

WORKING PAPER



Investigating the low paid  
workforce: Employment  
characteristics, training and  
work-life balance

Natalie Skinner and Peter King

CENTRE FOR WORK + LIFE, UNIVERSITY OF SOUTH AUSTRALIA

October 2008

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## Summary

### Background to this paper

This paper is part of a larger project ‘*Low paid workers and VET (Increasing VET participation amongst lower paid workers over the life-cycle)*’ that is funded by the NCVET National VET Research and Evaluation Program.

The project is focused on identifying the barriers and supports to VET participation for workers from low paid occupations and those with lower levels of education, in the context of changing work-life configurations. The purpose of the project is to inform policy and practice that will support and encourage the VET participation of the low paid and those with lower levels of education with positive outcomes for their lives.

This paper presents analyses from three large surveys. The analysis is designed to identify the VET and labour market characteristics of low paid and lower educated groups, and identify the factors that are likely to support or undermine the capacity of these groups to engage in VET.

The three surveys analysed are the:

- 1 *NCVER Student Outcomes Survey (SOS)*, to compare the VET outcomes of students from low paid compared to other occupations
- 2 *Household Income and Labour Dynamics in Australia (HILDA) Survey* to identify the social and employment characteristics of low paid workers
- 3 Australian Bureau of Statistics *Adult Literacy and Life Skills (ALLS) Survey* to examine the level of literacy and life skills of low paid workers.

Low paid workers were defined as those working in the following occupations:

- clerical and administrative
- community and personal services
- sales and service
- production and transport
- machinery operators and drivers
- labouring and related occupations.

Of course there are higher paid workers within these occupational groups, and low paid workers in other occupations. However, the nominated ‘low paid occupations’ are, by and large, the occupations in which most low paid workers are found and so we utilised this approach to our analysis. In the SOS survey, students who were in low paid occupations prior to study were examined. In the HILDA and ALLS surveys, respondents who were in low paid occupations at the time of the survey were examined.

Throughout this paper we refer to ‘other occupations’ which include all the non-low paid occupations, namely managers, professional and technicians and trade workers (using the ANZSCO classifications which apply in SOS and ALLS) or managers and administrators, professionals, associate professionals, tradespeople and related workers, advanced clerical and sales workers (using the ASCO classifications which apply in HILDA).

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## Structure of this report

After a brief summary of major findings, this report falls into three sections reflecting the three data bases that are the basis of analysis. In Section 1 we analyse the Student Outcomes Survey (SOS) survey focussing on a descriptive analysis, in Section 2 we set out a descriptive analysis of relevant HILDA data, and in Section 3 we provide an analysis of the ALLS survey that includes descriptive and inferential (odds ratios) statistics. In each section we focussed on how low paid workers fare in their access to VET, and how this is shaped by their larger lives and working conditions. Each analysis considers gender and age differences.

## Major findings

### *Low paid workers, and low paid women in particular, are a major VET client population*

Low paid workers are a significant VET client population. Strategies to support and improve low paid workers' access to VET, and employment outcomes, will thus benefit a major VET client population. Analysis of the Student Outcome Survey shows that two-thirds of graduates were employed in low paid occupations in the six months prior to training.

Women VET graduates were much more likely to be employed in low paid occupations (80.1% of all women graduates) than men (55.0%). The HILDA analysis indicated that low paid workers were more likely to be women, younger people (under 45), part-time workers, and have lower qualifications (year 11 or less) and to be employed casually.

### *Part-time work was common, especially for low paid women and younger workers*

Around half of graduates from low paid occupations worked part-time prior to training, and more younger people and women.

This pattern continued after training. VET graduates from low paid occupations were less likely to be working full-time after training (60.8%) compared to graduates from other occupations (83.6%), regardless of gender or age.

### *Low paid workers attained lower VET qualifications*

Low paid workers attained lower VET qualifications, except for younger people: VET participants from low paid occupations were less likely to graduate with Certificate IV or higher qualifications (30.0%) compared to those from other occupations (36.8%). However, this pattern was reversed for younger graduates. Younger people (15-24 years) in low paid occupations were more likely to graduate with a Diploma or higher qualification (15.2%) compared to their counterparts in other occupations (6.9%).

### *Low paid workers were more likely to transition to higher skilled employment after VET training*

The majority of VET graduates did not move to a different occupational skill level after training, including just over two-thirds of those from low paid occupations and 86.2% of those from other occupations.

However, graduates from low paid occupations were more likely to increase the skill level of their employment: 27.7% of graduates from low paid occupations moved to a higher skill level in their post-training occupation compared to 3.0% of those from other occupations. Low paid workers were also less likely to move to a lower skill level (3.4% compared to 10.8% in other occupations).

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This probably reflects floor and ceiling effects: for those in low paid occupations there is more scope to move to a higher skilled occupation, and less scope to move to a lower skilled occupation, compared to those graduates who are already in occupations at higher skill levels.

## *Perceived employment benefits of training differed between low paid and other workers*

Perceived employment benefits of training also differed between low paid and other graduates: graduates from low paid occupations were more likely to report that training assisted them to get a job or change jobs compared to those from other occupations.

However, graduates from other occupations were more likely to report that training assisted them to set up/expand their own business, and gain a promotion/increase their status at work.

There was little difference in the perceived benefit of training for earnings: around 35% of all graduates reported a perceived increase in earnings as a result of training.

## *Low paid workers were in workplaces less supportive of work-life and work-study balance*

Low paid workers' workplaces were less supportive of work-life and work-study balance through measures like working from home, flexible start and finish times and the availability of part-time work options. Low paid workers reported less access to each of these entitlements.

Despite this, low paid workers' perceptions of work-life pressures did not differ from those in other occupations, nor did they report less satisfaction with the flexibility available in their workplace to balance work and non-work commitments.

## *VET students had greater access to flexible work arrangements compared to lower educated workers not engaged in VET*

Amongst lower educated workers (year 11 or lower qualifications) students participating in VET, regardless of occupation, had greater access to flexible work arrangements (like flexible start and finish times and part-time work options) than those not engaged in VET.

The exception to this pattern was women VET students in low paid occupations; they reported lower access to flexible start and finish times than women who were not students.

Workplace entitlements such as flexible start and finish times, working from home and options to work part-time may thus support the VET participation of workers from low paid and other occupations, especially women.

## *Literacy deficits are linked with employment in low paid occupations*

There was a clear association between literacy and employment in low paid occupations.

For all literacy measures, men and women combined, workers with poor literacy were 2.15 times more likely to be employed in a low paid occupation compared to another (not low paid) occupation. The strongest association was observed for numerical literacy: workers with low numerical literacy were 2.44 times more likely to be employed in a low paid occupation.

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## *Structural employment barriers to VET participation for low paid workers must be recognised and addressed*

These findings suggest that structural employment barriers to VET participation for low paid workers - a major VET client population - need to be addressed and should take into account the configuration of employment in low paid occupations.

The majority of women VET students in low paid occupations were part-time workers. Whilst this may enable more time for study compared to full-time work, it is also likely to restrict the financial and physical resources available to support VET participation (e.g., commuting costs, child-care costs, access to IT hardware and software at home).

Workers from low paid occupations were more likely to be employed on a casual basis especially women. Employers are much less likely to invest in training for casual workers (c.f. Hall, Bretherton & Buchanan 2000; Dawe, Saunders & Nguyen 2008).

Low paid workers were also less likely to have access to flexible work arrangements that can support workers' efforts to manage work, study and other life commitments. These include such workplace entitlements as access to flexible start and finish times, working from home, and options for part-time work. Low paid men in particular, were less likely to have access to these types of workplace supports.

### *Women are a priority for interventions to support VET participation.*

Strategies to facilitate the participation of workers from low paid occupations in the VET sector should take account of the highly feminised nature of the low paid workforce.

Around half of employed women in the HILDA survey were in low paid occupations compared to just over one-third of men. SOS analysis shows that 80.1% of female VET graduates were employed in low paid occupations prior to training, compared to 55.0% of men.

Taking account of working hours, women are more likely to experience work-life pressures, and hence have more difficulty managing work, life and study commitments, compared to men (Pocock 2003; Eby et al. 2005; Skinner & Pocock 2008). This reflects gender inequities in domestic and caring work, as well as other factors including masculinised workplace practices and institutions, and policy regimes which lag behind the feminisation of the workforce (MacDonald, Phipps & Lethbridge 2005; Pocock 2005).

As observed in the analyses of SOS and HILDA Surveys, women are also more likely to work part-time and to be employed on a casual basis. These two work arrangements also present challenges to workers' capacity to engage in VET.

## Statistical conventions

All group contrasts reported in the cross-tabulation analyses are statistically significant (Chi-square  $p < .05$ ). Population weights have been applied to all analyses.

## Defining low paid occupations

As Table 1 shows, low paid occupations were defined as occupations in the lowest five categories of the ANZSCO (Australian and New Zealand Standard Classification of Occupations) classifications (levels 4 to 8) and the lowest four categories of the ASCO (Australian Standard Classification of Occupations) classifications (levels 6 to 9).

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ANZSCO classifications (Australian Bureau of Statistics 2005) were used in the analyses of the NCVER Student Outcomes Survey (SOS) and the Australian Bureau of Statistics Australian Literacy and Life Skills Survey (ALLS). ASCO classifications (Australian Bureau of Statistics 1997) were used in the analyses of the HILDA wave 6 (2006) survey data, as ANZSCO classification data was not available.

**Table 1** Low paid occupations as defined by ANZSCO and ASCO classifications

Other occupation		Low paid occupation	
ANZSCO	ASCO	ANZSCO	ASCO
• Managers	1. Managers and administrators	4. Community and personal services workers	6. Intermediate clerical, sales and service workers
• Professionals	2. Professionals	5. Clerical and administrative workers	7. Intermediate production and transport workers
• Technicians and trades workers	3. Associate Professionals	6. Sales workers	8. Elementary clerical, sales and service workers
	4. Tradespeople and related workers	7. Machinery operators and drivers	9. Labourers and related workers
	5. Advanced clerical and sales workers	8. Labourers	

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## SECTION 1: Student Outcomes Survey

The 2007 Student Outcomes Survey (SOS) is an annual survey that focuses on student employment outcomes and satisfaction with VET. (see <http://www.ncver.edu.au/publications/1937.html>) for further information). It excludes students who undertook recreational, leisure or personal enrichment courses.

The analysis that follows included survey respondents employed in the six months prior to training, who had completed all the requirements for a VET qualification. We also considered 'module completers' defined as those students who successfully completed part of a qualification and then left the VET system. In general the patterns by occupation, gender and age for module completers were similar to graduates; we note significant differences where they exist.

In 2007, two-thirds of SOS respondents were VET graduates and one third were module completers.

As shown in Table 2, there were slightly more men (53.7%) than women (46.3%) in the graduate sample. The majority of graduates were aged between 15 and 44 years. Around 40% of women were in the younger 15 to 24 years age group, and around 40% of men were in the 25-44 years age group. Twenty per cent of men and women were aged 45 years or older.

Just over half of graduates (55.6%) had a VET or higher education qualification prior to training.

Certificate III was the most common qualification obtained by graduates (40.7%), and men were slightly more likely to graduate with this qualification (42.7%) compared to women (38.3%). Men were also more likely to graduate with a Certificate II qualification (25.1% compared to women (21.4%). Women were more likely to graduate with a Diploma (16.1%; 10.7% of men) or a Certificate IV qualification (19.6%; 16.5% of men). Around five per cent of men and women graduated with a Certificate I qualification.

The majority of graduates (91.3%) were employed as wage or salary earners (employees) in the six months prior to training. A small proportion of graduates were self-employed prior to training (4.4%), an employment arrangement more common for men (9.0%) compared to women (4.9%).

Consistent with broader patterns in the Australian labour market, full-time employment prior to training was more common for men (71.3%) than women (40.5%). The majority of women were employed part-time prior to training (57.6%).

The majority of graduates (66.4%) were employed in low paid occupations in the six months prior to training. Women were much more likely to be employed in low paid occupations (80.1%) compared to men (55.0%).

Graduates were very segmented by occupation and sex, reflecting the Australian labour market. Women were most likely to be employed in community and personal service (24.4%), clerical and administrative (19.3%), or sales (23.5%) occupations prior to training. Men were most likely to be employed in technicians and trades (28.8%), machinery operation/driving (11.3%) and labouring (21.3%) occupations. Gender differences in employment in professional or managerial occupations were small: men were slightly more likely to be employed as managers (8.0%) compared to women (5.0%).

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**Table 2 Student Outcomes Survey (SOS) graduate sample characteristics, employed 6 months before training, 2007**

Sample characteristics	All %	Men %	Women %
Total	100	53.7	46.3
Age			
15-24 years	38.4	35.5	41.6
25-44 years	39.7	42.7	36.3
45 years & older	21.9	21.8	22.1
Highest pre-training schooling			
Year 11 or lower	18.5	18.5	18.4
Year 12	16.2	14.8	17.8
HE/VET	55.5	56.6	54.3
Miscellaneous <sup>a</sup>	9.8	10.1	9.4
Qualification			
Diplomas and above	13.2	10.7	16.1
Certificate IV	17.9	16.5	19.6
Certificate III	40.7	42.7	38.3
Certificate II	23.4	25.1	21.4
Certificate I	4.8	4.9	4.6
Basis of employment (prior to training)			
Wage or salary earner	91.3	89.7	93.2
Own business - with employees	2.7	3.6	1.7
Own business - without employees	4.4	5.4	3.2
Helper not receiving wages	1.6	1.3	2.0
Labour force status (prior to training)			
Employed full-time	57.0	71.3	40.5
Employed part-time	41.0	26.7	57.6
Employed (hours not stated)	2.0	2.0	2.0
Occupational status (prior to training)			
Low paid occupation	66.4	55.0	80.1
Other occupation	33.6	45.0	19.9
Occupation (prior to training) <sup>b</sup>			
Managers	6.7	8.0	5.0
Professionals	8.6	8.2	9.1
Technicians and trades workers	18.4	28.8	5.9
Community and personal services workers	15.0	7.2	24.4
Clerical and administrative workers	11.9	5.7	19.3
Sales workers	15.8	9.5	23.5
Machinery operators and drivers	6.9	11.3	1.5
Labourers	16.8	21.3	11.3
Total number of responses	33 701	15 177	18 503
Estimated total number of students	346 790	185 928	160 428

Note a Miscellaneous consists of: 'Other certificate', 'Certificate of competency or proficiency', 'Statement of attainment', 'Prevocational training' and 'Other'.

b Occupation defined by ANZSCO 2006.

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## *Module completers*

Compared to graduates, module completers were older, more likely to have been self-employed (8.8%) and to have worked full-time prior to training (62.2%). Module completers were more likely to have been employed as managers (9.9%), professionals (14.4%) or clerical and administrative workers (14.3%), and less likely to have been employed as community and personal service workers (for women only), sales workers (10.5%) and labourers (12.9%). There was little difference in graduates' and module completers' level of education prior to training.

Module completers were less likely to have been enrolled in a certificate or diploma course; 40.3% reported 'other' as the training qualification in which they had enrolled. As observed in the graduate sample, there were slightly more men (54.7%) than women (45.3%) in the sample of module completers and men in the module completers sample were more likely to be self-employed (17.0%; 9.9% of women), working full-time prior to training (76.2%; 45.3% of women), and less likely to be in low paid occupations (47.0%; 69.2% of women). The gender differences observed in regard to the occupations of graduates were also evident for module completers.

We now turn to three key employment and study characteristics of VET graduates: their occupation prior to commencing training, their work hours (full-time, part-time) prior to training and the VET qualification they attained. We consider, gender and age in relation to each characteristic.

## Occupation

As Table 3 shows, women graduates in low paid occupations were most likely to have been employed in community and personal services (30.5%), clerical and administrative (24.1%) or sales (29.4%) occupations prior to training, whereas low paid men were more likely to have been employed as machinery operators/drivers (20.6%), sales people (17.2%) or as labourers (38.7%).

Of those graduates employed in other occupations prior to training, women were most likely to be in professional (45.5%) or technical or trades occupations (29.4%), whereas men were most likely to be in technical and trades occupations (63.9%).

