Australian Bureau of Statistics

4102.0

Australian Social Trends

USING STATISTICS TO PAINT A PICTURE OF AUSTRALIAN SOCIETY

SEPTEMBER 2012

EMBARGO:
11.30 AM (CANBERRA TIME) WEDNESDAY 26 SEPTEMBER 2012

Australian Social Trends September 2012

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AUSTRALIAN BUREAU OF STATISTICS CATALOGUE NO. 4102.0

ABS catalogue no. 4102.0

ISSN 1321–1781

Produced by the Australian Bureau of Statistics

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Introduction

Australian Social Trends draws on a wide range of data, sourced both from ABS and other agencies, to present a picture of Australian society. This publication aims to inform decision-making, research and discussion on social conditions in Australia. It covers social issues of current and ongoing concern, population groups of interest, and changes in these over time.

The selection of articles aims to address current and perennial social concerns and to provide answers to key social questions. Some topics are revisited as new data become available. The aim of this approach is for each report to remain responsive to contemporary concerns, while accumulating a more comprehensive picture of Australian social conditions over time. For this reason, articles often include cross references to other relevant articles in the current issue, and in previous issues. All articles published since 1994 are available from the Australian Social Trends page of the ABS web site: www.abs.gov.au/socialtrends.

Australian Social Trends is structured according to the ABS Wellbeing Framework which identifies areas of social concern, population groups and transactions among people and entities within their social environments (see ABS *Measuring Wellbeing: Frameworks for Australian Social Statistics, 2001* – cat. no. 4160.0). The broad areas of social concern are:

- population
- family and community
- health
- education and training
- work
- economic resources
- housing
- crime and justice
- culture and leisure
- other areas - including environment, religion, and transport and communication.

Australian Social Trends is now issued on a quarterly basis, and in the course of a year the articles will cover a wide range of the areas of social concern.

The articles focus strongly on people and social concerns. Each article aims to tell a story, providing a sense of the social and historical context in which a particular topic is embedded, moving from the general to the specific, and using statistics to bring light to the issue. Articles aim to balance 'what' analysis (relating the relevant statistical facts surrounding the issue, e.g. number, characteristics, change over time, sex, age and other differences), with 'why' analysis (providing context and explanation by highlighting relevant social changes and events and the chronologies of these). For example, an article on work may examine current labour force participation, how the labour market has changed over time, how different groups of people are affected by social and economic conditions, and how these factors may be linked to observed employment trends.

Household energy use and costs

Energy plays a major part in Australians' lives, with both households and businesses relying on various types of energy for heating, cooling, cooking, transport and machinery operation.

Growth in Australia's economy has led to increases in energy use, particularly in expanding industries such as the mining industry.[1] Other factors, including an expanding population, and the subsequent increase in the number of households requiring power and heating, have also contributed to this increase. While energy use affects household and business related costs, it also impacts the environment, accounting for more than three quarters (77%) of Australia's total greenhouse emissions in 2009.[2]

Legislation setting the foundation for a carbon price was passed through the Senate in 2011. This was aimed at reducing greenhouse gas emissions (carbon pollution) and moving Australia to a clean energy future.[3] This legislation, coupled with widespread media coverage on the potential financial impact on households, has fuelled public interest in energy consumption and related costs.

This article looks at current household energy use and costs, as well as how Australians are implementing household energy saving practices.

What types of energy and how much did we use?

In 2009–10, Australia's net energy consumption, including both industry and household energy use, was 3,962PJ. This was an increase of 39PJ (1%) from 2008–09. The main fuels consumed were natural gas (24%), electricity (22%), diesel (18%) and petrol (16%), while solar energy accounted for less than 1% of Australia's net energy consumption.

The majority of energy consumption in Australia is by industry, accounting for nearly three quarters (74% or 2,947PJ) of total net energy consumption in 2009–10. Natural gas (27%), electricity and diesel (both 22%) were the main energy sources used by industry.

The remaining one quarter (26%) of Australia's total net energy use in 2009–10 was by households (1,014PJ). Despite this being an increase of 2% since 2008–09, household energy use per capita remained unchanged over this time (46GJ). The types of energy most commonly used by households, including fuels used for transport purposes, were petrol (45%), electricity (21%) and natural gas (14%).

Data sources and definitions

Information in this article comes from a variety of sources including the:

- ABS Energy Account 2009–10
- Bureau of Resources and Energy Economics (BREE) *Australian energy statistics data - Table F*
- ABS 2003–04 and 2009–10 Household Expenditure Survey
- ABS Environmental Views and Behaviours Survey 2007–08
- ABS Energy Use and Conservation Survey 2011

ABS Energy Accounts data for total net energy use for households includes energy used by households for transport. BREE Energy Balances data assigns all energy used in transport, including that used by the Residential sector, to the Transport sector. Therefore, the total net energy use for households reported by BREE is substantially lower than ABS estimates.

This conceptual difference must be taken into account when analysing data from these sources.

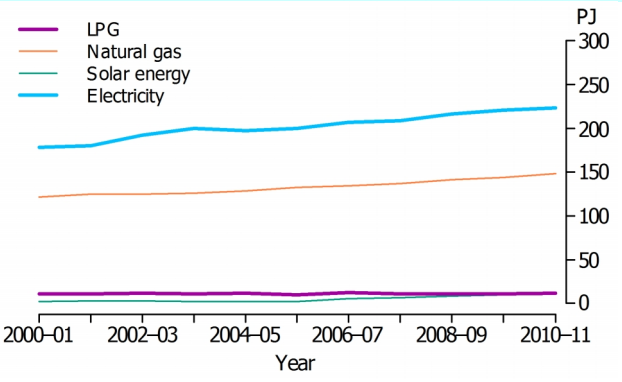
Australia's net energy consumption is equal to total primary energy consumed less energy consumed or lost in conversion, transmission and distribution.

In this article, energy units are measured in **joules (J)**. A **gigajoule (GJ)** is one thousand million joules of energy. A **petajoule (PJ)** is a large unit of energy equivalent to one thousand million million joules of energy, or nearly 288 million kilowatt hours (KWh).

A household is a group of residents of a dwelling who share common facilities and meals or who consider themselves to be a household.

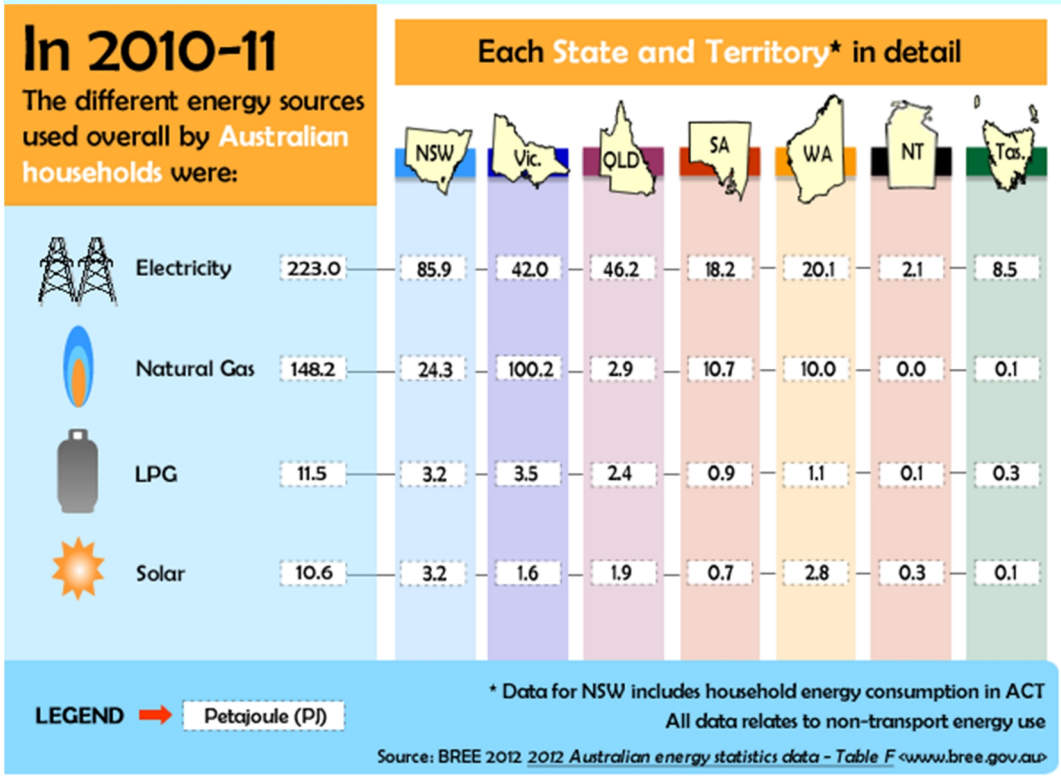
Australia's household energy consumption has increased slightly over the last decade. According to data from the Bureau of Resources and Energy

Household energy consumption(a) — 2000-01 — 2010-11



(a) Excludes fuels used for transport purposes.
Source: BREE 2012 *Australian energy statistics data - Table F*, <www.bree.gov.au>

Household energy consumption, by fuel type, by state and territory — 2010-11



Source: BREE 2012 *Australian energy statistics data - Table F*, <www.bree.gov.au>

Economics (BREE), Australian households' energy consumption, excluding fuels used for transport purposes, grew by 54PJ (14%) between 2000–01 and 2010–11 (from 398PJ to 452PJ). The fuels with the greatest increase in household consumption over this period were electricity (25%, from 179PJ up to 223PJ) and natural gas (22%, from 122PJ up to 148PJ).

