonstrate that the prospects of a successful transition, free of mental illness, is more likely to be achieved when the individual has strong attachment to family, school and friends. Previously, this process of ‘positive development’ was also more likely achieved with strong civic networks. Such formal attachments have become a casualty of

the longer period of education and the time devoted to being financially independent through this period. This has increased the relative importance of peer group attachments for a successful transition to early adulthood.

While those managing a successful transition, including high levels of academic achievement, may not be suffering from adverse health outcomes, it is hardly surprising that, in many high income countries, with this much more uncertain and fractured education pathway, mental health issues are a large and increasing component of the burden of disease for this age group. For some countries, evidence suggests that mental conditions are increasing in absolute terms, whereas for others such as Australia, the change is in relative terms.

Of the range of mental health conditions, depression and anxiety disorders impose the greatest burden. A number of studies reviewed in this paper have used methodologies that provide reasonable assurance that there is a causal relationship between these mental health conditions and educational outcomes. These show that the impact of depression and some other mental health conditions significantly and adversely affect educational performance and length of schooling.

6.1 List of youth health, education and SES indicators

This analysis of evidence suggests that the following set of metrics provide the relevant indicators to reflect the capabilities required and the choices made to achieve the highest form of functioning. The evidence presented above would suggest that the most important capabilities acquired are the cognitive and non-cognitive skills required to obtain a high quality job and make the social transition to adult friendship groups. Cognitive skills may be appropriately measured by education levels and the determinants of 'positive development', largely indicators of social capital, which provide relevant measures of non-cognitive skills. Family support is important in the transition process to young adulthood so indicators of family structure and other SES characteristics are also relevant.

The choices made though the transition process are central to the realisation of capabilities. These include the education to employment pathway chosen. As indicated, there are a multiplicity of successful pathways that combine education and employment in different ways. The key is for young people to remain engaged in the education process to gain the appropriate tertiary level qualification. Avoiding high risk behaviours are likely to have ongoing health benefits and make the achievement of a successful transition more likely. Many adolescents are burdened by various levels of mental illness that circumscribe the choices available.

Accordingly, the suggested indicators listed below, by age and sex where possible, reflect the measurement of both the capabilities acquired and the choices made. The relevant age range is 15-24 years.

Education

- Level of educational attainment
- Occupational status
- Occupational group
- Educational and employment status (full-time/part-time both work and education or NEET)
- Level of post-school participation in education (age 19-24)
- Starting salary

Health

Behavioural risk factors (tobacco smoking, alcohol and other substance abuse, obesity and physical inactivity and risky sexual practices (STDs, unplanned pregnancies))

Mental health

- Incidence of depression and anxiety disorders
- Measures of positive development (attachment to parents, peers and school, community engagement, trust in others and institutions)

Other NCDs

- Mortality and morbidity due to injury
- Asthma

Socio economic variables

Family income

Father's and mother's highest level of education

Father's occupational status

Family structure (both parents living together, etc.)

This list of potential indicators, which arises from a review of evidence provided by the literature, will form the basis of the Mitchell Health and Education indicators for the 'youth' stage of the life course.

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