Younger graduates (in the 15 to 24 years age group) employed in low paid occupations prior to training were more likely to be employed in sales (39.7%) compared to older graduates (Table 3). Older graduates employed in low paid occupations prior to training were more likely to have been employed in community and personal services, clerical and administrative and labouring occupations. There was little difference between age groups in employment as labourers.

For those in other occupations (that is, not low paid occupations), employment in technical or trades occupations prior to training was most common for younger graduates (77.5% of those in the 15 to 24 years age group), and graduates aged 25 to 44 years (52.5%). The majority of graduates aged 45 years or older were employed in managerial or professional occupations prior to training (64.1%).

## Work hours prior to training

Graduates from low paid occupations were more likely to have been employed part-time prior to training (52.6%) compared to those from other occupations (17.6% employed part-time), and this was the case for men and women (Table 3).

Consistent with broader trends in the Australian labour market women in both low paid and other occupations were more likely to work part-time compared to men. Part-time work was particularly common for women from low paid occupations (63.1%).

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In both low paid and other occupations, graduates in the 25 to 44 years age group were least likely to work part-time prior to training. Younger graduates (in the 15 to 24 years age group) employed in low paid occupations prior to training were especially concentrated in part-time work prior to training (70.8% compared to 22.6% of their counterparts employed in other occupations).

## Qualification attained

Table 3 shows that attainment of Certificate II and III qualifications was most common for graduates from low paid occupations (65.7% overall; 69.8% of men; 62.2% of women) and other occupations (60.1% overall; 65.0% of men; 47.0% of women).

Workers from low paid occupations were less likely to graduate with Certificate IV or higher qualifications (30.0%) compared to those from other occupations (36.8%). This was mainly due to the larger proportion of graduates from other occupations who attained Certificate IV qualifications (23.1%) compared to those from low paid occupations (16.0%). This was the major difference in the qualifications obtained by graduates from the two occupational groups.

In both occupational groups, women were more likely to graduate with a Certificate IV or higher qualification (34.5% women and 24.5% of men from low paid occupations; 49.6% of women and 32.1% of men from other occupations) (Table 3). Men were slightly more likely to have graduated with Certificate I or II level qualifications.

There were some differences between men and women when low paid and other occupations were compared. For women, Certificate III qualifications were more common for those in low paid occupations (40.2%) compared to women in other occupations (29.3%). This difference was not evident for men; around 43% of men from low paid (43.7%) and other occupations (42.6%) graduate with Certificate III qualifications. For men, Certificate I qualifications were more common for those in low paid occupations (5.7%) compared to men in other occupations (2.8%). Whereas for women, just over 3% of graduates from both low paid and other occupations attained Certificate I qualifications.

In low paid occupations younger people (in the 15 to 24 years age group) were more likely to graduate with a Certificate II or III qualification (68.6%), whereas older graduates were more likely to graduate with a Certificate III or IV qualification (63.7% of those aged 25 to 44 years; 65.6% of those aged 45 years and older).

In other occupations, younger people were most likely to graduate with a Certificate III qualification (61.4%), whereas older graduates (25 years or older) were more likely to graduate with Certificate IV or higher qualifications (43.1% of those aged 25 to 44 years; 43.6% of those aged 45 years or older), compared to their younger counterparts (18.6%).

Comparing age groups across occupations, younger people (in the 15 to 24 years age group) in low paid occupations were more likely to graduate with a Diploma or higher qualification (15.2%) or a Certificate II qualification (29.2%) compared to their counterparts in other occupations (6.9% and 17.2%, respectively). Younger people in low paid occupations were less likely to graduate with a Certificate III qualification (39.4%) compared to their counterparts in other occupations (61.4%).

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**Table 3 Demographic characteristics of VET graduates in low paid and other occupations, employed 6 months before training, 2007**

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation<sup>a</sup></b>						
Occupation (prior to training)						
Community and personal services workers	22.6	13.1	30.5	18.1	25.3	29.2
Clerical and administrative workers	17.9	10.3	24.1	10.2	25.1	23.3
Sales workers	23.9	17.2	29.4	39.7	11.7	7.2
Machinery operators and drivers	10.4	20.6	1.9	5.8	14.5	13.9
Labourers	25.3	38.7	14.1	26.2	23.4	26.4
Qualification attained						
Diplomas and above	14.0	10.8	16.6	15.2	14.3	10.4
Certificate IV	16.0	13.7	17.9	10.8	20.4	20.6
Certificate III	41.8	43.7	40.2	39.4	43.3	45.0
Certificate II	23.9	26.1	22.0	29.2	18.7	19.9
Certificate I	4.4	5.7	3.3	5.4	3.2	4.1
Work hours (prior to training)						
Full-time	46.6	59.2	36.1	28.8	63.3	58.9
Part-time	52.6	40.0	63.1	70.8	35.6	39.8
Hours not stated	0.8	0.9	0.8	0.4	1.1	1.3
<b>Other occupation<sup>a</sup></b>						
Occupation (prior to training)						
Managers	19.8	17.8	25.1	13.6	19.7	25.9
Professionals	25.6	18.3	45.5	8.9	27.9	38.2
Technicians and trades workers	54.6	63.9	29.4	77.5	52.5	35.9
Qualification attained						
Diplomas and above	13.7	11.6	19.3	6.9	16.8	15.0
Certificate IV	23.1	20.5	30.3	11.7	26.3	28.6
Certificate III	39.0	42.6	29.3	61.4	33.2	27.5
Certificate II	21.2	22.4	17.7	17.2	21.2	24.8
Certificate I	3.0	2.8	3.4	2.9	2.5	4.0
Work hours (prior to training)						
Full-time	81.7	89.0	61.8	77.0	85.7	78.8
Part-time	17.6	10.3	37.4	22.6	13.6	20.1
Hours not stated	0.7	0.7	0.8	0.4*	0.7	1.2

Note: a Occupation defined by ANZSCO 2006.

\*Estimate not reliable due to small sample size (< 30) and should be used with caution.

Graduates in the 25 to 44 years age group in low paid occupations were more likely to graduate with a Certificate III qualification (43.3%), and less likely to graduate with a Certificate IV qualification (20.4%), compared to their counterparts in other occupations (33.2% and 26.3%, respectively).

For graduates 45 years or older, those in low paid occupations were less likely to graduate with Certificate IV or higher qualifications (31.0%) or Certificate II qualifications (19.9%), compared to their counterparts in other occupations (43.6% and 24.8%, respectively). Older graduates in low paid

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occupations were more likely to graduate with Certificate III qualifications (45.0%) compared to their counterparts in other occupations (27.5%).

## *Module completers*

Compared to graduates, module completers were more likely to be in clerical or administrative occupations (25.6%) and professional occupations (32.8%), and were less likely to be in sales (18.8%), labouring (23.0%) and technical and trades (44.6%) occupations. A large proportion of module completers in low paid occupations (42.7%) and other occupations (56.9%) reported 'other' as the training qualification in which they had enrolled. This was particularly the case for men and older students (aged 25 years or older) in low paid and other occupations.

Module completers from low paid occupations were more likely to be working full-time prior to training (54.1%) compared to graduates. This difference was not observed for other occupations. In general, the age and gender patterns described above were also observed in the sample of module completers.

## Sources of income during training

The majority of graduates engaged in paid work to earn income during their training whether in low paid occupations (78.2%) or other occupations (78.5%) (Table 4). Graduates from low paid occupations were more likely to report income from government allowances/pensions or benefits (6.1%; 2.7% other occupations), and from parents or spouse/partners (11.1%; 4.9% other occupations), and less likely to report income from their own business (3.3%; 11.5% other occupations). These patterns were observed for men and women, and across age cohorts.

There were small, but statistically significant, gender differences in sources of income for graduates in low paid and other occupations. Compared to men, women in low paid occupations were slightly more likely to identify parents or spouse/partner as a source of income during training (13.1%; 8.6% of men). This suggests that women in low paid occupations are more reliant than men upon household support when undertaking VET, raising some important gender issues around fees and costs of training.

Women in other occupations were more likely to report parents or spouse/partner as a source of income (9.1%; 3.3% of men), and were slightly less likely to report earning income from their own business (8.7%; 12.5% of men).

As we expect from a life cycle perspective, parents or spouse/partner were most likely to be reported as a source of income for younger people (in the 15 to 24 years age group) in low paid (17.1%) and other occupations (7.5%). Younger people were least likely to report income from their own business (0.5% of those from low paid occupations; 1.7% of those from other occupations).

Those in the 45 years and older age group were least likely to report paid work as a source of income, and this was most evident for those in other occupations.

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**Table 4 Sources of income for graduates during training by occupation, employed 6 months before training, 2007**

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Government allowance/pension/benefit <sup>a</sup>	6.1	4.6	7.3	2.2	9.6	9.1
Scholarship/cadetship	0.4	0.4	0.5	0.5	0.4	0.3
Paid work (including apprenticeship/traineeship)	78.2	78.6	77.9	78.2	79.2	76.6
Own business	3.3	3.7	3.0	0.5	4.5	8.2
Parents or spouse/partner	11.1	8.6	13.1	17.1	6.4	4.5
<b>Other occupation</b>						
Government allowance/pension/benefit <sup>a</sup>	2.7	1.8	5.2	1.2	3.3	3.2
Scholarship/cadetship	0.2	0.1	0.2	0.3	0.1	0.1
Paid work (including apprenticeship/traineeship)	78.5	78.8	77.7	87.5	79.0	68.4
Own business	11.5	12.5	8.7	1.7	12.0	20.3
Parents or spouse/partner	4.9	3.3	9.1	7.5	4.6	2.6

Notes: a Austudy/Abstudy/youth allowance/government pension or benefit.

Survey respondents could select multiple responses to this question.

\*Estimate not reliable due to small sample size (< 30) and should be used with caution.

n.a. Estimate not available as cell size less than 5 respondents.

## Module completers

Module completers in low paid occupations were more likely to report earning income from their own business (6.6%) compared to their graduate counterparts. Module completers in other occupations were less likely to report paid work as a source of income (70.9%) compared to graduates, and more likely to report earning income from their own business (19.2%).

The gender and age patterns described above were also observed for module completers except that women in both low paid and other occupations were less likely to report earning income from their own business than men, whereas this gender difference was only observed in other occupations for graduates. Older module completers (aged 45 years or older) from both low paid and other occupations were least likely to report paid work as a source of income, whereas for graduates this pattern was most evident for those in other occupations.

## Employment and study outcomes after training

As Table 5 shows, over 95% of graduates were either employed or in further study. Graduates from low paid occupations (men and women, and all age groups) were slightly more likely to be unemployed (4.4%) or not in the labour force (4.0%) compared to graduates from other occupations (2.0% and 2.2%, respectively).

Graduates from low paid occupations were more likely to move to a higher skill level in their post-training occupation (27.7%; 3.0% of those from other occupations) and less likely to move to a lower skill level (3.4%; 10.8% of those in other occupations). This pattern was observed consistently for men and women, and across all age groups. However, it is important to note that this finding is probably related to floor and ceiling effects: for those in low paid occupations there is more scope to move to a higher skilled occupation, and less scope to move to a lower skilled occupation, compared to those graduates who are already in occupations at higher skill levels.

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Table 5 Graduates' employment outcomes after training, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Employed	91.5	92.5	90.8	89.3	93.1	93.9
Not employed <sup>a</sup>	8.5	7.5	9.2	10.7	6.9	6.1
Unemployed	4.4	4.6	4.3	5.9	3.4	2.8
Not in the labour force/not employed	4.0	3.0	4.9	4.7	3.5	3.4
Employed in first full-time job after training <sup>b</sup>	18.5	20.2	17.1	22.7	14.5	15.6
Pre and post-training occupation						
Movement to a higher skill level	27.7	29.8	26.0	39.8	21.0	11.7
Movement to a lower skill level	3.4	3.0	3.8	3.2	4.3	2.5
No change in skill level	68.8	67.2	70.2	57.0	74.8	85.8
Employed or in further study after training <sup>b, c</sup>	95.2	95.6	94.9	94.7	95.6	95.7
<b>Other occupation</b>						
Employed	95.8	96.4	94.2	95.4	95.9	96.0
Not employed <sup>a</sup>	4.2	3.6	5.8	4.6	4.1	4.0
Unemployed	2.0	1.8	2.6	2.7	1.8	1.7
Not in the labour force/not employed	2.2	1.9	3.2	1.9	2.4	2.3
Employed in first full-time job after training <sup>b</sup>	23.7	25.6	18.3	36.0	19.1	19.7
Pre and post-training occupation						
Movement to a higher skill level	3.0	2.9	3.4	2.9	3.7	1.7
Movement to a lower skill level	10.8	9.0	15.8	13.9	10.9	7.3
No change in skill level	86.2	88.2	80.8	83.2	85.3	91.0
Employed or in further study after training <sup>b</sup>	97.4	97.7	96.7	97.1	97.7	97.2

Notes: a 'Not employed' is defined as unemployed (looking for full-time or part-time work), not in the labour force, or not employed (no further information).

b These questions are not asked of students from community education providers. Therefore, the percentage reported represents the proportion of graduates excluding those from community education providers.

Men were slightly more likely to report employment in their first full-time job after training in low paid (20.2%; 17.1% of women) and other occupations (25.6%; 18.3% of women). This observation is likely due to a significant extent to the predominance of women in the part-time workforce in Australia (Australian Bureau of Statistics 2007).

In low paid occupations women were slightly less likely to move to a higher skilled occupation after training compared to men. However, this gender difference was small. In contrast, women in other occupations were more likely to move to a lower skill level (15.8%) compared to men in other occupations (9.0%). This raises a question about why VET training is associated with a career downshift for women more than men, and what the effects of this might be for women.

Younger people (in the 15 to 24 years age group) in low paid occupations were slightly less likely to be employed following training (10.7% were not employed) compared to their older counterparts. This difference was not as evident for graduates from other occupations.

As would be expected from a life cycle perspective, younger people in low paid (22.7%) and other occupations (36.0%) were most likely to be employed in their first full-time job after training compared to their older counterparts.

Graduates aged 15 to 24 years from low paid occupations were most likely to move to a higher skilled occupation after training (39.8%) compared to their older counterparts (21.0% of those aged 25 to 44 years; 11.7% of those aged 45 years or older). In contrast, younger graduates from other occupations

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were most likely to move to a lower skilled occupation after training (13.9%) compared to their older counterparts (10.9% of those aged 25 to 44 years; 7.3% of those aged 45 years or older).

## *Module completers*

Younger module completers in the 15 to 24 years age group were less likely to be employed after training compared to their graduate counterparts (83.8% of those from low paid occupations; 90.0% of those from other occupations). This difference was not observed for older people.

Module completers were less likely to move to a higher skill level compared to graduates, and this was particularly evident for those from low paid occupations (15.2% moved to a higher skill level). Of those people from other occupations, the largest difference was evident with younger people aged 15 to 24 years. One fifth (20.5%) of module completers in this age group moved to a lower skill level after training, compared to 13.9% of their graduate counterparts.

The gender and age patterns described previously were also observed for module completers except that in low paid occupations around 15% of men and women moved to a higher skilled occupation after training, a promotion slightly more common for men compared to women in the graduate sample from low paid occupations. In the graduate sample it was more common for younger graduates (in the 15 to 24 years age group) to be employed in their first full-time job after training, whereas this pattern was not evident for module completers.

## Characteristics of employment after training

As we would expect, male graduates were more likely to be working full-time after training compared to female graduates (Table 6). This gender difference was observed in low paid and other occupations. Graduates from low paid occupations were also less likely to be working full-time after training (60.8%) compared to graduates from other occupations (83.6%), and this was consistently observed for men and women, and across all age groups.

Consistent with the reported sources of income during training (Table 4), graduates from low paid occupations were less likely to be self-employed (3.3%) or an employer (1.2%) after training, compared to graduates from other occupations (5.4% were employers; 8.6% were self-employed). This was observed for all graduates, regardless of gender or age.

There were also clear differences in the employment status of graduates from low paid and other occupations. Graduates from low paid occupations were more likely to be employed on a casual basis after training (31.3%) compared to those from other occupations (12.8%), and were less likely to be employed on a permanent basis (63.9%; 72.9% from other occupations). This was observed for men and women, and across all age groups.