...state and territory variations

Although household energy consumption across the states and territories remained relatively stable over the last decade, there are variations in the types and amounts of fuels most commonly consumed across the states and territories. This is partly influenced by the size of their populations.

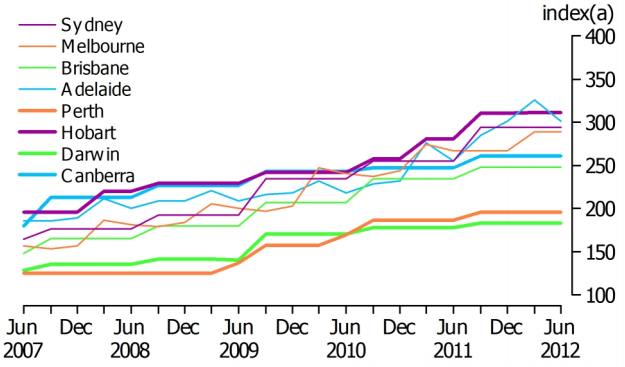
BREE data showed that, in 2011, households in New South Wales (NSW), combined with those in the Australian Capital Territory (ACT), consumed the most electricity in 2010–11, with 86PJ, while the Northern Territory (NT) had the lowest electricity consumption across the states and territories with 2.1PJ.[4]

Natural gas consumption was highest in Victoria, home to Australia's most extensive reticulated gas network,[5] with 100PJ in 2010–11. The NT and Tasmania used virtually no natural gas (with 0PJ and 0.1PJ respectively).

How has the cost of energy changed over time?

The cost of electricity, gas and other household fuels has risen in recent years. In the five years to the June quarter in 2012, the ABS Consumer Price Index (CPI) rose by 15% (from 157.5 to 180.4). During the same period, Australia's retail electricity prices rose by 72%, while the price of gas and other household fuels rose by 45%.

Cost of electricity, by capital city — 2007-2012



(a) Reference period of index: 1989-90 = 100.0.

Source: ABS *Consumer Price Index, Australia, Jun 2012* (cat. no. 6401.0)

Real expenditure

Expenditure expressed in real terms, or **real expenditure**, takes into account the increase caused by inflation.

In this article, amounts for average weekly household expenditure for 2003–04 from the ABS Household Expenditure Survey are adjusted using changes in the Consumer Price Index and expressed in 2009–10 dollars.

Increases in retail electricity prices varied across the capital cities. Between June 2007 and June 2012, the largest increase in the retail price of electricity was in Melbourne (84%), followed by Sydney (79%). Darwin and Canberra had the smallest increases in retail electricity prices, with 42% and 45% respectively.

Between June 2007 and June 2012 , the retail price of gas and other household fuels also rose across the capital cities. The largest increase was in Perth, where prices rose by 88%, followed by Canberra (48%). The smallest increases were in Darwin and Hobart, with 21% and 20% respectively.

How much are we spending on energy?

According to results from the ABS Household Expenditure Survey (HES), in 2009–10 electricity, gas, heating oil and wood accounted for $32 per week of household expenditure. Although this was a real increase of nearly $5 per week (at 2009–10 prices) since 2003–04, the amount as a proportion of real total household expenditure remained the same, at 2.6%.

Some Australian households reported being under financial stress in 2009–10, with more than one in ten households (13%) reporting being unable to pay electricity, gas or telephone bills on time.

...in the states and territories

Despite the varying tariff schemes in place across the country, and variations in households' heating and cooling requirements across climate zones, there was little difference between state and territory households' expenditure on electricity, gas, heating oil and wood.

In 2009–10, Tasmanian households had the highest expenditure on electricity, gas, heating oil and wood as a proportion of their total expenditure on goods and services, with 3.6%.

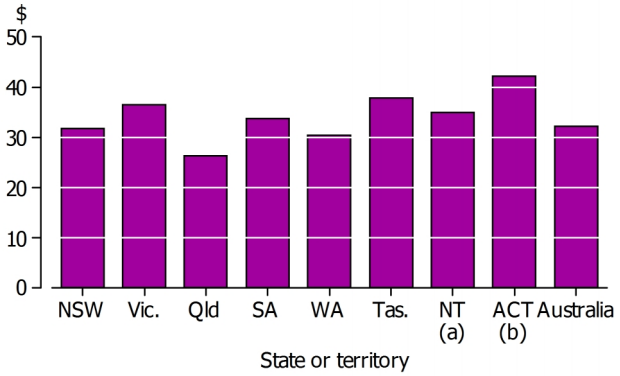
Under the pump

With motor vehicles being a part of daily life, the cost of fuelling our vehicles is a matter of concern for many people.

In 2009–10, average weekly household expenditure on motor vehicle fuels, lubricants and additives was $51 per week. This was a real increase of $12 (at 2009–10 prices) since 2003–04. As a proportion of real total average weekly household expenditure on goods and services, expenditure on these items rose from 3.7% to 4.1% during this time. However, this increase could partly be due to the inclusion of salary sacrificed expenditure on motor vehicles and associated running costs in the ABS 2009–10 HES.

There was little difference between state and territory households' expenditure on these items as a proportion of their total expenditure on goods and services.

Average weekly expenditure on electricity, gas, heating oil and wood by state or territory — 2009-10



(a) Households in collection districts defined as Very Remote or Indigenous communities are excluded, accounting for about 23% of the population in the NT.

(b) As the balance of state is not available for the ACT, estimates for the ACT are the same as those for Canberra.

Source: ABS *Household Expenditure Survey, Australia: Summary of Results, 2009-10* (cat. no. 6530.0)

How are we reducing our energy use?

Climate change has been identified as one of the biggest issues facing the nation[6] and the world. Results from the 2007–08 Environmental Views and Behaviours component of the ABS Multipurpose Household Survey showed that nearly three quarters (74%) of Australian adults were concerned about climate change. This, in addition to concerns about rising energy costs, has led to greater attention being focused on ways in which households and individuals can reduce their carbon footprints.

...installing solar energy units

Greater environmental awareness, and a desire for cheaper alternatives for powering homes, may be responsible for the considerable increase in the

Types of solar energy units

Small generation units are eligible to create small-scale technology certificates under the Small-scale Renewable Energy Scheme.

Small solar units (a small-scale photovoltaic system) may have a capacity of no more than 100 kilowatts (kW) and have a total annual electricity output of less than 250 megawatt hours (MWh).[7]

number of renewable energy generation units installed in households over the last decade.

Between 2001 and 2011, Renewable Energy Certificate data shows that the number of households installing solar energy units greatly increased, rising from 118 in 2001 to 85,550 in 2009, before sharply increasing to 639,803 in 2011.

Across the states and territories in 2011, NSW and Queensland had the highest number of households with solar units, with 168,167 and 166,395 households respectively. The NT had the fewest number of households with these units installed, with 1,462 households.

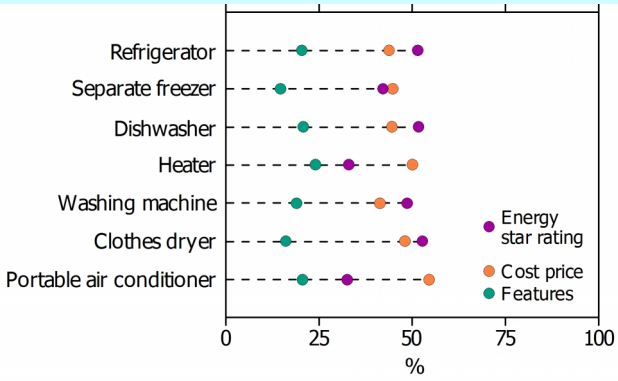
While household renewable energy units have low operating costs, initial installation can be expensive.[8] A range of different government grants and rebates have been available to households to help reduce installation costs and encourage the use of renewable energy in the home. Differences between these policies and rebate schemes can impact household consumption of energy sources, and should be taken into account when comparing trends across the states and territories.