Prior to training workers in low paid occupations were more likely to be employed in casual jobs without paid sick leave and holiday leave entitlements (46.6%) compared to those in other occupations (26.3%). The majority of graduates did not change their job or move to a different occupational skill level after training. Therefore it was not surprising that nearly one-third of graduates from low paid occupations were employed on a casual basis after training. The exception to this pattern was older graduates (25 years and above); around 70% of these graduates were employed on a permanent basis in low paid and other occupations.

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**Table 6** Characteristics of graduates' employment after training by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Full-time	60.8	75.2	48.7	54.3	68.8	60.8
Part-time	39.2	24.8	51.3	45.7	31.2	39.2
Employment status						
Permanent	63.9	67.3	61.1	55.9	71.4	69.0
Casual	31.3	27.4	34.7	42.6	22.1	21.8
Employee (other)	0.3	0.2*	0.4	0.2*	0.2*	0.6*
Employer	1.2	1.5	0.9	0.3	1.6	2.4
Self-employed	3.3	3.6	3.0	1.0	4.6	6.1
<b>Other occupation</b>						
Full-time	83.6	90.8	63.5	84.4	85.8	78.7
Part-time	16.4	9.2	36.5	15.6	14.2	21.3
Employment status						
Permanent	72.9	73.4	71.7	77.7	73.2	67.8
Casual	12.8	10.9	18.4	17.5	11.6	10.5
Employee (other)	0.2*	0.2*	0.4*	0.3*	0.1*	0.3*
Employer	5.4	6.1	3.2	1.2*	5.6	9.0
Self-employed	8.6	9.4	6.4	3.3	9.4	12.4

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

Within low paid occupations women were less likely to be employed on a permanent basis (61.1%) and more likely to be employed on a casual basis (34.7%) compared to men (67.3% and 27.4%, respectively). In other occupations women were more likely to be employed on casual contracts (18.4%) compared to men (10.9%), but the gender difference in permanent employment was marginal. Women in other occupations were less likely to be employers or self-employed compared to men in these occupations; a gender difference not evident in low paid occupations. As very few graduates from low paid occupations were self-employed or employers, this latter observation is most likely due to a floor effect (i.e., as rates of self-employment were very low overall, there was very little scope for large gender differences).

As we would expect, in low paid occupations younger graduates (in the 15-24 years age group) were most likely to be employed on a casual basis (42.6%), and least likely to be employed on a permanent basis (55.9%) after training. This pattern was not as evident in other occupations: younger people were more likely to be employed on a casual basis (17.5%), but were slightly more likely to be employed on a permanent basis (77.7%) compared to their older counterparts.

## *Module completers*

Compared to graduates, module completers were less likely to be employed on a permanent basis (59.3% from low paid occupations; 66.1% from other occupations) and more likely to be self-employed (5.5% from low paid occupations; 11.9% from other occupations). In other occupations, module completers were also more likely to be employers (9.2%) compared to their graduate counterparts.

Most of the gender and age patterns observed for graduates also applied to module completers with the following exceptions. For module completers, the largest disparity in permanent employment between low paid and other occupations was for women and younger people (in the 15 to 24 years age group): for these groups permanent employment was less likely in low paid occupations. As with

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graduates, module completers from low paid occupations were more likely to be employed on a casual basis after training, and this was particularly the case for younger module completers from low paid occupations of whom 54.0% were employed on a casual basis after training.

## Reasons for undertaking training and satisfaction with training outcomes

The majority of graduates from low paid (80.9%) and other (85.9%) occupations participated in training for employment-related reasons (Table 7). Satisfaction with training was high; the large majority of graduates reported that they had wholly or partly achieved their main reason for doing the training (87.6% from low paid occupations; 91.8% from other occupations), and were satisfied with the overall quality of the training (89.0% from low paid occupations; 87.6% from other occupations).

**Table 7** Graduates' reasons for undertaking training and satisfaction with training outcomes by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Reasons for undertaking the training						
Employment-related	80.9	82.9	79.3	74.6	87.0	85.2
Further study	5.1	4.3	5.7	8.8	2.3	1.0*
Personal/other	14.0	12.8	15.0	16.6	10.7	13.8
Satisfaction with training						
Wholly or partly achieved main reason for doing the training	87.6	88.0	87.3	87.1	87.9	88.2
Satisfied with overall quality of training (agree/strongly agree)	89.0	89.0	89.0	88.3	89.0	90.9
<b>Other occupation</b>						
Reasons for undertaking the training						
Employment-related	85.9	86.8	83.2	86.7	87.4	82.4
Further study	1.6	1.4	2.4	2.9	1.3	1.1
Personal/other	12.5	11.8	14.4	10.4	11.3	16.6
Satisfaction with training						
Wholly or partly achieved main reason for doing the training	91.8	92.4	90.3	93.2	91.3	91.2
Satisfied with overall quality of training (agree/strongly agree)	87.6	87.9	86.8	87.6	87.3	88.1

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

There were some small differences between graduates from low paid and other occupations. Graduates from low paid occupations were less likely to have participated in training for employment-related reasons (80.9%; 85.9% from other occupations), and this was the case for men and women and those from the youngest age group. Graduates from low paid occupations were slightly less likely to report that they had wholly or partly achieved their main reason for doing the training (87.6%) compared to graduates from other occupations (91.8%), and this difference was observed for men and women, and across all age groups.

Within low paid and other occupations there was very little difference between men's and women's reasons for undertaking training or their satisfaction with training.

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Younger graduates (in the 15 to 24 years age group) were more likely to engage in training for further study in low paid (8.8%) and other (2.9%) occupations compared to their older counterparts. In low paid occupations, younger graduates were also more likely to engage in training for personal or other reasons (16.6%) compared to older graduates, whereas in other occupations graduates aged 45 years or older were most likely to engage in training for personal or other reasons (16.6%). There was very little difference between age groups on their satisfaction with training.

## *Module completers*

Turning to module completers, these were less likely to have participated in training for employment-related reasons (75.5% from low paid occupations; 79.1% from other occupations), and more likely to have participated for personal or other reasons (21.0% from low paid occupations; 19.7% from other occupations). Module completers in low paid occupations were also less likely to report that they had achieved their main reason for doing the training (79.4%), and were less likely to be satisfied with the overall quality of the training (83.6%) compared to graduates.

Graduates from low paid occupations were less likely to participate in training for employment-related reasons compared to those from other occupations. For module completers this difference was only observed for men and younger people (in the 15 to 24 years age group).

The gender and age patterns described above also apply to module completers except that women from other occupations were less likely to report training for employment-related reasons (71.4%) compared to men (82.2%). For those from low paid occupations, engagement in study for personal or other reasons was most likely for older workers (aged 45 years or older) (23.1%), whereas for graduates this reason was more likely to be cited by younger workers. Younger module completers from low paid occupations were least likely to be satisfied with the quality of their training (78.7%) compared to their older counterparts, whereas this age difference was not observed with graduates.

## Benefits of training

Respondents identified benefits of training that were related to their personal development (e.g., gained confidence, made new friends) and employment (e.g., increased earnings, promotion). As Table 8 shows, the majority of graduates reported both job and personal benefits from training whether they were from low paid occupations (68.3%) or other occupations (68.2%). Only a small minority of graduates reported no benefits from training (3.9% from low paid occupations; 4.8% from other occupations). There was little difference overall between graduates from low paid and other occupations in their perceptions of training benefits.

Solely personal benefits from training were more likely to be reported by women from low paid (28.1%) and other occupations (29.4%) compared to men (23.9% and 23.7%, respectively).

In low paid and other occupations, older graduates (aged 45 years or older) were most likely to report that training had only personal benefits (29.8% from low paid occupations, 30.5% from other occupations), and least likely to report job and personal benefits from training (63.0% from low paid occupations, 60.9% from other occupations).

Younger graduates in other occupations were particularly differentiated from their older counterparts in being least likely to report only personal benefits from training (16.9%), and most likely to report both personal and job-related benefits (79.4%).

Younger graduates from low paid occupations were more likely to report only personal benefits from training (26.2%), and less likely to report both personal and job-related benefits (69.8%), compared to their counterparts from other occupations.

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**Table 8 Benefits of undertaking training reported by graduates by occupation, employed 6 months before training, 2007**

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
No benefits	3.9	4.8	3.2	2.7	4.5	5.6
Job-related benefits only	1.5	1.9	1.2	1.2	1.8	1.6
Personal benefits only	26.2	23.9	28.1	26.2	24.5	29.8
Job and personal benefits	68.3	69.4	67.5	69.8	69.2	63.0
<b>Other occupation</b>						
No benefits	4.8	5.2	3.7	2.2	5.4	6.3
Job-related benefits only	1.8	2.1	1.3	1.4*	1.8	2.3
Personal benefits only	25.2	23.7	29.4	16.9	26.5	30.5
Job and personal benefits	68.2	69.1	65.7	79.4	66.2	60.9

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## *Module completers*

Module completers were more likely to report no benefits from training (11.1% from low paid occupations; 10.7% from other occupations) compared to their graduate counterparts. Compared to graduates, module completers were also more likely to report only personal benefits from training (37.2% from low paid occupations; 34.7% from other occupations), and less likely to report job and personal benefits from training (48.8% from low paid occupations; 50.3% from other occupations).

The gender and age patterns observed for graduates also applied to module completers except that male module completers were slightly more likely to perceive job and personal benefits from training in both occupational groups. The relationships between age and the types of benefits perceived from training were not as strong for module completers as graduates. It was the case, however, that as for graduates, younger module completers in other occupations were least likely to report only personal benefits from training and most likely to report both personal and job-related benefits.

## Type of job-related benefits

Graduates from low paid occupations were more likely to report that training assisted them to get a job (37.4%; 23.5% from other occupations) or change jobs (25.1%; 17.9% compared with those in low paid occupations) (Table 9). Graduates from other occupations were more likely to report that training assisted them to set up/expand their own business (14.3%; 6.1% from low paid occupations), and gain a promotion or increase their status at work (45.9%; 39.5% from other occupations). These patterns were observed for men and women, and across all age groups.

Just over a third of both occupational groups perceived a benefit of training on earnings; around 35% of graduates reported this benefit. This perception did not differ by gender, but did differ across age groups as discussed below.

Within low paid occupations there were few gender differences in the perceived job-related benefits of training. In other occupations, men were more likely to report that training assisted them to set up or expand their own business (15.6%; 10.6% of women), and to increase their earnings (36.1%; 30.1% of women), but less likely to report that training assisted them to change their job (16.5%; 22.2% of women).

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**Table 9** Type of job-related benefits of undertaking training reported by graduates who perceived a job-related benefit, by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Got a job	37.4	37.0	37.7	52.7	27.1	18.3
Was able to set up/expand my own business	6.1	7.0	5.3	3.6	8.4	7.9
Change of job	25.1	23.1	26.8	24.0	28.8	20.7
A promotion/increased status	39.5	39.9	39.1	33.3	43.5	47.3
Increase in earnings	35.1	36.6	33.9	38.5	34.0	28.7
<b>Other occupation</b>						
Got a job	23.5	22.9	25.4	43.9	17.1	10.3
Was able to set up/expand my own business	14.3	15.6	10.6	8.3	17.0	16.7
Change of job	17.9	16.5	22.2	16.5	21.2	13.1
A promotion/increased status	45.9	44.8	49.2	39.3	47.7	50.9
Increase in earnings	34.6	36.1	30.1	47.4	33.3	20.8

Younger graduates (in the 15-24 years age group) from low paid and other occupations were most likely to report gaining a job as a benefit of training (52.7% from low paid occupations; 43.9% from other occupations), and were least likely to report that training assisted them to set up or expand their own business (3.6% from low paid occupations; 8.3% from other occupations).

Graduates in the 25 to 44 years age group were most likely to report that training assisted them to change their job whether from low paid occupations (28.8%) or other occupations (21.2%). Graduates aged 45 years or older were least likely to report this benefit.

A promotion or increased status at work was most likely to be reported by older graduates from low paid (47.3%) and other occupations (50.9%), and least likely to be reported by younger graduates (33.3% from low paid occupations; 39.3% from other occupations).

In contrast, in both occupational groups younger graduates were most likely to report an increase in earnings as a benefit of training (38.5% from low paid occupations; 47.4% from other occupations), and graduates aged 45 years or older were least likely to report this benefit (28.7% from low paid occupations; 20.8% from other occupations). This finding is likely to be partially due to a ceiling effect on older workers' earnings compared to their younger counterparts (i.e., older workers are more likely to have reached the peak of their potential earnings over their employment career compared to younger workers).

It is interesting to note that it was with younger graduates that the largest difference emerged between occupational groups on the perceived benefits of training for promotion/increased status at work. Younger graduates from low paid occupations were less likely to report this benefit (33.3%) compared to their counterparts from other occupations (39.3%). Further, younger graduates from low paid occupations were less likely to report that training resulted in an increase in earnings (38.5%) compared to their counterparts from other occupations (47.4%), whereas the opposite effect was observed for older workers (aged 45 years or older). For older workers those from low paid occupations were more likely to report an increase in earnings (28.7%) compared to their counterparts from other occupations (20.8%).

## *Module completers*

In both occupational groups module completers, compared to graduates, were less likely to report that training assisted them to get a job (27.6% from low paid occupations; 12.2% from other occupations), change their job (20.3% from low paid occupations; 11.7% from other occupations), or increase their

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earnings (21.8% from low paid occupations; 15.8% from other occupations). Module completers were more likely to report that training assisted them to set up or expand their own business (9.8% from low paid occupations; 19.1% from other occupations). For those in other occupations, module completers were more likely to report that training assisted them to gain a promotion or improve their work status (52.7%) compared to graduates. With the exception of younger respondents, module completers from low paid occupations were more likely to report that training resulted in an increase in earnings (21.8%) compared to module completers in other occupations (15.8%).

With a few exceptions the gender and age patterns observed for graduates were also observed for module completers. In other occupations there was little difference between men and women in the likelihood that training assisted them to change their job (graduate women were more likely to report this outcome compared to men). Younger module completers were most likely to report that training assisted them to change their job in both occupational groups, whereas for graduates it was those in the 25 to 44 years age group who were most likely to report this benefit. Module completers from low paid occupations were less likely to report that training resulted in a promotion or increased status at work across all age groups, whereas this difference between occupational groups was most evident between younger graduates. With the exception of younger workers, module completers from low paid occupations were more likely to report that training resulted in an increase in earnings compared to their counterparts from other occupations.

## Summary of main findings from SOS analysis

The majority of graduates and module completers - especially women - were employed in low paid occupations in the six months prior to training. This indicates that strategies to support and improve the uptake of VET training for workers from low paid occupations will benefit a major VET client population.

Over 95 per cent of graduates from low paid and other occupations were either employed or in further study after training. This is to be expected as SOS respondents sampled for this report was those who were employed prior to training.

Part-time work was most prevalent for low paid workers, women and younger people.

Self-employment was more likely for graduates from other (not low paid) occupations and module completers. This difference was also evident after training, with only 3.3% of graduates from low paid occupations self-employed or an employer (1.2%). Self-employment after training was more common for graduates from other occupations (8.6% were self-employed; 5.4% were employers).

Compared to graduates, module completers were more likely to report earning income from their own business during training, and were more likely to be self-employed after training. In other occupations, module completers were also more likely to be employers compared to their graduate counterparts.

Low paid graduates were more likely to earn income from government or family sources during training.

Graduates from low paid occupations had lower VET qualifications - except for younger people. This pattern was reversed for younger graduates in the 15 to 24 years age group.

Transition to higher skilled employment after training was more common for low paid workers. However, the majority of graduates did not move to a different occupational skill level after training.

That graduates from low paid occupations were more likely to move to a higher skill level in their post-training occupation probably reflects floor and ceiling effects: for those in low paid occupations there is more scope to move to a higher skill level, and less scope to move to a lower skill level, compared to those graduates who are already in occupations at higher skill levels.

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Prior to training, workers in low paid occupations were more likely to be employed in casual jobs without paid sick leave and holiday leave entitlements (46.6%) compared to those in other occupations (26.3%). As the majority of graduates did not change their job or move to a different occupational skill level after training, it is not surprising that nearly one-third of graduates - and especially women and younger people - from low paid occupations were employed on a casual basis after training.

The majority of graduates from low paid and other occupations participated in training for employment-related reasons and the majority of graduates were satisfied with their training.

The majority of graduates reported both job and personal benefits from training whether they were from low paid or other occupations. Only a small minority of graduates reported no benefits from training.

Graduates from low paid occupations were more likely to report that training assisted them to get a job or change jobs than those from other occupations, while graduates from other occupations were more likely to report that training assisted them to set up/expand their own business, gain a promotion or increase their status at work.

There was little difference between occupational groups on the perceived benefit of training on earnings, with just over a third of all reporting this benefit.

Many of the differences observed between age groups were consistent with a life cycle perspective. During training, younger people were more likely to report parents or spouse/partner as a source of income compared to their older counterparts. The majority of younger people, however, gained income from paid employment during training.

Differences between age groups in the reported benefits of training were also consistent with a life cycle perspective: younger people are likely to be starting a career, and moving from low paid to higher paid employment as they gain work experience (either within or between jobs). However, older graduates were most likely to report that training benefitted them within their current job in terms of a promotion or increased status at work. Younger graduates were least likely to report this benefit in both low paid and other occupations.

There was also evidence to suggest that training was less likely to have an income benefit for younger graduates from low paid occupations. The opposite effect was observed for older workers: those from low paid occupations were more likely to report an increase in earnings.

Module completers differed from graduates on a number of employment, training and outcome variables. They had a different employment profile to graduates prior to training and were more likely to be self-employed or employed full-time compared to graduates.

Motivations for participating in training also differed between module completers and graduates. Module completers were less likely to have participated in training for employment-related reasons and more likely to have participated for personal or other reasons.

Module completers were less likely to move to a higher skill level compared to graduates, and this was particularly evident for those from low paid occupations. They were also less likely to be employed on a permanent basis after training and less likely to be satisfied with their training. Those in low paid occupations were less likely to report that they had achieved their main reason for doing the training, and were less likely to be satisfied with the overall quality of the training compared to graduates. Finally, module completers were more likely to report that training had no benefits.

The different employment outcomes for module completers from low paid occupations raises issues about how effective module completion is for low paid workers.

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## SECTION 2: HILDA survey

The purpose of the HILDA data analysis was to describe the demographic characteristics of men and women in low paid occupations, and to identify whether workers in low paid occupations face unique challenges or barriers to participation in VET, and more broadly to effectively integrating and managing work, life and study commitments. HILDA respondents identified if they were currently enrolled in VET training. It was not possible to distinguish between graduates and module completers.

Six main questions underpin the analyses presented here:

- 1 Who are low paid workers?
- 2 Who is in the most disadvantaged group, defined by employment in a low paid occupation and low educational qualifications (Year 11 or lower)?
- 3 What characteristics distinguish low paid workers who are current VET students from those who are not?
- 4 Do low paid workers, and particularly those with low educational qualifications, experience greater work-life pressures?
- 5 Do low paid workers, and particularly those with low educational qualifications, experience greater workplace barriers to participation in VET and work-life/work-study balance?
- 6 When workers in low paid occupations engage in training as part of their employment, how does this differ from training received by workers in other occupations?

The HILDA survey is a household-based panel study that collects information on a range of economic, employment, family and health characteristics of people residing in Australia. Participants are followed over time. However only cross-sectional data collected in 2006 (wave 6) is presented in this report. Annual interviews are conducted with all members of participating households aged 15 years or older. The HILDA sample is representative of the Australian population (Wooden & Watson 2007).

The measures of social and employment demographics reported in this paper were collected via face-to-face interview. Measures of work-family balance were collected via self-completion questionnaire.

The household response rate (fully responding households) was 69.9% in Wave 6. Further information about the HILDA survey project is available from Wooden and Watson (2007).

The HILDA survey project is managed by the Melbourne Institute of Applied Economic and Social Research (MIAESR), University of Melbourne. The HILDA project was initiated and funded by the Australian Government Department of Families, Communities and Indigenous Affairs (FaCSIA). The findings and views reported in this paper are those of the authors and should not be attributed to either FaCSIA or MIAESR.

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## The HILDA sample

All employed respondents (self-employed and employees) in the HILDA survey (wave 6, 2006) were included in the analyses for this paper. There were more employed men in the HILDA sample (54.9%) compared to employed women (45.1%).

Table 10 provides an overview of the HILDA sample characteristics. The majority of respondents were aged 25 to 44 years (45.8%) or 45 years or older (35.6%), with only 18.5% of participants in the 15 to 24 years age group. The majority of participants were employed full-time (68.8%; 82.0% of men; 52.6% of women) in a range of occupations.

Table 10 HILDA sample characteristics, 2006

Sample characteristics	All %	Men %	Women %
<b>Age</b>			
15-24 years	18.5	17.5	19.7
25-44 years	45.8	46.4	45.2
45 years & older	35.6	36.1	35.1
<b>Marital status</b>			
Married/de facto	63.0	63.8	62.0
Separated/divorced	7.7	6.2	9.7
Never married/de facto	29.3	30.0	28.3
Parent of child aged 14 years or younger	29.1	28.1	30.2
<b>Work status</b>			
Full-time	68.8	82.0	52.6
Part-time	31.2	18.0	47.4
<b>Current VET student</b>			
Current VET student	6.1	6.3	6.1
<b>Not current VET student</b>			
Year 11 or lower qualification	23.9	22.3	25.9
Year 12 qualification	15.7	14.8	16.8
VET/higher Ed. qualification	54.2	56.9	51.0
<b>Occupation status</b>			
Low paid occupation	43.5	38.2	49.9
Other occupation	56.5	61.8	50.1
<b>Occupation</b>			
Managers and administrators	8.3	10.7	5.3
Professionals	19.4	16.2	23.2
Associate professionals	12.3	12.6	11.8
Tradespeople & related workers	12.8	21.2	2.5
Advanced clerical and service workers	3.8	0.9	7.3
Intermediate clerical, sales & service workers	16.6	8.3	26.7
Intermediate production & transport workers	8.6	13.9	2.1
Elementary clerical, sales & service workers	9.8	6.6	13.6
Labourers and related workers	8.5	9.4	7.4
<hr/>			
Total number of responses	8357	4353	4004
Estimated population	10 243 180	5 626 160	10 243 180

The majority of participants (63.0%) were in married or de facto relationships, and around one-third were single (never married, divorced or widowed). Almost thirty per cent of participants were parents of child/children aged 14 years or younger.

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Six per cent of the HILDA sample were current VET students. Of those who were not current VET students, just over half had a VET or higher education qualification (54.2%), and nearly one-quarter (23.9%) had a Year 11 or lower qualification.

Just over 40 per cent of HILDA respondents, and more women than men, were in low paid occupations (43.5% overall; 38.2% of men; 49.9% of women).

The gender and age demographics of VET students in the HILDA sample were comparable to the 2007 Student Outcomes Survey.

## Demographic characteristics of low paid workers

### Educational qualifications

As expected, Year 11 or lower qualifications were more common in low paid (37.0%) compared to other occupations (13.9%). The majority of workers in other occupations had VET or higher education qualifications (68.3%), compared to just over one-third (36.0%) of those in low paid occupations.

Only a small proportion of the HILDA sample (6.1%) were VET students. In low paid occupations VET students were more likely to be women (8.0%) compared to men (4.3%), whereas in other occupations men were slightly more likely to be VET students (7.1%) compared to women (4.6%).

Table 11 Educational qualifications of employed people in low paid and other occupations by gender and age, HILDA 2006

	Low paid occupation			Other occupation		
	All %	Men %	Women %	All %	Men %	Women %
Current VET student	6.1	4.3	8.0	6.1	7.1	4.6
Not current VET student	93.9	95.7	92.0	93.9	92.9	93.4
Year 11 or lower qualification	37.0	38.0	36.0	13.9	12.6	15.9
Year 12 qualification	20.9	19.6	22.0	11.7	11.8	11.6
VET/higher Ed. qualification	36.0	38.1	34.0	68.3	68.5	67.9

### Gender and age

There were slightly more women in low paid occupations (51.7%) compared to men (48.3%) (Table 12).

Consistent with the analysis of the Student Outcomes Survey (SOS), the majority of current VET students in the HILDA sample were men (53.9%; 53.7% of the SOS sample). Of those who were not current VET students, just over half had VET or higher educational qualifications (54.2%) and the majority of these more highly qualified workers were men (57.6%).

Forty per cent of workers in low paid occupations were in the 25 to 44 years age group, and almost one-third were aged 45 years or older. Younger people in the 15 to 24 years age group were more heavily represented in low paid occupations (27.5%) compared to other occupations (11.6%).

As would be expected from a life cycle perspective, VET students were predominately younger people in the 15 to 24 years age group (44.2%). This is consistent with the SOS analysis above, in which 38.4% of students were in the 15 to 24 years age group. Those with a VET or higher education qualification were most likely to be aged 25 years or older (90.8%). It is interesting to note that of those with the lowest qualifications (Year 11 or lower) 41.9% were aged 45 years or older, and around one-third (35.3%) were in the 25 to 44 years age group.

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Table 12 Occupational and educational status by gender and age, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not VET student (highest qualification)		
	%	%	%	Year 11 or lower	Year 12	VET/ higher Ed.
Men	48.3	60.0	53.9	51.2	51.8	57.6
Women	51.7	40.0	46.1	48.8	48.2	42.4
Age						
15 - 24 years	27.5	11.6	44.2	22.7	34.3	9.2
25 - 44 years	40.7	49.8	33.8	35.3	42.6	52.2
45 years & older	31.8	38.6	17.0	41.9	23.1	38.6

As Table 13 shows, the most disadvantaged group (low paid workers with Year 11 or lower qualifications) contained almost equal proportions of men and women, and predominately workers aged 25 years or older (72.5%).

VET students in low paid occupations were predominately women (66.5%), and men were the majority in other occupations (70.0%). This is consistent with the SOS analysis.

VET students were mostly aged between 15 and 44 years (82.7% in low paid occupations; 83.2% in other occupations).

Table 13 Educational status of employed people within low paid and other occupations by gender and age, HILDA 2006

	Low paid occupation				Other occupation			
	VET student	Yr 11 or lower	Yr 12	VET/HE	VET student	Yr 11 or lower	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
Men	33.5	49.7	45.4	51.2	70.0	54.2	60.5	60.2
Women	66.5	50.3	54.6	48.8	30.0	45.8	39.5	39.8
Age								
15 - 24 years	46.8	27.5	43.4	15.0	42.1	13.1	21.9	6.9
25 - 44 years	35.9	35.2	38.7	48.4	41.1	35.5	47.9	53.8
45 years & older	17.3	37.3	17.9	36.7	16.8	51.4	30.2	39.3

Those workers with VET or higher educational qualifications were predominately men in other occupations (60.2%). However this gender difference was not evident for those in low paid occupations. As would be expected from a life cycle perspective, the majority of workers with VET or higher education qualifications were aged 25 years or older in low paid (85.1%) and other (93.1%) occupations.

## Social demographics of low paid workers

### *Relationship status*

As Table 14 shows, around half of people in low paid occupations, and nearly 70% of those in other occupations were in married or de facto relationships. There was a higher proportion of single people in low paid occupations (36.7%) compared to other occupations (23.6%). These patterns were observed for men and women.

Almost half (48.8%) of current VET students were single, and this relationship status was more common for male VET students (55.9% single) compared to female VET students (40.5% single). Again as would be expected from a life cycle perspective, 70.1% of those with the highest educational qualifications

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(VET/higher education) were in married or de facto relationships (72.7% of men and 66.5% of women). Sixty per cent of those with Year 11 or lower qualifications were in a married or de facto relationship.

Table 14 Occupational and educational status by relationship status, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not VET student (highest qualification)		
	%	%	%	Year 11 or lower %	Year 12 %	VET/ higher Ed. %
<b>Men</b>						
Married/de facto	54.5	69.5	41.5	58.1	46.9	72.7
Divorced/separated	6.7	5.8	2.6*	6.6	4.4*	6.8
Single <sup>a</sup>	38.7	24.6	55.9	35.3	48.7	21.4
<b>Women</b>						
Married/de facto	55.5	68.5	47.4	61.9	54.3	66.5
Divorced/separated	9.8	9.5	12.2*	9.9	5.8	10.5
Single <sup>a</sup>	34.6	22.0	40.5	28.2	39.8	23.0
<b>All</b>						
Married/de facto	55.1	69.1	44.2	60.0	50.4	70.1
Divorced/separated	8.3	7.3	7.0	8.2	5.1	8.4
Single <sup>a</sup>	36.7	23.6	48.8	31.9	44.5	21.5

Notes: a Single people are those who have never married or divorced, or are widowed, and are not in a de facto relationship.

\*Estimate not reliable due to small sample size (< 30) and should be used with caution.

Table 15 shows that just over half (53.4%) of those in the most disadvantaged group (low paid occupation, Year 11 or lower levels of education) were in a married or de facto relationship. Men in this group were more likely to be single (41.4%) compared to women (34.4%).

Table 15 Educational status of employed people within low paid and other occupations by gender and age, HILDA 2006

	Low paid occupation				Other occupation			
	VET student %	Yr 11 or lower %	Yr 12 %	VET/HE %	VET student %	Yr 11 or lower %	Yr 12 %	VET/HE %
<b>Men</b>								
Married/de facto	47.3	51.1	37.2	67.7	39.5	71.6	56.9	74.5
Divorced/separated	4.1	7.5	3.0*	8.1	n.a	4.9	5.8*	6.4
Single <sup>a</sup>	48.6	41.4	59.8	24.2	58.5	23.5	37.3	19.1
<b>Women</b>								
Married/de facto	38.8	55.7	50.2	62.6	62.7	75.5	61.7	68.3
Divorced/separated	10.9	9.9	4.7	12.7	13.3	9.9	7.9	9.5
Single <sup>a</sup>	50.3	34.4	45.1	24.7	24.0	14.6	30.4	22.2
<b>All</b>								
Married/de facto	41.6	53.4	44.8	65.2	46.3	73.4	58.7	72.0
Divorced/separated	8.6*	8.8	3.9*	10.3	5.7*	7.2	6.6	7.6
Single <sup>a</sup>	49.8	37.9	51.7	24.5	48.0	19.4	34.7	20.4

Notes: a Single people are those who have never married or divorced and are not in a de facto relationship.

\*Estimate not reliable due to small sample size (< 30) and should be used with caution.

n.a. Estimate not available as cell size less than 5 respondents.

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In low paid occupations around half of male and female VET students were single, whereas in other occupations the majority of male VET students were single (58.5%) compared to 24.0% of female VET students.

The majority of those with VET or higher educational qualifications were in married or de facto relationships in low paid (65.2%) and other occupations (72.0%), and this was observed for men and women.

## *Parenting responsibilities*

In this paper people with parenting responsibilities were defined as respondents with a resident child (own or adopted) aged 14 years or younger. This age cut-off was chosen to be consistent with the analysis of the SOS data, in which respondents aged 15 years and older were included in the sample of employed participants (i.e., participants aged 15 years or older were given ‘young adult’ rather than ‘child’ status).

Parenting responsibilities were strongly associated with age. As expected, those in the peak family formation years (in the 25 to 44 years age group) were most likely to have parenting responsibilities for a child aged 14 years or younger (48.1%) compared to those in the younger (3.6%) and older (17.7%) age groups. Therefore, the relationships observed between parenting responsibilities and both occupation and educational status are most likely due to the types of life cycle effects observed in the previous analyses of age groups (Table 12).

As Table 16 shows, the majority of workers from low paid and other occupations did not have parenting responsibilities for a child aged 14 years or younger. Workers in low paid occupations were slightly less likely to have parenting responsibilities (26.3%) compared to those in other occupations (31.3%), and this was particularly the case for men (23.1% were fathers in low paid occupations; 31.2% in other occupations). This is likely to be at least partly due to the higher proportion of younger people (in the 15 to 24 years age group) in low paid (27.5%) compared to other occupations (11.6%).