...selecting household appliances

Many households are conscious of the amount of energy consumed by their household appliances and are adjusting their purchases accordingly.

The ABS 2011 Energy Use and Conservation Survey showed that many households considered cost price and energy star rating to be the most important considerations when purchasing household appliances in the last 12 months, with nearly half of households citing these factors as having influenced their purchases (with 47% and 45% respectively). Other factors such as the features of the appliances (19%) also influenced households' purchasing choices.

Factors considered when purchasing appliances in the last 12 months — March 2011



Source: ABS *Environmental Issues: Energy Use and Conservation, Mar 2011* (cat. no. 4602.0.55.001)

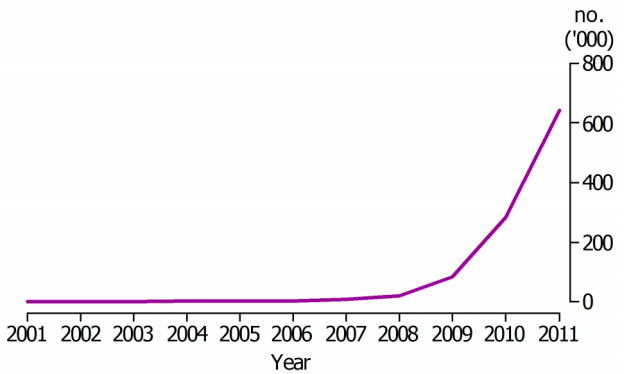
...insulating our homes

Insulation helps to ensure dwellings are warm in winter and cool in summer, and can assist in reducing household power bills and greenhouse gas emissions.

In 2011, more than two-thirds (69%) of Australian households had insulation, a 9% increase since 2005. Insulation was most common in separate houses, with more than three-quarters (77%) of these dwellings being insulated, compared with less than one-third (29%) of flats, units and apartments.

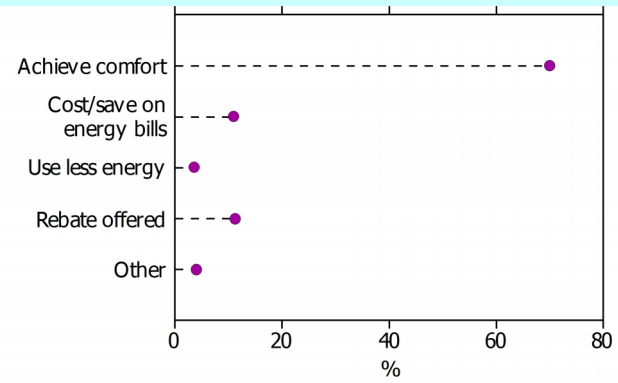
The ACT (81%), Tasmania (79%), SA (78%) and Victoria (77%) had the highest proportions of households with insulation across the states and territories, while less than half of NT households were insulated (44%). Across the states and territories, comfort was the most commonly reported main reason for households having installed insulation (70%), with 3.6% of households citing reducing energy use as their main reason.

Number of households with small solar generation units installed — 2001-2011



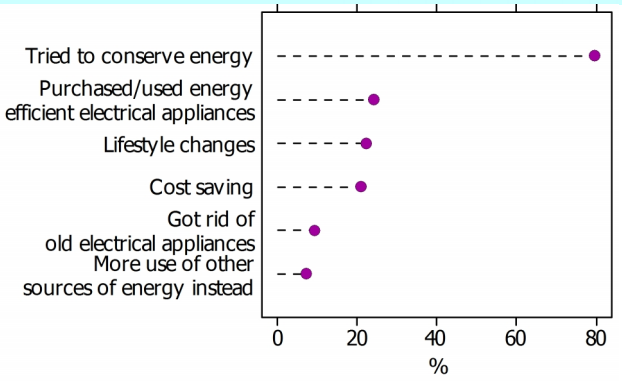
Source: Renewable Energy Certificate Generation Data 2001-2011, Clean Energy Regulator

Main reasons for installing insulation — 2011



Source: ABS *Environmental Issues: Energy Use and Conservation, Mar 2011* (cat. no. 4602.0.55.001)

Reasons why personal electricity use decreased — 2007-08



Source: ABS *Environmental Views and Behaviour, 2007-08* (cat. no. 4626.0.55.001)

...limiting our electricity use

Findings from the Environmental Views and Behaviours Survey showed that, of people who reported that they were concerned about climate change in 2007–08, most (92%) said that they had taken steps to limit their personal electricity use. However, a large proportion (78%) of those not concerned with climate change had also taken steps to limit their electricity use, reflecting many Australians' concerns about the rising cost of energy.

Older Australians were more likely than younger Australian adults to take steps to limit their electricity use. Nearly nine in ten (88%) people aged 65 years and over took steps, compared with more than seven in ten (74%) people aged 18–24 years. People aged 18–24 years were more likely than older people to report that they did not care how much electricity they used, with 5% of people in this age group, compared with 1% of other adults.

The most commonly reported reason for people aged 25 years and over not having taken steps to limit their electricity use was that they felt their electricity consumption was already low enough (38%), with nearly half (48%) of people aged 65 years and over giving this reason. Conversely, the most commonly reported reason among people aged 18–24 years was that they had not thought about saving electricity (37%). Young people's tendency to be less mindful of electricity saving practices could partly be due to a greater likelihood of them still living in the family home and not bearing the responsibility of paying electricity or gas bills. In 2006–07, around half of young men (49%) and young women (45%) aged 18–24 years had never left the parental home, with more than two fifths (41%) staying for financial reasons.[9]

For people whose electricity use decreased, four in five (80%) reported that this was due to efforts to conserve energy. While this was the most common reason given across all age groups, other reasons such as the purchase or use of energy efficient electrical appliances (24%), lifestyle changes (22%) and cost saving (21%) were also commonly reported.

Looking forward

The Australian Government has committed to achieving a Renewable Energy Target of 20% of Australia's electricity coming from renewable sources by 2020.[3] Although the Australian Government's carbon price policy is targeted at Australia's largest polluters,[3] policies such as this, coupled with the rising cost of energy, are seeing Australians become more aware of their own energy use in the home.

This increased awareness of energy consumption, and the financial costs involved, is likely to see households continue to engage in energy saving practices into the future.

Endnotes

1 Australian Agriculture and Resource Economics Society, 2011, Energy use reduction and input productivity growth in Australian industries, Commonwealth of Australia, Canberra.

2 Department of Climate Change and Energy Efficiency, 2009, National Greenhouse Gas Inventory 2009, Commonwealth of Australia, Canberra, viewed 2 February 2012, <www.climatechange.gov.au>.

3 Australian Government, 2011, Securing a clean energy future — The Australian's climate change plan in summary, Commonwealth of Australia, Canberra, viewed 23 January 2012, <www.cleanenergyfuture.gov.au>.

4 BREE 2012, Australian energy statistics data – Table F, Bureau of Resources and Energy Economics, Canberra, viewed 20 September 2012, <www.bree.gov.au>

5 Department of Primary Industries, 2012, Opportunities for gas in Victoria, viewed 22 July 2012, <www.dpi.vic.gov.au>.

6 The Treasury, 2010, The Intergenerational Report 2010, Australia to 2050: future challenges, Commonwealth of Australia, Canberra, p. vii, <www.treasury.gov.au>.

7 Clean Energy Regulator, 2012, The Small-scale Renewable Energy Scheme, Commonwealth of Australia, Canberra, viewed 13 August 2012, <www.ret.cleanenergyregulator.gov.au>.

8 Australian Government, 2012, Your Home: Energy Use Fact sheet, Commonwealth of Australia, Canberra, viewed 20 July 2012, <www.yourhome.gov.au>.

9 Australian Bureau of Statistics, 2008, Family Characteristics and Transitions, Australia, 2006–07, cat. no. 4442.0, viewed 30 July 2012, <www.abs.gov.au>.

Education differences between men and women

Pursuing an education beyond compulsory schooling is becoming increasingly important for employment in Australia. In recent decades there has been strong demand for such qualifications across many sectors of the labour market. Whether further education is gained through an apprenticeship, Vocational Education and Training (VET) or a higher education qualification, post-school education can equip people with the skills and knowledge necessary to engage in a labour market, and provide a solid foundation for life-long learning.

Understanding the differences in non-school qualifications undertaken by Australian men and women is important in determining future careers and work patterns.

This article will consider the non-school qualifications currently being studied by men and women, the level of highest non-school qualification attained overall, and the association of non-school education on labour force participation and starting salaries. Additionally, the article provides an international comparison of higher education rates, literacy levels and numeracy levels.

Vocational education and training

VET programs provide an important pathway between compulsory education and work. Unlike higher education courses, some VET courses, such as certificates I , II and III, have no entry requirements and completion of upper secondary studies is not required.[1]

Data sources and definitions

For data relating to apprenticeships, traineeships, higher education, and education and labour force outcomes, this article draws on information from the ABS 2011 Survey of Education and Work.

For data relating to adult literacy and numeracy, this article draws on information from the ABS *Adult Literacy and Life Skills Survey, Summary Results, Australia, 2006* (cat. no. 4228.0). In addition to considering document literacy and problem solving, the survey provides information on knowledge and skills in prose ***literacy*** (the ability to understand and use information from various narrative texts) and ***numeracy*** (the knowledge and skills required to effectively manage and respond to the mathematical demands of diverse situations), which has been utilised for this article.

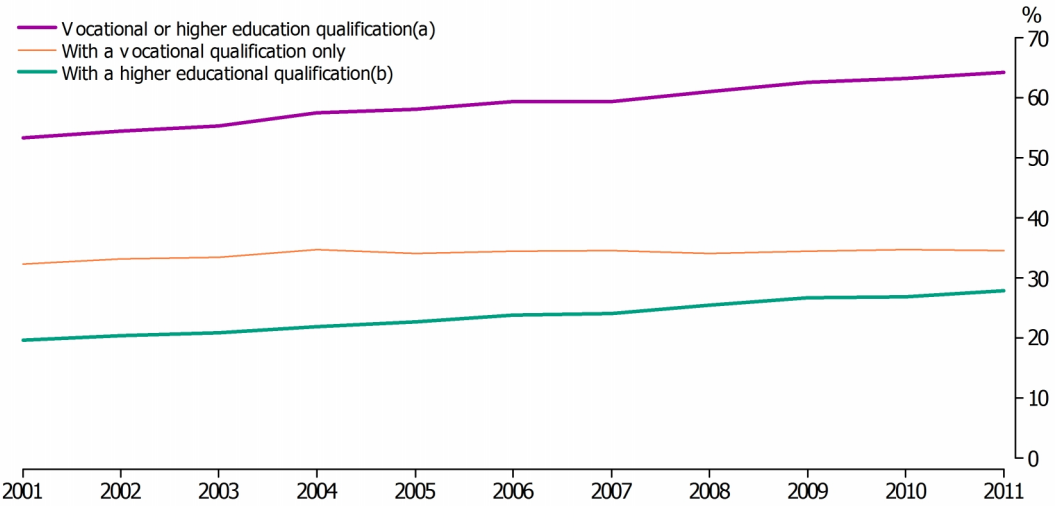
Post-school or ***non-school qualification*** refers to a qualification at the postgraduate degree, diploma or certificate level, bachelor degree level, certificate I, II, III, IV level and certificates whose level could not be determined.

An ***apprentice*** is a person aged 15–64 years who has entered into a legal contract with an employer, to serve a period of training for the purpose of attaining tradesperson status in a recognised trade.

Persons ***employed full time*** are those who usually worked 35 hours or more per week (in all jobs) and those who, although usually working fewer than 35 hours a week, worked 35 hours or more during the reference week.

Labour force status is a classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force.

Proportion of people aged 25-64 years with a vocational or higher education qualification — 2001-2011



(a) Includes people with a qualification who could not be categorised into either vocational qualification only or higher education qualification.

(b) Some of these people may also have a vocational qualification.

Sources: ABS data available on request, 2002–2011 Survey of Education and Work; 2001 Transition from Education to Work Survey

VET programs also offer training for those re-entering the workforce after extended absences and for those wanting to retrain for a new occupation or upgrade their skills.[2]

Australian VET programs are delivered through numerous training institutions, including Technical and Further Education (TAFE) institutes, universities, secondary schools, industry organisations, community education providers and private providers.

The VET system is comprised of apprenticeships, traineeships and non-apprenticeship VET, including certificates and diplomas.

Since the 1970s, strategies have been developed and implemented to establish gender balance in the VET system.[3] The historical emphasis on male dominated trade training has gradually dissipated, with overall participation in contemporary VET courses now almost even between men and women. However, some differences by field of study remain.

In 2011, 1.9 million students were enrolled in VET programs, more or less evenly split between men (52%) and women (48%).[4]

...field of study

For women, and to a lesser extent men, 'Management and commerce' was a popular field of study in 2011, with nearly a third (29%) of women and 15% of men studying in this field, a ratio of women to men of about 2 to 1.[4] Examples of courses within the 'Management and commerce' field include a Diploma of Accounting and Certificate IV in Business Administration.

In addition to 'Management and commerce', women were focused on the service sector, with one fifth (19%) studying 'Society and culture' and 13% studying 'Food, hospitality and personal services'.[4] Examples within these fields include the Diploma of Children's Services and the Diploma of Hospitality.

For men, the most popular field of study was 'Engineering and related technologies', which almost a third (30%) elected to study.[4]

VET programs are also offered as part of the secondary school certificate. 'VET in School' allows secondary school students to complete a vocational qualification with their school. This can be a useful means of improving a student's success at school by providing a practical approach to learning and can be a stepping stone for students looking to pursue a trade.[5]

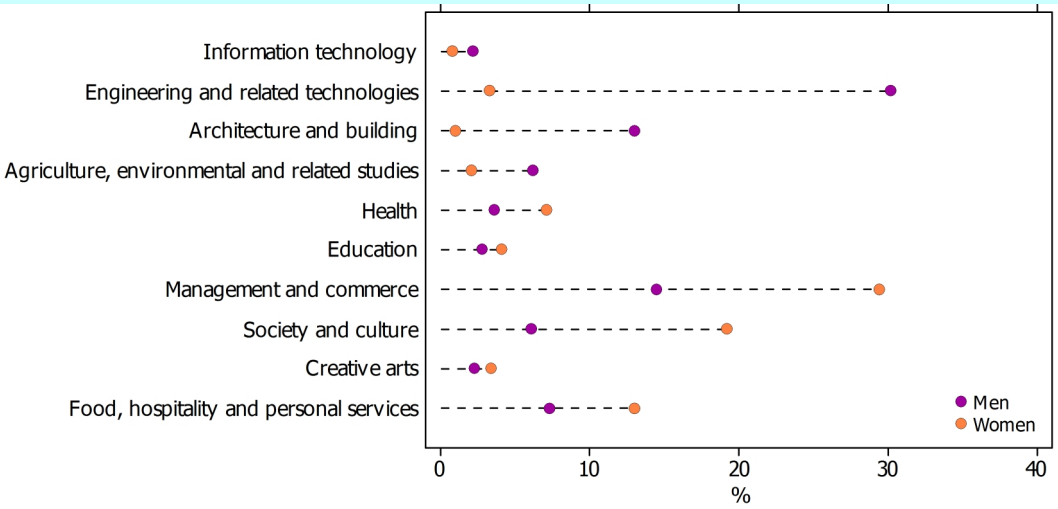
In 2010, just over half of the 233,800 students enrolled in VET in School programs were male (52%).[6] Enrolments in VET courses were highest in government secondary schools (169,500), followed by 38,600 in Catholic schools and 19,500 in independent schools.[6]

...apprenticeships and traineeships

Historically, the emphasis of apprenticeships on trade and agricultural areas meant that women were underrepresented in the uptake of apprenticeships and traineeships.[3] Contemporary apprenticeships and traineeships cover a variety of industries and occupations including hospitality, sales and clerical work. However, men continue to make up a large proportion of all those undertaking apprenticeships and traineeships.

In May 2011, there were 226,500 people aged 15–64 years who were employed as apprentices or trainees as part of the Australian Apprenticeship Scheme. Of these, almost four-fifths (79%) were men.

Proportion in vocational education and training, selected field of study by sex — 2011



Source: National Centre for Vocational Education Research, 2011, *Australian vocational education and training statistics: Students and courses 2011*, <www.ncver.edu.au>.

Proportion of field of apprenticeship/traineeships by sex(a) — 2011

(a) Aged 15-64 years.

Source: ABS 2011 Survey of Education and Work

Apprenticeships and traineeships are largely undertaken by those in younger age groups. Of the 178,200 men aged 15–64 years employed as apprentices or trainees, 40% were aged 15–19 years, and a further 36% were aged 20–24 years. The pattern for women was much the same, with almost a third (30%) of female apprentices or trainees aged 15–19 years, and another third (34%) aged 20–24 years.