**Table 16** Occupational and educational status of those with parenting responsibility for a child aged 14 years or younger, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not VET student (highest qualification)		
				Year 11 or lower	Year 12	VET/ higher Ed.
	%	%	%	%	%	%
Men	23.1	31.2	15.9	23.1	22.0	33.0
Women	29.4	31.0	29.9	27.0	28.0	32.6
All	26.3	31.3	22.4	25.0	24.9	32.8

One third of those with VET or higher educational qualifications had parenting responsibilities, compared to one quarter of those with lower qualifications and around one fifth (22.4%) of VET students. This observation is consistent with a life cycle perspective, and the observation that older workers are more likely to have higher educational qualifications (Table 12). This pattern was observed for men and women, and within low paid and other occupations (Table 17).

The largest gender difference in parenting responsibilities was observed for current VET students; 29.9% of female students had parenting responsibilities compared to only 15.9% of male students. As Table 17 shows, this gender difference for VET students was greatest for those in other occupations.

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**Table 17 Educational status of those within low paid and other occupations who had parenting responsibility for a child aged 14 years or younger, HILDA 2006**

	Low paid occupation				Other occupation			
	VET student	Yr 11 or lower	Yr 12	VET/HE	VET student	Yr 11 or lower	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
Men	20.3*	20.6	17.9	28.6	14.3*	27.7	26.4	34.4
Women	26.5	26.3	28.9	33.9	35.7	28.9	26.2	32.0
All	24.5	23.4	23.8	31.2	20.7	28.2	26.4	33.5

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## Employment characteristics of low paid workers

### Work status (full-time/part-time)

There were clear gender and occupation effects in part-time and full-time employment patterns (Table 18). Those in low paid occupations were more likely to be employed part-time (45.3%) compared to those working in other occupations (20.4%), and this was the case for men and women.

Women were more likely to work part-time in low paid (59.7%) and other occupations (35.1%). The highest proportion of part-time workers was in the female low paid workforce.

These gender differences were also evident for current VET students: around half of female students (51.1%) worked part-time compared to only 17.0% of male students. This is consistent with the analysis of the SOS data.

Part-time work was most common for those with Year 11 or lower qualifications (42.5%) and least likely for those with VET or higher education qualifications (24.1%). This pattern was observed for men and women.

**Table 18 Occupational and educational status by full-time/part-time work status, HILDA 2006**

	Low paid occupation	Other occupation	Current VET student	Not VET student (highest qualification)		
				Year 11 or lower	Year 12	VET/ higher Ed.
	%	%	%	%	%	%
<b>Men</b>						
Full-time	70.3	89.4	83.0	73.1	74.8	87.3
Part-time	29.7	10.6	17.0	26.9	25.2	12.7
<b>Women</b>						
Full-time	40.3	64.9	48.9	41.1	48.6	60.2
Part-time	59.7	35.1	51.1	58.9	51.4	39.8
<b>All</b>						
Full-time	54.7	79.6	67.3	57.5	62.1	75.9
Part-time	45.3	20.4	32.7	42.5	37.9	24.1

As Table 19 shows, almost half of those in low paid occupations with the lowest level of education (Year 11 or lower) worked part-time (48.8%), a work arrangement that was more common for women (65.6%) compared to men (39.7%).

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**Table 19** Educational status of employed people within low paid and other occupations by full-time/part-time work status, HILDA 2006

	Low paid occupation				Other occupation			
	VET student	Yr 11 or lower	Yr 12	VET/HE	VET student	Yr 11 or lower	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
<b>Men</b>								
Full-time	60.8	68.3	59.5	78.7	91.3	82.1	90.5	90.3
Part-time	39.2*	39.7	40.5	21.3	8.7*	17.9	9.5	9.7
<b>Women</b>								
Full-time	38.1	34.4	40.3	47.0	67.9	56.1	63.8	66.9
Part-time	61.9	65.6	59.7	53.0	32.1*	43.9	36.2	33.1
<b>All</b>								
Full-time	45.9	51.1	49.1	63.2	84.3	70.2	80.0	69.5
Part-time	54.1	48.8	50.9	36.8	15.7	29.8	20.0	63.5

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

The majority of female VET students in low paid occupations worked part-time (61.9%), whereas the majority of VET students from all other groups worked full-time (67.9% of women and 91.3% of men from other occupations; 60.8% of men from low paid occupations). Similar patterns were observed in the SOS analysis; 63.1% of female students from low paid occupations worked part-time prior to training, whereas full-time employment was reported by the majority of male students from low paid (59.2%) and other occupations (89.0%) and female students from other occupations (61.8%).

A similar pattern can be observed for workers with VET or higher education qualifications. Just over half of low paid women with these qualifications worked part-time (53.0%), whereas the majority of workers from all other groups worked full-time. The implications of this gendered pattern of combining part-time work in VET for women and men, and their income support arrangements deserve further study.

## Employment contract

This section examines the employment security of low paid and lower educated employees. Self-employed persons were excluded from this analysis.

As Table 20 shows, employees in low paid occupations were more likely to be employed on a casual basis (37.2%; 11.0% in other occupations) and less likely to be employed on a permanent or ongoing basis (57.6%; 77.0% in other occupations), and this was observed for men and women.

Men were more likely to be employed on a permanent/ongoing basis in low paid (62.7%; 53.0% of women) and other occupations (79.2%; 73.9% of women). This gender difference was largest in low paid occupations, and was smallest for those with Year 11 or lower levels of education. It is notable that around forty per cent of women in low paid occupations or with low levels of education were employed on a casual basis.

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Table 20 Occupational and educational status by employment contract, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not VET student (highest qualification)		
	%	%	%	Year 11 or lower	Year 12	VET/ higher Ed.
<b>Men</b>						
Casual	31.8	9.6	15.2	34.0	24.9	12.2
Fixed-term contract	5.5	11.2	15.6	6.6	6.4	9.3
Ongoing/permanent	62.7	79.2	69.1	59.3	68.7	78.4
<b>Women</b>						
Casual	41.9	12.8	36.5	41.0	35.2	18.5
Fixed-term contract	5.1	13.3	6.8*	4.9	6.9*	11.9
Ongoing/permanent	53.0	73.9	56.8	54.2	57.9	69.5
<b>All</b>						
Casual	37.2	11.0	25.4	37.6	30.1	15.1
Fixed-term contract	5.3	12.1	11.4	5.7	6.7	10.5
Ongoing/permanent	57.6	77.0	63.2	56.7	63.2	74.4

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

Casual employment was most common for men and women with the lowest level of education (Year 11 or lower): 37.6% were employed on a casual basis compared to 30.1% of those with Year 12 and 15.1% of those with a VET/higher education qualification. Ongoing/permanent employment was most common for those with a VET or higher education qualification (74.4%). These patterns can also be observed within low paid and other occupations (Table 21). Of those in the most disadvantaged group (low paid occupation, Year 11 or lower qualifications), 43.0% were in casual employment compared to 27.7% of those in low paid occupations with VET or higher education qualifications, and 21.0% of those with Year 11 or lower qualifications who were in other occupations.

Table 21 Educational status of employees within low paid and other occupations by employment contract, HILDA 2006

	Low paid occupation				Other occupation			
	VET student	Yr 11 or lower	Yr 12	VET/HE	VET student	Yr 11 or lower	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
Casual	43.3	43.0	40.7	27.7	10.9*	21.0	11.9	9.2
Fixed-term contract	4.8*	4.6	4.4	6.5	16.8	9.3	10.5	12.3
Ongoing/permanent	51.9	52.4	54.9	65.7	72.3	69.7	77.6	78.5

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## Work-family balance

The HILDA survey contains measures of respondents' perceptions of the gains and strains associated with combining work and family commitments, and their access to workplace entitlements that are likely to support work-life and work-study balance.

Two sets of items in the HILDA survey addressed perceptions of work-family balance, sourced from a measure developed by Marshall and Barnett (1993). The first set of seven items addressed work-family

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strains relating to negative spillover between work and home domains (e.g., time spent at work is more pressured because of family responsibilities), and the second set of nine items addressed work-family gains relating to the perceived benefits of combining work and family roles (e.g., having work and family responsibilities makes you a more well-rounded person) (Marshall & Barnett 1993). Following Marshall and Barnett (1993) two separate scales were created comprising the average of the strain and gain items, respectively. All items were scored on a 7-point response scale (1 strongly disagree, 7 strongly agree), with higher scores indicating higher perceived strain or gain.

The items that addressed work-family gains and strains were only completed by respondents in paid work who had parenting responsibilities for a child 17 years or younger (self-report surveys completed by n = 2760 parents; n = 1455 fathers; n = 1305 mothers).

Two additional HILDA items also addressed work-life balance. The first item assessed satisfaction with the flexibility available on the job to balance work and non-work commitments (0 'totally dissatisfied', 10 'totally satisfied'). The second item assessed time pressure, specifically feeling 'rushed or pressed for time' (1 'almost always', 5 'never'), which can be used to gauge the extent to which work and life fit together harmoniously. These two items were completed by all employed respondents.

HILDA respondents also reported on whether they had access (yes/no) to a range of workplace entitlements. Here we report on six entitlements most relevant to workers' capacity to balance work, life and study commitments: permanent part-time work; teleworking (work from home), flexible start and finish times, and childcare facilities at the worksite or childcare cost subsidies (single question).

A series of ANCOVAs were conducted that compared the mean scores on each of these scales by occupation and educational status, with age and work hours specified as covariates. A covariate is a control variable that effectively holds constant any differences between respondents on this variable to examine the unique effects of other predictors. The use of covariates was important for this analysis as it has been well established in the research literature that work hours and age (life cycle effects) have a significant impact on work-family gains and strains (Higgins, Duxbury & Lee 1994; Byron 2005; Dilworth & Kingsbury 2005). Therefore we controlled for differences in work hours and age, when examining the relationship between education and occupational status and work-family balance.

The interaction effect between occupation and education was also tested in each analysis. Analyses were conducted for the whole sample, and for men and women separately.

There was little evidence that perceptions of work-family gains or strains differed according to educational qualification or occupation, and there was no evidence of an interaction effect between these two factors on any of the measures.

There was evidence, however that low paid workers were less likely to have access to employment entitlements that would support work-life and work-study balance.

Full data tables are presented in the support document.

## Work-family gains and strains

There was no evidence that work-family strains and gains differed by educational qualification or occupation for the sample as a whole or for men and women considered separately. The average score on the work-family strains scale was 3.46, and the average score on the work-family gains scale was 5.08 (4 = scale mid-point for both measures).

## Satisfaction with flexibility to balance work and non-work commitments

Respondents reported medium to high levels of satisfaction with their flexibility to balance work and non-work commitments, indicated by an average rating of 7.42 on a 10-point scale (10 = totally

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satisfied). This rating did not differ significantly for men and women, or according to educational qualification or occupation.

## Time pressure

Respondents reported moderate time pressure with an average rating of 2.59 (a rating of 3 = 'sometimes' rushed or pressed for time). This rating did not differ significantly for men or women, or according to educational qualification or occupation.

## Workplace entitlements

Access to workplace entitlements such as working from home or flexible start and finish times is constrained to some extent by the requirements of a worker's role. For example, shift-work can restrict start and finish times, and teleworking is often not possible for manual or technical work. Nevertheless, a range of occupations are contained in the classifications of low paid and other occupations used in this report. Therefore, the following analysis provides some indication of how access to workplace entitlements that support work-life and work-study balance differs according to occupation and educational qualification and also between men and women within these categories (Table 22 and Table 23).

Low paid workers were less likely to report access to each of these entitlements.

Those with the lowest level of qualifications (Year 11 or lower) were also least likely to report access to permanent part-time work (men only), telework, and flexible start and finish times (men only).

### *Permanent part-time work*

Access to permanent part-time work was least likely for:

- workers in low paid occupations
- men with Year 11 or lower qualifications
- VET students in low paid occupations
- men with Year 11 or lower qualifications in other occupations compared to other men in this group.

### *Telework*

Access to telework arrangements was least likely for:

- workers in low paid occupations
- workers with Year 11 or lower qualifications
- VET students or those with Year 11 or lower qualifications in low paid occupations
- men with VET or Year 11 or lower qualifications in other occupations compared to other men in this group
- women with Year 12 or higher qualifications in other occupations compared to other women in this group.

### *Flexible start and finish times*

Access to flexible start and finish times was least likely for:

- workers in low paid occupations (particularly men)
- men with Year 11 or lower qualifications (in low paid and other occupations)
- women with VET or higher education qualifications (in low paid and other occupations).

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## *Child care facilities or subsidies*

Access to support for child care was least likely for men and women from low paid occupations. Access to this entitlement is not reported separately by educational qualifications within occupational groups (Table 23) due to insufficient sample sizes for the majority of sub-groups.

### *Gender*

The relationship between gender and access to entitlements was particularly interesting and nuanced. Within low paid occupations, women with the lowest level of education were most likely to have access to permanent part-time work. Whereas for low paid men, and women in other occupations it was VET students who were most likely to have access to part-time work. For men in other occupations it was those with higher levels of education who had the greatest access.

For women there was little difference between those in low paid and other occupations in access to flexible start and finish times; around half of women in each occupational group reported access. Whereas men in low paid occupations were less likely to have access to this flexibility compared to their men in other occupations.

Within low paid and other occupations, women with VET or higher educational qualifications were least likely to have access to flexible start and finish times. In contrast, for men in other occupations access was greatest for those with Year 12, VET or higher educational qualifications. For men in low paid occupations it was VET students who had the greatest access to flexibility.

### *VET students*

An important question is whether current VET students differ from non-VET students in their access to workplace entitlements that support work-life and work-study balance. It must be acknowledged that the HILDA survey measures access, not uptake, of these entitlements. Nevertheless, some insight into the role of such entitlements in supporting VET participation can be obtained by comparing access to such supports.

Here we focus on comparing VET students to those with the lowest levels of education (Year 11 or lower), as the latter is considered the priority group (i.e., most disadvantaged) for intervention.

Overall, access to workplace entitlements that support work-life and work-study balance was more likely to be reported by VET students in low paid and other occupations compared to their counterparts with the lowest qualifications (Year 11 or lower).

However, when men and women are considered separately, a more complex picture emerges (Table 22).

For women in low paid occupations, VET students were least likely to have access to permanent part-time work compared to non-VET students, and there was very little difference across educational groups in access to flexible start and finish times. For women in other occupations, VET students were more likely to have access to permanent part-time work, with little difference in access to other entitlements.

For men in low paid occupations VET students were most likely to have access to permanent part-time work and flexible start and finish times. In contrast, for men in other occupations VET students and those with Year 11 or lower qualifications were least likely to have access to these entitlements.

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Table 22 Access to workplace entitlements by occupation and educational status, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not current VET student (highest qualification)		
				Year 11	Year 12	VET/ higher Ed.
	%	%	%	%	%	%
<b>Men</b>						
Permanent part-time	60.9	67.8	65.6	58.1	65.0	67.1
Telework	7.6	28.1	16.4	9.6	18.2	23.7
Flexible start/finish	43.4	60.8	56.0	43.3	58.9	55.8
Child care support	4.2	10.2	8.5*	2.4*	6.4*	9.7
<b>Women</b>						
Permanent part-time	77.6	84.2	78.8	80.2	76.9	82.7
Telework	9.0	26.7	17.5*	13.2	16.0	20.3
Flexible start/finish	50.8	52.5	54.7	53.7	53.9	49.6
Child care support	4.9	10.6	12.8*	3.8*	4.7*	9.8
<b>All</b>						
Permanent part-time	70.3	75.4	72.6	70.7	71.3	74.5
Telework	8.4	27.5	17.0	11.6	17.1	22.1
Flexible start/finish	47.4	57.1	55.5	49.0	56.3	52.9
Child care support	4.6	10.4	10.8	3.3	5.5	9.8

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

Table 23 Employees' access to workplace entitlements in low paid and other occupations by educational status, HILDA 2006

	Low paid occupation				Other occupation			
	VET student	Yr 11	Yr 12	VET/HE	VET student	Yr 11	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
<b>Men<sup>a</sup></b>								
Permanent part-time	72.5*	60.2	60.3	60.4	62.5	52.0	70.6	69.8
Telework	**	7.0*	5.9*	9.4	21.2*	17.6*	34.0	29.2
Flexible start/finish	52.8*	40.3	49.1	42.3	57.4	51.7	70.7	60.7
<b>Women<sup>a</sup></b>								
Permanent part-time	73.5	79.8	76.4	77.2	87.9	81.9	77.8	85.4
Telework	8.5*	6.8	11.7	9.5	31.0*	31.8	25.4*	25.7
Flexible start/finish	50.9	52.2	52.4	48.4	60.0	58.0	57.2	50.2
<b>All</b>								
Permanent part-time	73.2	71.3	69.8	69.1	72.1	69.0	73.8	76.9
Telework	7.4*	6.9	9.3	9.4	25.3	24.8	30.3	27.7
Flexible start/finish	51.6	46.7	50.8	45.4	58.3	55.1	64.9	56.1
Child care support	6.1*	2.8*	4.1*	6.4	15.5*	4.2*	7.9*	11.2

Notes: a Child care support not reported due to insufficient cell sizes for all groups.