For men the most popular apprenticeships and traineeships were in the 'Technicians and trades workers' field, with most men electing to work in this area (89%). Within this field, 34% of all apprentices/trainees were 'Construction trades workers', 23% were 'Automotive and engineering trades workers' and 21% were 'Electrotechnology and telecommunications trades workers'.

The story for women aged 15–64 years was quite different. While a third (31%) were engaged in apprenticeships or traineeships in the 'Technicians and trades workers' field, a quarter (26%) were 'Community and personal service workers' and a quarter (23%) were 'Clerical and administrative workers'.

Higher education study

Higher education refers to education which results in the granting of a Bachelor degree or higher qualification, and contributes to Australia's intellectual, economic, cultural and social development.[7] In 1970, only three out of every 100 working-age Australians had a higher education qualification. In 2011, this had increased eight fold to 25 out of every 100.[8]

Until 1987, more men than women were students of higher education. Indeed, in the 1950s, only one in five university students were female. There are many reasons for the change in enrolment patterns: the improved social position of women; entry into occupations traditionally dominated by women (teaching and nursing) now requiring higher education qualifications; and young men having more vocational options than young women.[8]

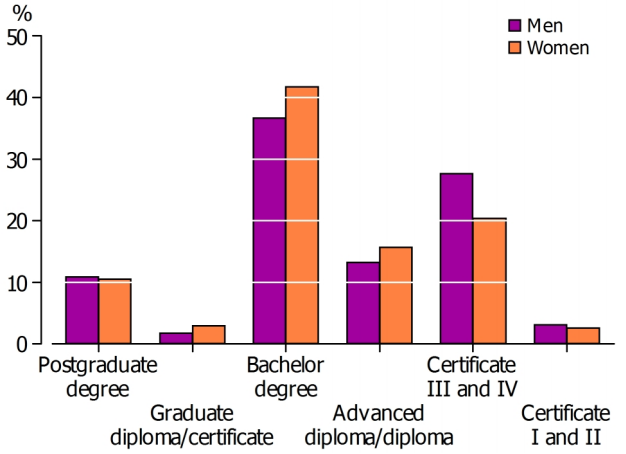
In 2011, there were 1,069,000 higher education students. Of these, 57% were women. Students enrolled in higher education made up half (53%) of all students enrolled in non-school qualifications.

Of all women aged 15–64 years completing a non-school qualification, 42% were enrolled in a bachelor degree, compared with 37% of men. Similar proportions of both men (11%) and women (10%) were enrolled in postgraduate study.

...field of study

As with VET, the most popular field of study for those enrolled in higher education was 'Management and commerce' (25%). Additionally, 'Society and culture' (22%) and Health (14%) were popular choices. The biggest

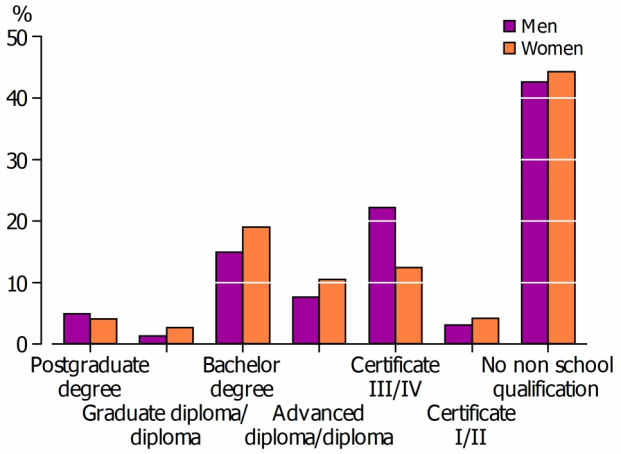
Proportion of level of current non-school qualification being studied(a) — 2011



(a) Aged 15-64 years.

Source: ABS 2011 Survey of Education and Work

Proportion of highest level of non-school qualification(a) — 2011



(a) Aged 15-64 years.

Source: ABS 2011 Survey of Education and Work

differences in the field of study choice between men and women were in the 'Engineering and related technologies field' (13% of men, compared with 2% of women) and the Education field (5% of men, compared with 14% of women).

Highest non-school qualification

In 2011, more than half of men (57%) and women (56%) aged 15–64 years had a non-school qualification.

While the proportion of men and women who had a non-school qualification was quite similar, the type of non-school qualification differed between the sexes. Men were more likely than women to have a certificate III or IV (22% of men, compared with 13% of women), while women were more likely to have a bachelor degree (19% and 15% respectively).

Education and labour force outcomes

There is a relationship between the type and level of a qualification and labour force participation.

In 2011, nine out of ten (93%) men with a higher education qualification were in the labour force; the same proportion as men with a certificate III or IV. By contrast, 77% of men without a non-school qualification were in the labour force.

For women, the association between qualification and labour force participation was more pronounced, with 84% of women with a higher education qualification in the labour force, compared with 62% of women without a non-school qualification. Indeed, women's participation in the labour force increased with the level of non-school qualification attained. Age may be a reason for these differences. More women in younger age groups are studying toward, or have attained, a qualification than women in older age groups. Furthermore, it would be expected that more young women than older women would be in the labour force, and that more qualified women would join and remain in the workforce than less qualified women.

Additionally, women with a higher education qualification had the highest proportion of full-time employment. Almost two-thirds (62%) of women with a postgraduate degree were employed full time, and just over half (53%) of women with a bachelor degree were employed full time. Women with a certificate I or II, and certificate III or IV had the highest proportions of women employed part time (36% for both), and women with a certificate I or II had the highest proportion of unemployment (6.2%).

A similar pattern was evident for men, with four fifths (81%) of men with a postgraduate degree, and four fifths (80%) of men with a bachelor degree employed full time, compared with two thirds (62%) of men with a certificate I and II, and three quarters (78%) of men without a non-school qualification. Men with a certificate I and II also had the highest proportion of part-time employment (18%), and the highest proportion of unemployment (8.3%).

...education level and starting salary

For the past 10 years, the median starting salary for women graduates in their first full-time employment has been consistently lower than their male counterparts. In 2011, the starting salary for recent women bachelor degree graduates was 96% of the male graduate salary: $50,000 compared with $52,000 respectively.[9]

For postgraduates, median salary is measured instead of starting salary, due to the small proportion of postgraduates entering full-time

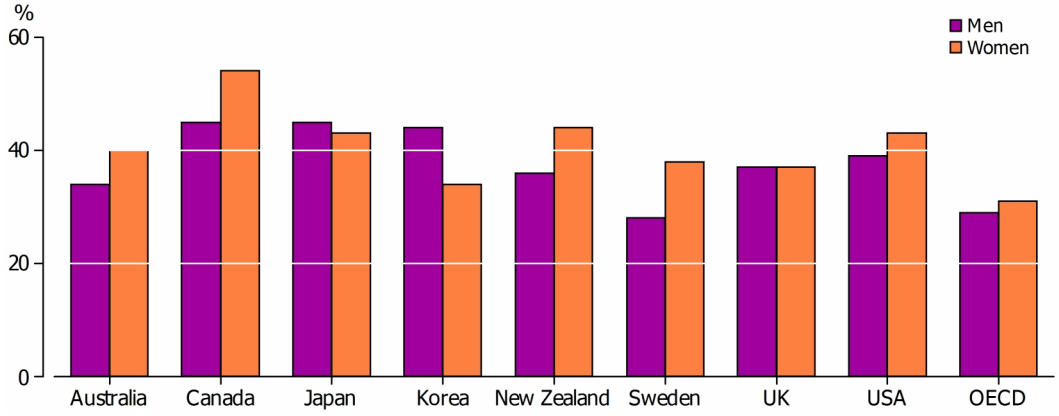
Median starting salary of bachelor degree graduates in their first full-time employment(a)(b) — 2002-2011

(a) Aged less than 25 years.

(b) In 2010-11 dollars, adjusted using changes in the Consumer Price Index.

Source: ABS *Gender Indicators, Australia, Jul 2012* (cat. no. 4125.0)

Proportion of men and women who have attained a tertiary qualification, selected countries(a) — 2009



(a) Aged 25-64 years.

Source: Organisation for Economic Cooperation and Development, 2011, *Education at a Glance 2011: OECD Indicators*, <www.oecd.org>.

employment for the first time.[10] The salary difference between men and women coursework postgraduates was more pronounced than that of bachelor degree graduates. In 2010, the median full-time salary for female masters by coursework graduates was $70,000 compared with $85,000 for male graduates.[10]

The difference in starting salaries between men and women can be partly explained by different educational priorities.[11] Men tend to graduate in fields more highly ranked according to starting salary, such as engineering, while women tend to graduate in middle ranked fields, such as education.[11]

International comparisons

Overall, Australia's population has a level of education which is just above the OECD average, with women performing better than men.

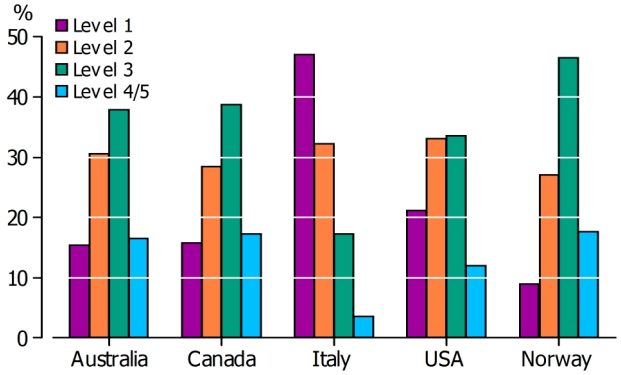
...tertiary qualification attainment

Australia's tertiary education rate is above the OECD average.[12] In 2009, one third (34%) of Australian men and two fifths (40%) of Australian women aged 25–64 years had a tertiary qualification.[13] This was above the OECD average, with just under a third of men (29%) and women (31%) in OECD countries having a tertiary qualification.[13]

Women were also more likely to have a tertiary education than were men in Canada (54% of women and 45% of men), New Zealand (44% of women and 36% of men) and the United States (43% of women and 39% of men).[13]

However, women were not the majority holders of tertiary qualifications in all OECD countries. In Korea, 44% of men and 34% of women had a tertiary qualification, while in Japan, 45% of men and 43% of women had a tertiary qualification.[13]

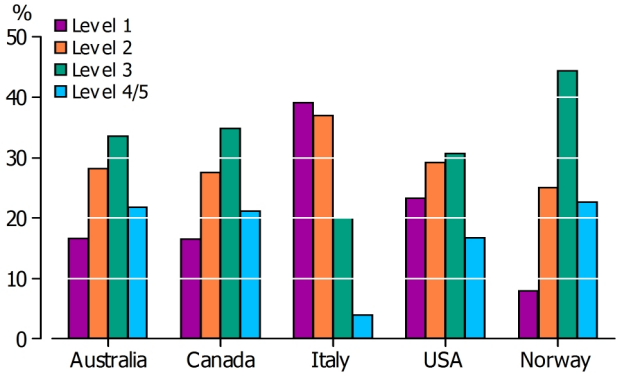
Men's literacy levels, selected countries(a) — 2006



(a) Men aged 16-65 years.

Source: ABS *Adult Literacy and Life Skills Survey, Summary of Results, Australia, 2006* (cat. no. 4228.0)

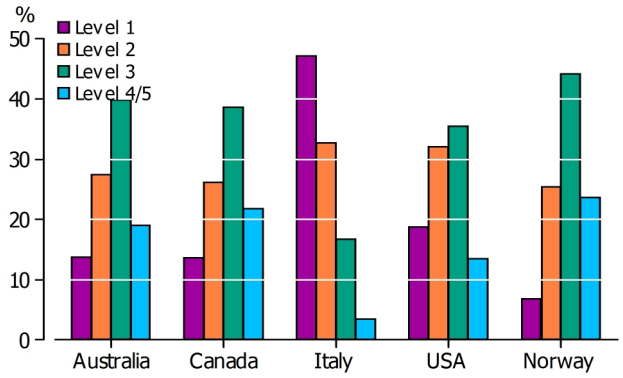
Men's numeracy levels, selected countries(a) — 2006



(a) Men aged 16-65 years.

Source: ABS *Adult Literacy and Life Skills Survey, Summary of Results, Australia, 2006* (cat. no. 4228.0)

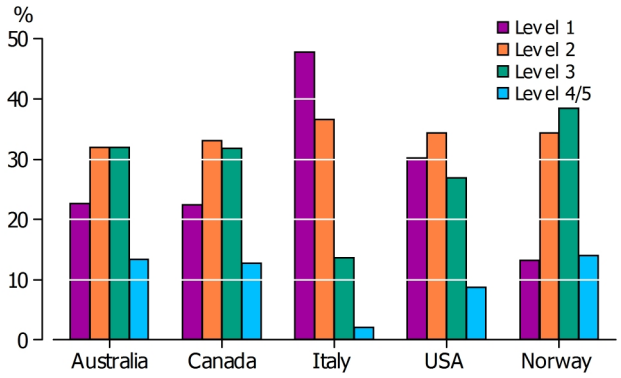
Women's literacy levels, selected countries(a) — 2006



(a) Women aged 16-65 years.

Source: ABS *Adult Literacy and Life Skills Survey, Summary of Results, Australia, 2006* (cat. no. 4228.0)

Women's numeracy levels, selected countries(a) — 2006



(a) Women aged 16-65 years.

Source: ABS *Adult Literacy and Life Skills Survey, Summary of Results, Australia, 2006* (cat. no. 4228.0)

...adult literacy

At the most basic level, literacy and numeracy skills build the foundation for schooling and further studies.

In 2006, more than half of Australian men (54%) and women (59%) aged 16–65 years had a prose literacy skill level that placed them at Level 3 or above. Level 3 is regarded as the "minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy."

Internationally, this compares with 64% of men and 68% of women in Norway, 56% of men and 60% of women in Canada, and 21% of men and 20% of women in Italy who had at least Level 3 prose literacy skills.

At the highest level of the literacy scale, almost one fifth of Australian men (16%) and women (19%) had a prose literacy skill that placed them at Level 4/5.

...adult numeracy

As with literacy, a Level 3 numeracy skill level is considered the minimum required for meeting the complex demands of everyday life. In 2006, similar proportions of Australian men (55%) and women (45%) had Level 3 or above numeracy skills.

This compares with 67% of men and 53% of women in Norway, 56% of men and 45% of women in Canada, and 24% of men and 16% of women in Italy who had a numeracy skill level that placed them at least at Level 3.

With regard to the highest level of numeracy skill, one fifth (22%) of Australian men had a numeracy skill level that placed them at Level 4/5, compared with 13% of Australian women.

Looking ahead

The qualifications attained following compulsory secondary school education provide young people with the training and pathways that are often needed to achieve career goals.

While there are still some gender differences in the types of non-school qualifications pursued by men and women, the increasing number of women who undertake further learning has had many benefits for both women and the Australian labour market.

Endnotes

1 The Good Universities Guide, 2012, *Getting into VET courses*, viewed 19 Sep 2012, <www.gooduniguide.com.au>.

2 National Centre for Vocational Education and Research, 2009, *An overview of vocational education and training in Australia and its links to the labour market*, <www.ncver.edu.au>.

3 Security4Women, 2009, *Women and Vocational Education and Training: strategies for gender inclusive VET Reform*, <www.security4women.org.au>.

4 National Centre for Vocational Education Research, 2011, *Australian vocational education and training statistics: Students and courses 2011*, <www.ncver.edu.au>.

5 National Centre for Vocational Education and Research, 2004, *VET in Schools: A post-compulsory education perspective*, <www.ncver.edu.au>.

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10 Graduate Careers Australia, 2010, *Postgraduate Destinations 2010*, <www.graduatecareers.com.au>.

11 Graduate Careers Australia, 2012, *GradStats 2011*, <www.graduatecareers.com.au>.

12 Tertiary education refers to VET and higher education.

13 Organisation for Economic Cooperation and Development, 2011, *Education at a Glance 2011: OECD Indicators*, <www.oecd.org>.

The right person for the job

The relevance of qualifications to employment

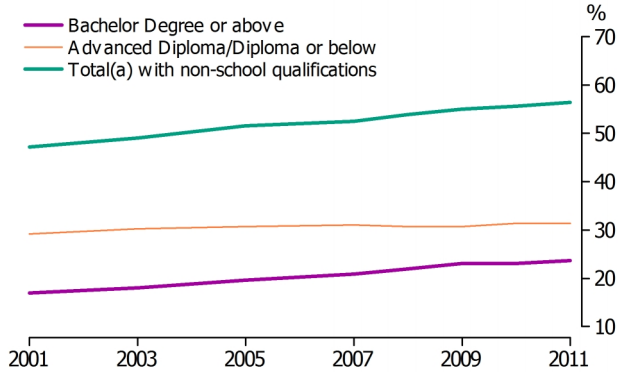
Education plays an increasingly critical role in preparing individuals for entry into the labour force, and ensuring they have the skills necessary for employment and life-long learning. The changing structure of the labour market, as well as the fast pace of technological change in an increasingly global economy, requires a workforce capable of development throughout their life.