\*Estimate not reliable due to small sample size (< 30) and should be used with caution.

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## Employment-related training

This section examines employees' participation in training that was part of their employment in the preceding 12 months, whether they contributed towards the cost of training and the aims of the training.

It is important to acknowledge that much of the 'training' that employees receive may be informal, one on one and not recognised as 'training' (even though it is). As a result this data may underestimate the true amount of employment-related training occurring.

### Participation in training and contribution to costs

As shown in Table 24, employees in low paid occupations were less likely to participate in training as part of their employment (30.6%) compared to those in other occupations (47.6%). Women in low paid occupations were more likely to participate in training as part of their employment (32.3%) compared to men in low paid occupations (28.7%), and this was also the case for those in other occupations. Employees with the lowest educational qualifications (Year 11 or lower) were least likely to report participating in training as part of their employment (23.8% overall; 22.4% of men; 25.1% of women).

Table 24 Participation in training as part of employment in past 12 months by occupation and educational status, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not current VET student (highest qualification)		
				Year 11	Year 12	VET/ higher Ed.
				%	%	%
Men	28.7	45.1	63.2	22.4	28.7	43.8
Women	32.3	51.0	56.3	25.1	33.2	49.6
All	30.6	47.6	59.9	23.8	31.0	59.9

These patterns were reproduced within low paid and other occupations (Table 25). Just over twenty per cent (22.6%) of employees in low paid occupations with the lowest educational qualification (Year 11 or lower) had participated in training as part of their employment in the past 12 months (21.3% of men; 23.8% of women). Around five per cent more of their counterparts with the same level of education but employed in other occupations had participated in training. Women in other occupations with the highest level of education (VET or higher education) were most likely to participate in training as part of their employment (54.9%).

Table 25 Participation in training as part of employment in past 12 months of employees in low paid and other occupations by educational status, HILDA 2006

	VET student	Low paid occupation			VET student	Other occupation		
		Yr 11	Yr 12	VET/HE		Yr 11	Yr 12	VET/HE
		%	%	%		%	%	%
Men	47.8	21.3	22.5	37.7	69.3	25.5	37.1	46.2
Women	47.2	23.8	28.8	39.9	73.1	29.3	42.9	54.9
All	47.2	22.6	25.8	38.8	70.4	27.2	39.6	49.9

Table 26 shows that around twenty per cent of employees in low paid and other occupations had made a contribution to the costs of training that was part of their employment. Employees with Year 11 or lower, or Year 12 qualifications were least likely to contribute to the costs of their training. Women in other occupations were slightly more likely to contribute to costs compared to their male counterparts.

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The same patterns can be observed within low paid and other occupations. This data is not shown as there were a large number of cells with unreliable estimates, but is provided in the support document.

**Table 26** Percentage of employees who contributed to costs of training as part of employment in past 12 months by occupation and educational status, HILDA 2006

	Low paid occupation	Other occupation	Current VET student	Not current VET student (highest qualification)		
	%	%	%	Year 11	Year 12	VET/ higher Ed.
Men	20.7	19.9	33.3	15.4*	15.4*	19.6
Women	19.1	25.0	24.0	18.0	18.1	24.5
All	19.8	22.2	29.2	16.8	16.9	21.9

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## Aims of training

Employees who reported participating in training as part of their employment were also asked to identify the aims of this training. Multiple responses were possible on this item.

As Table 27 shows, compared to employees in other occupations, those in low paid occupations were more likely to report participating in training with the aim of helping them get started in a job (14.2%; 7.9% of those in other occupations) and for health/safety reasons (37.3%; 23.4% of those in other occupations). This was the case for men and women.

Employees in other occupations were most likely to engage in training to improve their skills for their current job (73.0%) or generally (53.7%) and maintain professional status/meet occupational standards (60.0%).

Employees with the lowest educational qualifications (Year 11 or lower) were more likely to participate in training for health/safety reasons (34.9%) compared to those with higher educational qualifications (Year 12 or VET/higher education), and to help get started in a job (14.2%), compared to those with VET/higher education qualifications (Table 27).

Regardless of occupational status, men were more likely to participate in training for health/safety reasons compared to women.

Men in low paid occupations were more likely to participate in training to maintain professional status/meet occupational standards (52.7%; 46.3% of women), whereas women employed in other occupations were more likely to undertake training for this reason compared to their male counterparts.

Of those employees with the lowest educational qualifications, men were more likely to participate in training for health/safety reasons, whereas women were more likely to participate for all other aims. These gender patterns were also evident for workers across levels of education within low paid and other occupations (data provided in support document).

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**Table 27 Aims of training by occupation and educational status, HILDA 2006**

	Low paid occupation	Other occupation	Current VET student	Not current VET student (highest qualification)		
	%	%	%	Year 11	Year 12	VET/ higher Ed.
<b>Men</b>						
Help get started in job	15.5	8.9	14.7*	14.8	17.4	8.4
Improve skills for current job	65.5	70.2	71.2	60.2	65.4	70.5
Maintain professional status/meet occupational standards	52.7	57.4	50.0	47.7	46.0	60.4
Prepare future job/facilitate promotion	24.1	30.7	42.9	16.0*	29.2	28.4
Develop skills generally	44.5	52.7	55.8	40.3	53.7	50.3
Health/safety concerns	44.9	27.9	39.1	45.5	26.5	31.3
<b>Women</b>						
Help get started in job	13.1	6.8	12.0*	13.6*	12.8*	7.1
Improve skills for current job	67.4	76.1	65.6	64.9	69.3	76.1
Maintain professional status/meet occupational standards	46.3	63.1	56.0	53.4	53.7	57.3
Prepare future job/facilitate promotion	24.0	25.8	32.8	23.8	26.5	23.8
Develop skills generally	46.7	55.0	59.2	43.7	45.0	53.8
Health/safety concerns	31.3	17.9	28.8	25.7	27.7	21.1
<b>All</b>						
Help get started in job	14.2	7.9	13.6	14.2	15.1	7.8
Improve skills for current job	66.5	73.0	68.7	62.8	67.7	73.2
Maintain professional status/meet occupational standards	49.2	60.0	52.7	50.9	50.0	58.9
Prepare future job/facilitate promotion	24.1	28.5	38.6	20.4	27.7	26.2
Develop skills generally	45.8	53.7	57.3	42.0	48.9	52.0
Health/safety concerns	37.3	23.4	34.5	34.9	27.1	26.4

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

As Table 28 shows, low paid employees in the most disadvantaged group (Year 11 qualification or lower) were least likely to engage in training to develop their skills generally (38.8%) compared to all other low paid workers, and their counterparts with the lowest qualifications in other occupations (50.0%). These most disadvantaged workers were also least likely to engage in training to prepare for a future job or facilitate a promotion (19.4%) compared to all other low paid workers.

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**Table 28 Aim of training in low paid and other occupations by educational status (all employees), HILDA 2006**

	Low paid occupation				Other occupation			
	VET student	Yr 11	Yr 12	VET/HE	VET student	Yr 11	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
Help get started in job	20.0*	17.2	18.0	9.4	10.4*	6.5*	12.0*	7.2
Improve skills for current job	63.0	61.9	64.7	70.7	71.8	64.8	70.7	74.1
Maintain professional status/meet occupational standards	52.0	50.5	48.4	48.1	53.0	51.9	51.8	62.8
Prepare future job/facilitate promotion	27.3*	19.4	27.3	24.8	44.8	22.2*	28.1	26.7
Develop skills generally	54.5	38.8	46.2	47.9	59.1	50.0	52.1	53.5
Health/safety concerns	36.0	38.5	33.3	38.5	33.7	25.9*	20.4	22.0

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## Summary of main findings from the HILDA analysis

Compared to workers in other occupations, workers in low paid occupations were more likely to be:

- women (51.7%; 40.0% in other occupations)
- aged in the 15 to 24 years (27.5%) or 25 to 44 years (40.7%) age groups
- in the lowest educational bracket (Year 11 or lower) (37.0%, 13.9% of those in other occupations)
- employed part-time (45.3%; 20.4% in other occupations), especially low paid women (59.7% part-time)
- employed on a casual basis (37.2%; 11.0% in other occupations)
- single (36.7%; 23.6% in other occupations)
- without parenting responsibilities (26.3% had a child aged 14 years or younger; 31.3% were parents in other occupations).

Workers in the most disadvantaged group defined by employment in a low paid occupation and Year 11 or lower qualifications were:

- predominately aged 25 years or older (72.5%)
- mainly in married or de facto relationships (53.4%)
- more likely to be single if they were men (41.4%) compared to women (34.4%)
- more likely to have parenting responsibilities for a child 14 years or younger if they were women (26.3%) compared to men (20.6%)
- likely to work part-time (48.8%), especially women (65.6%) compared to men (39.7%)
- likely to be employed on a casual basis (43.0%).

This most disadvantaged group consisted of almost equal proportions of men and women.

Compared to those from other occupations, VET students who were in low paid occupations were more likely to be:

- women (66.5%; 30.0% in other occupations)
- single if a female student (50.3%; 24.0% in other occupations)

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- married/de facto if a male student (47.3%; 39.5% in other occupations)
- a parent of a child aged 14 years or younger (24.5%; 20.7% in other occupations)
- working part-time (54.1%; 15.7% in other occupations).

There was little difference in the age distribution of VET students from low paid and other occupations.

Low paid workers did not report greater work-family strain. There was no evidence that perceptions of work-family gains or strains differed between low paid and other occupational groups, or between higher or lower educated workers. The most disadvantaged group (low paid occupation, highest qualification Year 11 or lower) did not report greater work-life pressures compared to other groups. There was also no evidence that satisfaction with the flexibility available to balance work and non-work commitments, or time pressure in daily life, differed according to occupational or educational status.

VET participants did not differ from non VET students on work-family strains or gains.

Employees' capacity to effectively combine work, study and other life commitments is likely to be facilitated by flexible work practices such as telework (work from home), flexible start and finish times, and the availability of part-time work options and low paid workers were less likely to report access to each of these entitlements.

Those with the lowest level of qualifications (Year 11 or lower) were also least likely to report access to permanent part-time work (men only), flexible start and finish times (men only) and telework (working from home).

Access to workplace entitlements that support work-life-study balance was more likely to be reported by VET students in low paid and other occupations compared to non VET participants with the lowest level of educational qualification (Year 11 or lower). This suggests that workplace entitlements such as flexible start and finish times, telework and options to work part-time are likely to support the VET participation of workers from low paid and other occupations.

Low paid workers were less likely to participate in employment-related training

Employees with the lowest level of education (Year 11 or lower) were least likely to participate in training as part of their employment within low paid and other occupations, respectively.

Overall, employees in the most disadvantaged group (low paid occupation, Year 11 or lower education) were around five per cent less likely to participate in work related training compared to their counterparts in other occupations.

For those who had participated in training, around twenty per cent of employees in low paid and other occupations had contributed to the costs of the training. Those with lower educational qualifications (Year 12 or lower) were least likely to contribute to costs.

Participation in training to assist in getting started on a job was most likely to be reported by workers in low paid occupations. Employees in other occupations were most likely to engage in training to improve their skills for their current job, improve their skills generally or to maintain their professional status/meet occupational standards. Training to address health or safety concerns was most likely to be reported by workers from low paid occupations.

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## SECTION 3: Adult Literacy and Life Skills (ALLS) survey

The design of ALLS is strongly instrumental. The conceptual framework of the ALLS survey was explicitly developed to assist public policy development in economic and social fields to measure antecedents and outcomes of literacy based skills such as the quantity and quality of initial education and skills and their impact on employability and wages (OECD & Statistics Canada 2005, pp.3-4, 27; Statistics Canada 2005).

Thus, the concept of ‘minimum literacy requirements’, its empirically measured level and its distribution in society, underpins the purpose and design of the ALLS. Demographic and other social data collected through the ALLS survey offers insight into the causes and consequences of minimum levels of literacy.

Using unit record data from the ABS Adult Literacy and Life Skills Survey<sup>1</sup> (Australian Bureau of Statistics 2006a), released (reissue) in early 2008, this section focuses in detail on two of the strongest influences on adult literacy:

- educational attainment, in particular completion of Year 12 or equivalent
- labour force participation, in particular employment, occupational status and income.

Within these categories, the analysis pays particular attention to gender as a determinant of adult literacy in Australia and its labour market rewards.

The aim was to examine the labour market and educational characteristics of adults with low levels of literacy and numeracy proficiency with a view to shedding light on the barriers to:

- labour market participation
- participation in post compulsory education and training
- access to superior labour market outcomes as measured by employment, occupational status and income.

### International context to the ALLS Survey

The Australian 2006 ALLS survey builds on the International Adult Literacy Survey (IALS), the world’s first internationally comparative survey of adult skills undertaken in three rounds of data collection between 1994 and 1998. The IALS and the ALLS surveys are part of an ongoing international study under the auspices of the OECD, UNESCO and two coordinating countries, Canada and the USA.

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<sup>1</sup> Estimates of proportions provided in this report may not exactly reconcile with those published in ABS Cat. No. 4228.0 (ABS 2005b). The differences, however, are very small (usually no more than one tenth of one percentage point and considerably smaller than the standard errors associated with each estimate- due to sampling variability). Differences may be due to one of two reasons:

1. The source of data reported herein is an ABS Confidentialised Unit Record File, known as “CURF” (ABS 2006a). The ABS states that the process of “confidentialising” the data set means that “...it may not be possible to exactly reconcile all statistics produced from the CURF with published statistics” (ABS 2005d: 11); and/ or
2. The ABS produced the estimates using a process known as “multiple imputation methodology” combined with “Item Response Theory scaling”. These technical processes mean that each individual has five imputed “plausible literacy scores”. To produce their published results, the ABS used a weighted average of the five plausible scores for each individual. The ABS advised, however, that when using the CURF to obtain estimates, “...it is sufficient to use one of the corresponding five plausible scores, chosen at random to derive population estimates” (ABS 2005d: 8). This advice was followed in the current study to minimise processing costs and reduce complexity. These alternative methods of estimation may result in minor differences.

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The skills measured in the ALLS survey include prose literacy, document literacy, numeracy and problem solving ability.

Information about the conceptual and methodological underpinnings of the international study as well as its organisation and funding is available from Statistics Canada (Statistics Canada 2005). The ABS for, example, reports that Australia's performance ranks in the middle of the 7 countries participating in the first round of the study (ABS 2006b: 4,8). Individual country rankings are provided in the support document.

International statistics from the first wave of the ALL Survey can also be obtained from Statistics Canada (OECD & Statistics Canada 2005).

## Literacy domains: concept and practice

The 2006 ABS Adult Literacy and Life Skills Survey (ALLS) was conducted from July 2006 to January 2007 and aimed to measure the literacy skills of Australians aged 15 to 74 years. Four domains of literacy were measured:

- prose literacy
- document literacy
- numeracy
- problem solving.

The ABS defines these domains as follows:

Prose literacy is the ability to understand and use information from various kinds of narrative texts, including texts from newspapers, magazines and brochures. (Australian Bureau of Statistics 2008, p.1)

Document literacy measures the knowledge and skills required to locate and use information contained in various formats including job applications, payroll forms, transportation schedules, maps tables and charts. (Australian Bureau of Statistics 2008, p.1)

Numeracy is the knowledge and skills required to effectively manage and respond to the mathematical demands of diverse situations. (Australian Bureau of Statistics 2008, p.1)

Problem solving is goal directed thinking and action in situations for which no routine solution is available. (Australian Bureau of Statistics 2008, p.1)

For each literacy domain, proficiency was assessed through direct observation of respondents' outcomes on a series of 'core tasks' administered through pencil and paper by personal interviewers. Based on these assessments, a point score was allocated for each skill domain ranging from 0 to 500 points. According to this aggregate, respondents were assigned one of 5 skill levels for each domain (except for problem solving, where only 4 levels were defined). Level 1 is the lowest measured level of literacy for each domain.

The five skill levels comprise an ordinal scale reflecting the progression of complexity and difficulty of the core tasks completed. Detailed examples of tasks and tests are available from Statistics Canada (Statistics Canada 2005, Annex A). Relating this to real life examples, the ABS explains that

...someone with skill level 1 may have trouble using a bus timetable or completing basic form.

People at this skill level may be able to locate some information on a medicine bottle, however skill level 1 includes people who could not complete such tasks. (Australian Bureau of Statistics 2008, p.2)

At skill level 2 a person may be able to complete the tasks mentioned above, but may not be able to interpret a weather map or summarise a piece of text. (Australian Bureau of Statistics 2008, p.2)

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At skill level 3, people may not be able to compare and contrast written information, extract information from a pamphlet or interpret pie charts. (Australian Bureau of Statistics 2008, p.2)

Level 3 is regarded by experts as a suitable minimum for ‘coping with the increasing demands of the emerging knowledge society and information economy’ (Australian Bureau of Statistics 2008, p.2).

Skill level 4 and 5 are the highest skill levels. As the numbers of people in these groups are small, they have been combined for the purposes of this paper (Australian Bureau of Statistics 2008, p.2).

Further information about the survey methodology is provided by the Australian Bureau of Statistics (Australian Bureau of Statistics 2006b).

## Minimum literacy proficiency

Interpretation of the results from the ALLS survey rests on the concept of minimum literacy proficiency requirements in today’s highly technological and globalised economies. More specifically, data from the ALLS survey needs to be interpreted according to the prevailing notion among public policy makers that a minimum level of literacy enables successful adaptation at the level of individuals and institutions to threats and opportunities which are imposed on economies and societies in modern economies (Kearns 2001; Healy & Martin 2008).

The literature in this genre stresses the dynamic nature of modern economies and their need to constantly adapt to structural change through competition-driven innovation (Porter 1990; OECD 1998). Changing social roles are also highlighted as drivers of adaptation at the level of individual, family, school, firm and nation (Cully 2003). High quantities and qualities of foundational/ enabling skills (of which literacy skills are considered a part), are seen as critical to this adaptation with minimal personal costs to vulnerable individuals in terms of, for example, their loss of employment and dependency on the state (Porter 1990; Reich 1992; OECD & Statistics Canada 2005; Statistics Canada 2005).

Thus, the ALLS study

conceptualises proficiency along a continuum (Skill Levels 1 to 4/5) and this is used to denote how well adults use information to function in society and the economy ..(given).... the skill demands on individuals of that society and economy. (OECD & Statistics Canada 2005, pp.15-16)

Accordingly, the ABS quotes this source when it designates Level 3 skill level as the ‘..minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge based economy’ (Australian Bureau of Statistics 2006b, p.5).

The current study uses this minimum level of literacy to construct an analysis of the determinants and outcomes of working Australians’ literacy. Unit records from the ALLS survey (Australian Bureau of Statistics 2006b) were categorised into a binomial variable:

- Below minimum literacy (defined as persons with literacy proficiency below the minimum literacy standard, comprising Level 1 and Level 2)
- Adequate literacy (defined as persons with literacy proficiency at or above the minimum standard, comprising Levels 3, 4 and 5).

The strength of statistical relationships between this literacy (response) variable and various antecedent and outcome (factor) variables such as educational attainment and occupational status were then assessed in order to gain insights into the determinants and consequences of inadequate literacy skills compared to adequate literacy skills. The emphasis in the study was on employed persons.

This paper focuses on low paid workers and workers with lower levels of formal education. Labour market disadvantage and in particular occupational segregation into low paid jobs is one of the consequences of inadequate literacy skills. The results of the study in this section are therefore reported so as to focus on the incidence of **below minimum literacy** as a means of highlighting the factors statistically associated with this outcome in a dynamic labour market placing a premium on high skills.

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## The ALLS sample

Table 29 ALLS sample characteristics, ALLS 2006

Sample characteristics	All	Men	Women
	%	%	%
Population	100.0	49.9	50.1
<b>Age</b>			
15-24 years	18.4	18.8	18.0
25-44 years	38.5	38.4	38.6
45 years & older	43.1	42.8	42.8
<b>Labour force status</b>			
Employed	70.2	77.1	63.4
Unemployed	3.2	3.2	3.2
Not in the labour force	26.6	19.7	33.4
<b>Employment status</b>			
Employed full-time	69.2	84.2	51.0
Employed part-time	30.8	15.8	49.0
<b>Occupational status</b>			
Low paid occupation	66.4	55	80.1
Other occupation	33.6	45	19.9
<b>Occupation</b>			
Managers	14.7	17.7	11.2
Professionals	21.5	18.1	25.5
Technicians and Trades Workers	14.8	22.6	5.3
Community and Personal Service Workers	8.1	4.6	12.4
Clerical and Administrative Workers	14.8	7.0	24.3
Sales Workers	8.5	5.7	12.0
Machinery Operators And Drivers	6.9	11.3	1.5
Labourers	10.2	12.3	7.6
Inadequately described	0.5	0.7	0.3
Total number of responses	8,988	4,162	4,826
Estimated population	15,105,435	7,540,406	7,565,029

## Literacy of Australia's population

It is often observed that Australia's economic future lies in its ascendancy to 'the knowledge based economy', where the currency is information and advantages accrue to those who are information rich (Reich 1992; OECD 1998; De Laine, Laplagne & Stone 2000). In view of this, it may be a concern for policy makers that adult Australians with below adequate literacy skills outnumber those with adequate (or higher) literacy skills in two of the four domains measured by the ALLS survey. In the remaining two measures, it can be concluded that five out of ten Australian adults have below minimum literacy proficiency.

### Literacy deficits

The largest literacy deficit was recorded in the **problem solving** domain, where 7 out of 10 Australians were assessed as having below minimum literacy skills and only 3 out of 10 with adequate or higher

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proficiency (Table 30). The proportion of Australia’s population with inadequate **numerical** literacy was 52.7%, compared to the proportion with adequate or higher numerical literacy (47.3%). In the remaining literacy domains measured in the ALLS survey, **prose** and **document** literacy, Australians do better - but only marginally. In both these domains, there was a larger proportion of Australians with adequate or higher literacy skills (53.6% in the case of **prose** and 52.8% in the case of **document** literacy).

Table 30 Literacy proficiency of Australia’s adult population by gender, ALLS 2006

	All	Men	Women
	%	%	%
<b>Prose Literacy</b>			
Below minimum proficiency	46.4	48.6	44.2
Adequate (or better) proficiency	53.6	51.4	55.8
<b>Numeracy</b>			
Below minimum proficiency	52.7	48.3	57.1
Adequate (or better) proficiency	47.3	51.7	42.9
<b>Document Literacy</b>			
Below minimum proficiency	47.2	45.3	49.1
Adequate (or better) proficiency	52.8	54.7	50.9
<b>Problem Solving Literacy</b>			
Below minimum proficiency	70.4	70.2	70.5
Adequate (or better) proficiency	29.6	29.8	29.5

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2.  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive.

## Gender

Measuring literacy proficiency within the population reveals notable gender gaps that have important follow-on implications for women’s and men’s equality in the labour market (Table 30). Excluding **problem solving** literacy, where women’s and men’s performance was on a par (with 7 out of 10 men and the same proportion of women recording inadequate literacy), the literacy proficiency of men was better than that of women in two of the remaining three literacy measures:

- Women were 18.2%<sup>2</sup> more likely to have below minimum **numerical** literacy (57.1% of women compared to 48.3% of men).
- Women were 8.4% more likely to have below minimum **document** literacy skills (49.1% of women compared to 45.3% of men).

Women, however, perform better than men in the **prose** literacy measure:

- Men were 9% more likely than women to have below minimum prose literacy (48.6% of men and 44.2% of women).

As discussed below, the two literacy measures in which men perform better than women (numerical and document literacy) are at a premium in the labour market and so women’s underperformance in these literacy areas represents a demonstrable barrier to their labour market participation and employment, especially employment in the higher status and higher paying occupations.

<sup>2</sup> This figure was obtained by dividing the per cent of women (18.2%) by the per cent of men (48.3%).

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## Literacy of employed persons

### Literacy deficits

Comparing the incidence of inadequate literacy in the employed population with that of the general population, the prevalence of below minimum literacy proficiency was markedly less in the employed population (Table 31). This applies to all domains measured in the ALLS survey, although the relative differences vary across the four domains studied. In other words, the labour market is filtering out those people with less than adequate literacy skills and favouring those with adequate (and higher) literacy skills.

Table 31 Literacy proficiency of Australia's adult population, employed and not employed, persons, ALLS 2006

	All		Men		Women	
	Below minimum proficiency	Adequate (or better) proficiency	Below minimum proficiency	Adequate (or better) proficiency	Below minimum proficiency	Adequate (or better) proficiency
	%	%	%	%	%	%
<b>Prose Literacy</b>						
Not employed	40.0	20.9	30.7	15.5	50.3	25.8
Employed	60.0	79.1	69.3	84.5	49.7	74.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Numerical Literacy</b>						
Not employed	39.6	17.9	30.9	13.7	46.9	23.0
Employed	59.6	82.1	67.2	86.3	53.1	77.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Document Literacy</b>						
Not employed	42.1	18.8	32.9	14.7	50.5	23.2
Employed	57.9	81.2	67.2	85.3	49.5	76.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Problem Solving Literacy</b>						
Not employed	32.6	15.5	21.3	11.5	43.8	19.4
Employed	64.2	84.5	72.3	88.5	56.2	80.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: a Proportions shown are based on population estimates (ie weighted sample counts)  
 b Below minimum proficiency comprises aggregation of Levels 1 and 2  
 c Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive  
 d Not employed includes unemployed and not in the labour force.

Take numerical literacy for example:

- Of those who had below minimum **numerical** literacy proficiency, 59.6% were in paid employment. Of those with minimum or better numerical literacy, 82.1% were in paid employment. Thus, employed people were 37.8% more likely to have good numerical literacy than to have inadequate numerical literacy.

Similarly:

- Of those who had below minimum **document** literacy, 57.9% were employed. Whereas of those who had adequate or better literacy 81.2% were employed. Thus employed people were 40.1% more likely to have adequate or better document literacy skills than to have inadequate document literacy.

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- Of those with poor **prose** literacy, 60.0% were employed. In contrast, of those with adequate or better literacy 79.1% were employed. Thus employed people were 31.9% more likely to have adequate (or better) prose literacy skills than to have below minimum prose literacy.
- Of those who had poor **problem solving** literacy, 64.2% were employed. Of those with adequate or better literacy, 84.5% were employed. Thus employed people were 31.7% more likely to have adequate (or better) problem solving literacy skills than to have below minimum problem solving literacy.

From the above analysis, the largest difference between the employment rate of persons with adequate (or better) literacy and those with below adequate literacy pertained to **numerical** and **document** literacy. People with adequate or better literacy in either of these domains have a 32% higher employment rate.

Therefore, any improvement to inadequate literacy proficiency increases the likelihood of employment substantially, with the largest impact emanating from numerical and document literacy.

The next section shows that negative effect of inadequate literacy on employment outcomes operates more powerfully in the labour market for women than it does for men, suggesting for example, that public policy designed to boost literacy in the population has greater consequences for women than it does for men in terms of improving their likelihood of paid employment. In this way, the formulation of literacy policy can be seen as a gender issue.

## Gender and literacy-based barriers to employment

Having below minimum literacy proficiency is a greater disability in gaining employment for women than it is for men (Table 31)

The employment rate for all adults was 70.2% (as measured by the share of the adult population who were in paid employment) (Table 29). This average, however, masks significant differences between men and women. The proportion of the population of adult men who were employed was 77.1%. The proportion of the population of adult women who were employed was 63.4%. This indicates that men have on average a 17.8% higher likelihood of paid employment than women.

The difference between the employment rates of men compared to women is due to many factors (Rubery, 1998). Results from the ALLS survey, however, indicate that literacy is a significant factor in explaining women's lower employment rate. Women with poor literacy proficiency in each of the four literacy domains have substantially lower employment rates than do men with the same literacy deficits.

A woman with below minimum literacy has, on average, a lower likelihood of employment (less likely to be employed) by between 32% and 40% compared to a man with below minimum literacy.

However, as mentioned above, women have on average a lower employment to population ratio than men due to many factors other than differences in literacy proficiency. As observed previously, men were 17.8% more likely to be in paid employment than women. Controlling for women's lower labour force participation (by subtracting this likelihood ratio from the literacy deficit-based likelihood ratios) yields a net (additional) adjusted likelihood of women's employment with inadequate literacy ranging from 14% to 22% below men's employment likelihood for each of the four literacy domains, such that (from Table 31):

- Women with inadequate prose literacy proficiency were 28.3% less likely to be employed than men with inadequate prose literacy (49.7% of women compared to 69.3% of men).
  - And after controlling for women's lower labour force participation, this gender gap becomes 10.5%.

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- Women with below minimum **numerical** literacy proficiency were 21.0% less likely to be employed than men with below minimum numeracy literacy (53.1% of women compared to 67.2% of men).
  - And after controlling for women's lower labour force participation, this gender gap reduces to 10.5%.
- Women with inadequate **document** literacy proficiency were 26.3% less likely to be employed than men with inadequate document literacy (49.5% of women compared to 67.2% of men).
  - And after controlling for women's lower labour force participation, this gender gap becomes 8.5%.
- Women with below minimum **problem** solving literacy proficiency were 22.3% less likely to be employed than men with below minimum problem solving literacy (56.2% of women compared to 72.3% of men).
  - And after controlling for women's lower labour force participation, this gender gap reduces to 4.5%.

In summary, compared to women, men's likelihood of employment was less sensitive to their possessing inadequate literacy skills - regardless of which literacy domain in which they might have a deficit, relatively speaking. To gain employment, it matters less for men that they have inadequate or adequate literacy. And furthermore, in each literacy domain men with below minimum literacy have a greater probability of employment than women with below minimum literacy. The extent to which this applies depends on the literacy domain in which the deficit occurs as per the following ranking (after controlling for women's lower labour force participation rate):

- **Prose and numerical** literacy: women with a deficit in prose or in numerical literacy have 10.5% (or 1 in 10) less likelihood of employment than men with a deficit in this domain.
- **Document** literacy: women with a deficit in document literacy have 8.5% less likelihood of employment than men with a deficit in this domain (equivalent to a probability of 1 in 12).
- **Problem solving** literacy: women with a deficit in problem solving literacy have 4.5% less likelihood of employment than men with a deficit in this domain (a lower probability by 1 in 22).

## Literacy deficits: Determinants of occupational and educational outcomes?

### Study design

In this section we report the outcomes of statistical testing of underlying relationships in the ALLS survey in regard to literacy as an explanatory variable affecting occupational and educational outcomes. Regarding occupational outcomes, two statistical relationships were tested in regard to each of the four literacy domains separately for men, women and aggregated:

- The direction and strength of association between literacy deficits (below minimum proficiency and adequate or better literacy proficiency) and occupational status using the following categorisations:
  - Occupational status (low paid compared to other occupations using ANZSCO classifications)
  - High and low gross weekly earnings classified dichotomously as either below average or average and higher using the ABS estimate of weekly ordinary time cash earnings of full time adult non managerial employees concurrent with the ALLS survey reference period (Australian Bureau of Statistics 2008).