Over recent decades there has been an increasing demand for vocational and higher education qualifications across many sectors of the labour market. This has resulted in a steady increase in the proportion of the working-age population with these qualifications. However, while the proportion of Australian workers with qualifications has increased, there is concern that many of these workers are employed in a field of work that has little relevance to their qualifications.

Qualification trends

Over recent years, the proportion of Australians who have gained a qualification has been steadily increasing. Between 2001 and 2011, the proportion of all Australians aged 15-64 years with a qualification ranging from a Certificate I to a Postgraduate degree, increased from 47% to 57%. Increasing levels of education reflect the broad structural changes in Australia's labour market in recent decades, including increases in service industries, which often require qualifications for employment, and concurrent reductions in the manufacturing industry, which may not require qualifications for employment.[1]

Proportion of people aged 15-64 years, level of highest non-school qualification — May 2001-May 2011



(a) Includes 'Level not determined'.
Source: ABS 2001-2011 Survey of Education and Work

Data source and definitions

Data in this article come from ABS *Learning and Work, 2010-11* (cat. no. 4235.0) and the ABS *Survey of Education and Work, May 2011* (cat. no. 6227.0). Unless otherwise stated, data in this article are for persons aged 20-64 years who have non-school qualifications.

Qualifications refer to non-school qualifications at the Postgraduate level, Graduate diploma and Graduate Certificate level, Bachelor degree level, Advanced diploma and Diploma level, and Certificates I, II, III and IV levels.

Higher education qualifications include qualifications at the Postgraduate level, Graduate diploma and Graduate Certificate level, and Bachelor degree level.

Vocational qualifications are qualifications at the Advanced diploma and diploma level, and Certificates I-IV levels.

Relevance of qualifications refers to where people stated they were currently working in the same field as their highest qualification, or, if not working in the same field, stated their highest qualification was still highly relevant or relevant to their current job.

Income quintiles are groupings that result from ranking all people in the population in ascending order according to their personal weekly income and then dividing the population into five equal groups, each comprising 20% of the population.

In this article, employed people are regarded as ***full-time*** if they usually work 35 hours or more per week. Employed people are regarded as ***part-time*** if they usually work fewer than 35 hours per week.

Adult migrant in this article refers to a person who migrated to Australia when they were aged 15 years or over.

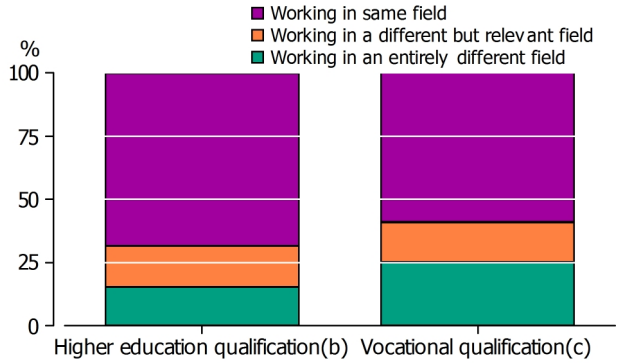
This article looks at employed people aged 20-64 years with a qualification, and the relevance of their highest level qualification for their current employment.

Job match and mismatch

While many more Australian workers are continuing their education beyond school, there is some concern that not all employed people are able to utilise their capabilities fully. When the education or skill level of workers does not match the levels required by a job, either through over or under-qualification, a job mismatch occurs.

Job-matching (and mismatching) has been a focus of international studies into labour force outcomes of education for some time, in terms

Employed people(a) with a qualification, relevance of qualification to current job — 2010-11



(a) Aged 20-64 years.

(b) Includes Bachelor degree, Graduate Certificate, Graduate diploma, and Postgraduate level qualifications.

(c) Includes Certificate I-IV, Diploma and Advanced Diploma qualifications.

Source: ABS *Learning and Work, 2010-11* (cat. no. 4235.0)

of how well levels of education and skills align with employment. In the absence of information on skills, this article investigates the relevance of the field of highest qualification, and how this relates to occupation.

Qualifications and employment

In 2010-11, there were 10.5 million employed people aged 20-64 years. Around two-thirds of men (68%) and women (70%) in this group had a non-school qualification.

Among the 7.2 million employed people with a qualification, women were more likely (49%) to have a higher education qualification than were men (38%). Conversely, men were more likely (60%) to have a vocational qualification than women (50%).

Relevance of qualifications

People pursue different educational pathways for different reasons, including personal interest and career advancement, and these different pathways can affect how relevant their qualifications are to their job. Furthermore, people can obtain more than one qualification. The likelihood of working in the same or relevant field as one's qualifications is higher (83%) when all qualifications are considered. However, the focus of this article is on the perceived relevance of the highest level qualification alone. In 2010-11, 79% of employed people with a qualification were working in a field that was the same or relevant to their highest qualification.

Why are some qualifications not relevant?

In 2010-11, 17% of all employed people with a qualification reported that they did not consider any of their qualifications to be at all relevant to their job. The reasons for this include a loss of interest in their field of qualification (29%), personal reasons (23%) and/or a lack of available positions in the field they studied (20%).

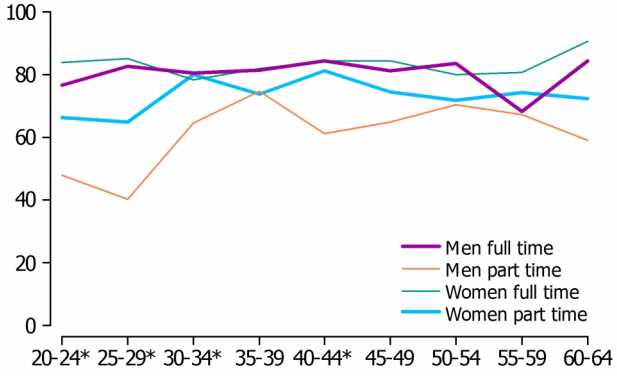
...age and sex

In 2010-11, 79% of all employed men with a qualification reported working in a field that was the same or relevant to their highest qualification. Younger (20-24 years) and older (55-64 years) employed men were less likely to have education-occupation alignment (71% and 72% respectively) than those aged 25-54 years (81%). This effect was not seen amongst employed women, for whom age had little effect on the relevance of their qualification (79%). While people's capacity to do a particular job does not necessarily diminish with age, factors other than qualifications, such as work experience, may become more important as careers progress.

In 2010-11, 79% of employed people reported working in a field that was the same or relevant to their highest qualification.

Conversely, when starting out in the work force as a young graduate, the need for experience or the need for employment of any kind during this transitional stage may outweigh the need to have a job that aligns perfectly with qualifications, particularly for those undertaking further study.

Proportion of employed people(a) with a relevant qualification in their current job by hours worked and sex — 2010-11



*Proportion of part-time men in these age groups had a relative standard error of 25% to 50% and should be used with caution.

(a) Aged 20-64 years.

Source: ABS *Learning and Work, 2010-11* (cat. no. 4235.0)

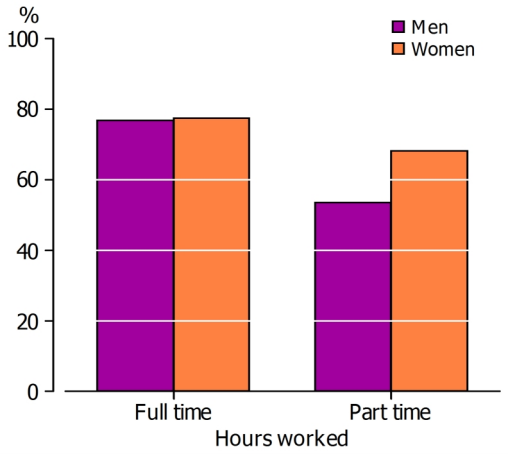
Migrants

In 2010-11, of the 3.8 million migrants aged 20-64 years, over two-thirds (69%) had a qualification, compared with 62% of people born in Australia. Reflecting policies that have increasingly emphasised skilled migration, the proportion of adult migrants (that is, people who arrived aged 15 years or over) with a qualification on arrival has increased from 36% of people who arrived before 1991 to 65% of arrivals after 2006. There has also been strong growth among those with a Bachelor degree or above, rising from 15% of migrants arriving before 1991 to 46% of those arriving after 2006.

Of employed adult migrants aged 20-64 years with a qualification in 2010-11, three-quarters (74%) were working in a job that was the same or relevant to their highest qualification, compared with 80% for those born in Australia, though this difference was not statistically significant. Of all qualified, employed adult migrants aged 20-64 years, 47% had gained their highest qualification after arrival. When migrants gained their qualifications had some effect on whether they were likely to be working in a field that was the same as or relevant to their qualifications. Those who gained their highest qualification after arriving in Australia were more likely (79%) to be working in the same or relevant field than were those who attained their highest qualification before arrival (70%).

Similar to the total employed population, there were some differences based on hours worked, with migrants working full time more likely to have education-employment alignment. This was particularly so for men, with 77% of male adult migrants who were working full time being in a field that was the same or relevant to their highest qualification, compared with 54% of those who were working part time. In comparison, there was no significant difference between the proportions of female adult migrants working full or part time who had a job in the same or relevant field.

Proportion of employed(a) adult migrants(b) with relevant qualifications in their current job by sex and hours worked — 2010-11



(a) Aged 20-64 years with a qualification.

(b) Migrants were aged between 15-64 years on arrival.

Source: ABS *Learning and Work, 2010-11* (cat. no. 4235.0)

...hours worked

In addition to age differences, there are some differences between men and women in the likelihood of working in a relevant field, particularly when the hours worked are considered.

While equal proportions of men and women were working in a field that was the same or relevant (79%) to their highest qualification in 2010-11, a different picture emerges when taking into account whether they worked full time or part time. Overall, 82% of those with a qualification working full time reporting working in a job that was the same or relevant to their qualification, compared with 71% of those working part time. Men and women employed full time had a similar likelihood of working in a field that was the same or relevant (81% and 83% respectively).

However, for part-time workers, women were more likely to be working in a field that was the same or relevant (74%) than men (59%).

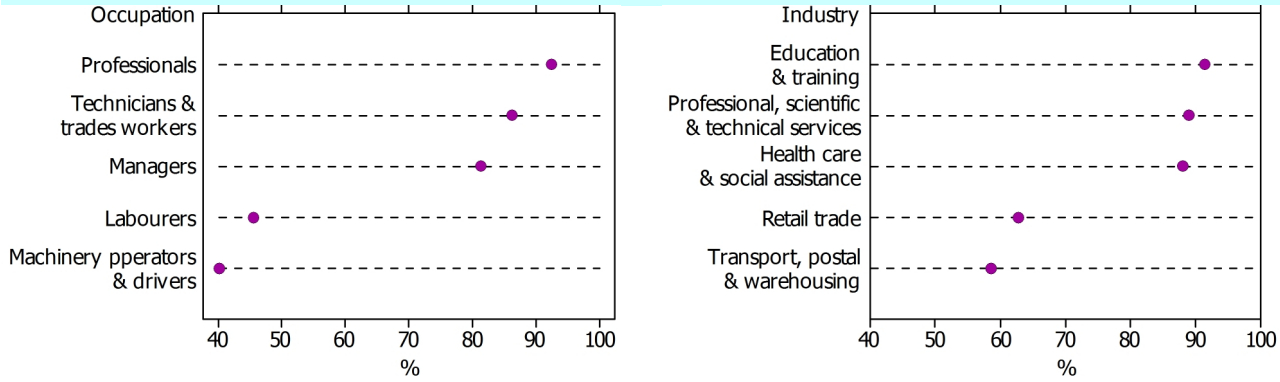
Young part-time workers (aged 20-29 years) were the least likely to be working in the same or relevant field. Less than half (44%) of young part-time employed men and two-thirds (66%) of young part time women were working in the same or relevant field to their highest qualification. Over three in five (61%) men and over one quarter (27%) of women aged 20-24 years employed part time with qualifications were engaged in further full-time study while working. For these people in particular, employment in the same or relevant field to their highest qualification may not have been as important as having some type of employment while they were engaged in further study.

For older employed people working full time, there is a reduction in the proportion working in a field that was the same or relevant to their qualifications for those aged 55-59 years, followed by an increase at age 60-64 years. It may be that those without relevant qualifications were more likely to retire prior to age 60, while those with relevant qualifications may be more likely to keep working.

Level of highest qualification

Although vocational qualifications are oriented towards gaining occupation-specific knowledge and skills, people with university degrees as their highest qualification tended to be more likely (85%) to be currently working in the same or relevant field as their qualification than those with vocational-based qualifications (75%). This follows a general trend that levels of education-occupation alignment tend to increase with qualification level. It is possible that the specific skills gained through vocational education for a particular job may not be as relevant upon

Proportion of employed people(a) with a relevant qualification in their current job, by selected occupation, selected industry — 2010-11



(a) Aged 20-64 years with qualifications.

Source: ABS *Learning and Work, 2010-11* (cat. no. 4235.0)

promotion, whereas qualifications gained through higher education degrees can be applied to a broader range of positions.

Field of study

Some fields of study stood out as having high proportions of people working in relevant jobs. Around nine in ten (91%) people whose highest qualification was in a health field had jobs that were either the same or relevant to their field of study, as well as 85% of those with qualifications in the education, architecture and building fields. In comparison, 58% of people whose highest qualification was in agriculture or environmental studies, and 64% of people with creative arts qualifications, were working in a relevant field. It may be that there was a lack of jobs in these fields, particularly among those with qualifications in agriculture or environmental studies, given overall reductions in the agriculture, forestry and fishing industry in Australia. Those whose highest level of education was in the creative arts may have studied for personal interest alone, or may have to undertake paid work in an unrelated field to support their creative work.

Occupation

People employed as professionals were most likely to report working in a field that was the same or relevant to their highest qualification (93%), followed by technicians and trades workers (86%) and managers (81%). People employed in these occupations are likely to have very specialised skills for working in corresponding specialised areas, as well as more general skills that can have relevance across many areas.

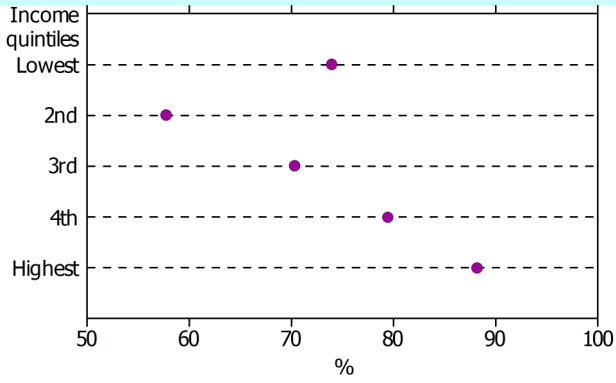
In contrast, labourers, machinery operators and drivers had lower levels of educational attainment and education-occupation alignment. Less than half (46%) of labourers were working in a job that was either the same or relevant to their highest qualification, while just two in five (40%) machinery operators or drivers were in the same position. There are generally fewer non-school qualifications that are relevant for these occupations, and people working in these fields may gain skills through experience or on the job training rather than relevant formal qualifications.

Industry

Certain industries are more likely to require either vocational or higher education qualifications than others.

Industries with very high proportions of people working in a field that was the same or relevant to their highest qualification included education and training (91%), professional, scientific and technical services (89%), and health care and social assistance (88%). Conversely, only 59% of those working in the transport, postal and warehousing industry reported that their highest qualification aligned with their job.

People(a) employed full-time with a relevant qualification in their current job by personal weekly income quintiles — 2010-11



(a) Aged 20-64 years with qualifications.

Source: ABS *Learning and Work, 2010-11* (cat. no. 4235.0)

Income

With the exception of those with the lowest incomes, generally as income increases, so too does the likelihood that people are working in the same or relevant field as their highest qualification. Around nine in ten (88%) people employed full time and situated in the highest income quintile reported working in the same or relevant field, compared with 58% of those in the second quintile.

This reflects the fact that those with the highest income tend to be employed as professionals or managers, occupations which have a higher proportion of people working in a field that was the same as or relevant to their qualifications.

Three quarters (74%) of those employed full-time with a qualification who had an income in the lowest quintile reported working in a field that was the same or relevant to their qualification. Some of those who report low income may have access to other economic resources, and may not necessarily be suffering extremely low levels of economic wellbeing.

Looking ahead

Australia's long-term prosperity is heavily dependent on investments in education and workforce development. Much of Australia's workforce is already equipped with qualifications that are relevant to their employment, providing them with a foundation of skills and knowledge for work, both now and into the future.

The Australian government, in recognition of the increasing importance of qualifications beyond compulsory schooling, has introduced numerous programs to ensure the continuing development of skills for Australian workers.

Most recently, the creation of the Australian Workforce and Productivity Agency[2] is an initiative which aims to improve Australia's long term workforce planning and development.

Endnotes

1 Department of Education, Employment and Workplace Relations, *Australian Jobs 2012*, <http://www.deewr.gov.au/Employment/ResearchStatistics/Documents/AustralianJobs.pdf>, accessed August 10, 2012.

2 Australian Workforce and Productivity Agency, <http://www.awpa.gov.au/>, accessed August 10, 2012.

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