For educational outcomes, two statistical relationships were tested in regard to each of the four literacy domains (below minimum and adequate or better) and separately for men, women and aggregated. The direction and strength of association between workers' literacy deficits/ proficiencies and educational disadvantage were assessed using the following categories:

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- Educational attainment, specifically whether the respondent had completed post compulsory schooling or higher. This translated into a binary variable indicating highest educational attainment to Year 11 or below on the one hand and completing Year 12 or higher on the other.
- VET participation (currently studying in the VET system).

We also report on literacy proficiency as a predictor of employment outcomes using odds ratios from this modelling. This allows transparency of the modelling process, by presenting a worked example, and complements the analysis already presented in earlier sections of this report quantifying the (greater) likelihood of the employed population having adequate or better literacy than the remainder of the population.

## Odds ratios as measures of effect size

A measure of the strength and direction of statistical association between two or more variables that is commonly reported in studies of the current type is the 'odds ratio' or the 'relative risk'. Both the relative risk and the odds ratio quantify the probability of an outcome being associated with values of an explanatory variable. The estimated strength of association measured in this study and reported herein was indicated by the odds ratio. The relative risk is shown in the tables provided in the support document, but not remarked upon in the commentary.

The odds ratio is the ratio of the odds of an event occurring in one group compared to another. The odds of an outcome is the ratio of the probability that the event will occur compared to the probability that the event will not occur. The effect size provides a measure of the importance of an effect, response or outcome that is associated with changes in one or more explanatory (or independent) variables (Field 2005, p.739).

As an arithmetical axiom, an odds ratio of unity (1) would indicate equivalence in the odds (or likelihood) of occurrence between the groups (i.e., that there is no significant difference in the odds of one outcome occurring over the odds of the other outcome occurring). The odds ratio ranges from 0 (perfect negative association) and infinity (perfect positive association). Statistically significant values less than 1 imply the direction of association is negative, whereas values greater than 1 indicate a positive relationship. The scales, then, are different. Negative associations are measured on the interval 0 to 1.0 and positive relationships are measured on the interval 1 to plus infinity. Perfect negative association would be represented by an odds ratio of 0 and perfect positive association would be indicated by an odds ratio of plus infinity.

One important property of the odds ratio relates to the fact that it allows a standardised means of comparing effect sizes between different groups and between different variables on the behaviour of another variable (Field 2005, pp.693-695). Numerical comparisons between the ratios can be made across tables drawn from different samples, for example, population tables dissected by gender. Thus, an odds ratio of 58% can be interpreted as our estimate that the odds of the outcome occurring is at least 58% higher for subjects in the study group (in this study those with inadequate literacy) than for the subjects not in the study group (the 'control' group, in this study those with adequate or better literacy). A doubling of the numerical value of the odds ratio from, say, male to female implies a doubling in the strength of the relationship across the two gender groups (Reynolds 1977, pp.35-41; Agresti 2007, p.27-35).

In keeping with convention, odds ratios reported in this study represent the lower boundary of the 95 per cent confidence interval estimating the population parameter. If the confidence interval includes the value of the odds ratio, then the estimate is deemed to be statistically significant.

The tables containing the probabilities and odds ratios for this analysis are provided in the support document.

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## The effect of literacy on employment outcomes

We begin the explanation of the modelling of the effect of literacy proficiency on labour market outcomes by revisiting the relationship between literacy proficiency and employment status discussed earlier. It has already been observed that, for example, employed people were 37.8% more likely to have (adequate or better) numerical literacy than to have inadequate numerical literacy. The modelling undertaken for this study allows quantification of the effect of literacy proficiency on employment outcomes as a predictor of employment status.

Table 32, below, has been constructed to show the arithmetical process used to calculate the odds ratio describing the strength of the relationship between literacy proficiency and employment status for men and women (aggregated) in respect of each of the four literacy domains. The table shows that compared with the likelihood of employment of persons with below minimum literacy, possessing an adequate (or better) literacy proficiency in any of the four domains, increases the odds of employment by a factor of between 2.5 and 3.1. Document literacy proficiency has the highest effect on the likelihood of employment. The odds of being employed with adequate (or better) document literacy proficiency are 4.3 to 1. Contrasted with this, the odds of being employed with inadequate document literacy is only 1.5 to 1. So, the possession of adequate or better document literacy multiplies this likelihood by a factor of 3.1. Numerical literacy proficiency has a similarly powerful effect on employment likelihood (3.0 to 1). Proficiency in problem solving literacy and prose literacy have weaker employment effects (2.8 and 3.5 respectively).

Table 32 Effect of literacy proficiency on employment likelihood: Calculation of the odds ratio, comparing the odds of being employed with adequate literacy with the odds of being employed with inadequate literacy.

	Population estimates (persons)			Odds calculations		Odds Ratio*:
	Employed (Col 1)	Not employed (Col 2)	Total (Col 3)	Odds of being employed with <u>inadequate</u> literacy (Col 4) =Col 1/ Col 2 (for Row1)	Odds of being employed with <u>adequate</u> literacy (Col 5) =Col 1/ Col 2 (for Row 2)	(ratio of the odds)** (Col 6) =Col 5/ Col 4
<b>Prose literacy</b>						
Inadequate literacy (row 1)	4,203,354	2,804,808	7,008,162	1.50	3.78	2.52
Adequate literacy (row 2)	6,403,570	1,693,088	8,096,658			
<b>Numerical literacy</b>						
Inadequate literacy (row 1)	4,742,750	3,149,202	7,962,200	1.51	4.58	3.04
Adequate literacy (row 2)	5,864,173	1,279,061	7,143,234			
<b>Document literacy</b>						
Inadequate literacy (row 1)	4,132,155	3,002,072	7,130,831	1.38	4.32	3.14
Adequate literacy (row 2)	6,474,768	1,499,837	7,974,605			
<b>Problem solving literacy</b>						
Inadequate literacy (row 1)	6,822,081	3,463,133	10,285,214	1.97	5.47	2.78
Adequate literacy (row 2)	3,784,842	692,294	4,477,136			

Note: \* Significant at the 95% confidence level.

\*\* That is, the odds being employed with adequate literacy compared to the odds of being employed inadequate literacy compared to the odds of being employed with adequate literacy

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Tables in the support document have been constructed using the logic presented in Table 32 in respect of each statistical relationship modelled. The remainder of the analysis reports the odds ratios from the tables in the support document.

## Literacy and occupational disadvantage

### *Occupational status*

There was a significant positive association between inadequate literacy proficiency and employment in low paid occupations. For all literacy measures, men and women combined, the odds ratio was 2.2 to 1, meaning that the type of job held by workers with inadequate literacy was 2.2 times more likely to be in a low paid compared to other occupation. This indicates that for every one worker with inadequate literacy skills employed in an other (not low paid) occupational category, slightly more than two persons with inadequate literacy will be employed in a low paid occupation.

The strongest association between literacy proficiency and occupational status for men and women combined was for **numerical** literacy. The odds of a worker with below minimum numerical literacy being employed in a low paid occupation were 2.4 times higher than of being employed in an other (not low paid) occupation. The weakest of effect of literacy on workers' occupational status was for prose literacy (odds ratio of 2.0). Of the four domains, prose literacy was the only literacy domain showing a positive effect on occupational status below 2.2:1.

Differences in the effect of literacy on occupational status between men and women were small - except for problem solving, where women recorded an 11% smaller effect (odds ratio of 2.2 for women compared to 2.5 for men). All other odds ratios for men and women were within about 5% of each other.

The strongest predictor of women's occupational status was competency in numeracy - as it was for men. Their respective odds ratios were identical at 2.4.

### *Income*

We categorised employed persons into two groups based on personal income: those with gross weekly incomes below average weekly earnings and those with gross weekly incomes at or above average weekly earnings. We then compared the effect of low literacy on workers' likelihood of being in one of these income groups.

As for occupational status, there was a positive relationship (and of a similar order of magnitude) between good literacy proficiency and higher earnings. However there were larger differences between men and women. Overall, women with below minimum literacy had about twice the likelihood of earning below average weekly earnings than men with the same literacy skills.

The effect of literacy proficiency on earnings is positive, as it is on occupational status described above. However, the effect was on average weaker by about 7%. That is, the odds ratio was about 2.0 for earnings and, as mentioned, about 2.2 for occupational status.

Problem solving literacy was the best predictor of income for men (odds ratio of 2.63), followed by prose literacy at 2.5 and document and numerical literacy lowest at about 2.0. For women, document literacy was the strongest predictor of earnings (2.14), and problem solving was the weakest predictor (2.0).

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## Literacy and educational disadvantage

### *Low educational attainment*

Employed respondents to the ALLS survey were grouped according to whether their highest educational attainment was Year 11 (or below) or Year 12 or above. We tested the association between completion of Year 12 (or higher educational attainment) on adult literacy scores in the employed population. For Australia's employed workforce, this relationship was positive (the higher the educational attainment the higher the literacy) and the strongest studied. It was also the association with the weakest effect size on women's outcomes compared to men's outcomes.

On average, and combining the effect for men and women, for every one employed person completing Year 12 (or higher) with below minimum literacy, 3.6 will have adequate or better literacy. In other words, those persons completing Year 12 or higher education are nearly four times more likely to have adequate or better literacy compared to those with Year 11 or lower levels of education.

The strongest association was found to be between educational attainment and problem solving literacy proficiency (odds ratio of 4.0:1). Those with Year 12 or higher levels of education were around four times more likely to have adequate or better problem solving literacy compared to those with lower levels of education. The association between educational attainment and problem solving literacy was particularly strong for men (with an odds ratio of 5:1). This represented a more than 55% stronger association compared to women (3.2:1). This was women's highest odds ratio, yet still below men's odds ratio for problem solving literacy by 36%.

### *VET participation*

We also examined the effect of literacy proficiency on whether employed respondents were currently engaged in VET. There was no discernable relationship between proficiency in any of the literacy domains and the likelihood that employed persons were currently undertaking VET.

## Summary of main findings from the ALLS survey

Adult Australians with below adequate literacy skills outnumber those with adequate (or higher) literacy skills in two of the four domains measured by the ALLS survey. Literacy is adequate or better for:

- 53.6% of Australians on prose literacy
- 47.3% of Australians on numerical literacy
- 52.8% of Australians on document literacy
- 29.6% of Australians on problem solving literacy.

Excluding **problem solving** literacy, where women's and men's performance was on a par, the numerical and document literacy proficiency of men was better than that of women. In contrast, women outperform men to the greatest extent on prose literacy.

The largest difference between the employment rate of persons with adequate (or better) literacy and those with below adequate literacy pertain to **numerical** and **document** literacy.

People with adequate or better literacy in either of these domains had, on average, a 47% higher employment rate while people with adequate or better literacy in prose and problem solving had a 32% higher employment rate. Compared with the likelihood of employment of persons with below minimum literacy, possessing an adequate (or better) literacy proficiency in any of the four domains, increases the odds of employment by a factor of between 2.5 and 3.1.

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There were also important gender differences in this pattern. Compared to women, men's likelihood of employment was less sensitive to their possessing below minimum literacy skills:

- **Prose and numerical** literacy: women with a deficit in prose or in numerical literacy have 10.5% less likelihood of employment than men with a deficit in this domain.
- **Document** literacy: women with a deficit in document literacy have 8.5% less likelihood of employment than men with a deficit in this domain.
- **Problem solving** literacy: women with a deficit in problem solving literacy have 4.5% less likelihood of employment than men with a deficit in this domain.

There was a significant positive association between inadequate literacy proficiency and employment in low paid occupations. For all literacy measures, men and women combined, the odds ratio was about 2.15 to 1, meaning that the type of job held by workers with inadequate literacy was 2.15 times more likely to be in a low paid compared to other occupation.

The strongest association between literacy proficiency and occupational status was for **numerical** literacy, and this was the case for men and women.

A similar effect was observed for income. Overall, men and women with inadequate literacy had about twice the likelihood of earning below average weekly earnings. Of the four literacy domains, numerical literacy had the strongest association with low income.

However there were differences between men and women. Overall, women with below minimum literacy had about twice the likelihood of earning below average weekly earnings than men with the same literacy skills.

Those persons completing Year 12 or higher education are nearly four times more likely to have adequate or better literacy compared to those with Year 11 or lower levels of education.

VET participation, however, was not associated with literacy proficiency.

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## Investigating the low paid workforce: Employment characteristics, training and work-life balance: Support document

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This document was produced by the author(s) based on their research for the report *Investigating the low paid workforce: Employment characteristics, training and work-life balance*, and is an added resource for further information. The report is available on THE CWL website:  
<http://www.unisa.edu.au/hawkeinstitute/cwl/default.asp>>

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## Student Outcomes Survey - module completers

### Sample characteristics

Table 33 Student Outcomes Survey (SOS) module completers sample characteristics, employed 6 months before training, 2007

Sample characteristics	All %	Men %	Women %
Total	100	54.7	45.3
Age			
15-24 years	20.8	19.5	22.5
25-44 years	43.5	46.1	40.1
45 years and over	35.7	34.3	37.4
Highest pre-training schooling			
Year 11 or below	19.8	18.9	20.9
Year 12	13.2	12.0	14.8
HE/VET	57.9	60.2	55.2
Miscellaneous <sup>a</sup>	9.0	8.9	9.1
Qualification			
Diplomas and above	4.8	4.0	5.8
Certificate IV	5.9	5.5	6.4
Certificate III	9.6	9.2	10.0
Certificate II	6.3	5.3	7.4
Certificate I	1.7	1.7	1.6
Other	40.3	48.6	30.4
Statement of Attainment	11.9	11.7	12.1
Subject only enrolment	19.6	14.0	26.2
Basis of employment (prior to training)			
Wage or salary earner	83.6	80.8	87.0
Own business - with employees	5.0	6.6	3.0
Own business - without employees	8.8	10.4	6.9
Helper not receiving wages	2.6	2.2	3.2
Labour force status (prior to training)			
Employed full-time	62.1	76.2	45.3
Employed part-time	34.8	21.1	51.1
Employed (hours not stated)	3.1	2.7	3.6
Occupational status (prior to training)			
Low paid occupation	56.1	47.0	69.2
Other occupation	43.9	53.0	30.8
Occupation (prior to training) <sup>b</sup>			
Managers	9.9	11.4	7.7
Professionals	14.4	12.8	16.7
Technicians and trades workers	19.6	28.9	6.3
Community and personal services workers	11.7	6.3	19.3

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Table 3.3 (cont.)

Sample characteristics	All	Men	Women
	%	%	%
Clerical and administrative workers	14.3	7.5	24.2
Sales workers	10.5	6.7	16.1
Machinery operators and drivers	6.7	10.2	1.6
Labourers	12.9	16.2	8.1
Total number of responses	15 726	7 994	7 723
Estimated total number of students	258 751	141 146	116 993

Note: a Miscellaneous consists of: 'Other certificate', 'Certificate of competency or proficiency', 'Statement of attainment', 'Prevocational training' and 'Other'.

b Occupation defined by ANZSCO 2006.

## Occupation, work hours and qualification attained

Table 34 Demographic characteristics of VET module completers in low paid and other occupations, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
<b>Low paid occupation<sup>a</sup></b>						
Occupation (prior to training)						
Community and personal services workers	20.8	13.5	27.8	18.5	20.1	24.1
Clerical and administrative workers	25.6	15.9	35.0	12.8	32.1	31.0
Sales workers	18.8	14.3	23.2	35.4	10.6	10.4
Machinery operators and drivers	11.9	21.8	2.3	6.9	14.9	13.9
Labourers	23.0	34.5	11.7	26.3	22.4	20.6
Qualification						
Diplomas and above	7.0	5.4	8.5	11.2	6.4	3.2
Certificate IV	7.3	7.1	7.6	8.4	7.5	6.1
Certificate III	13.4	12.4	14.4	20.0	11.4	9.6
Certificate II	8.8	8.3	9.4	13.6	7.6	5.5
Certificate I	1.8	2.0	1.7	2.9	1.3	1.4
Other	42.7	48.1	37.5	29.0	46.8	52.6
Statement of attainment	14.2	13.2	15.2	10.6	15.4	15.9
Subject only enrolment	4.7	3.5	5.8	4.1	3.5	5.7
Work hours (prior to training)						
Full-time	54.1	67.7	40.9	32.6	67.6	59.8
Part-time	44.8	31.2	58.1	66.5	31.4	38.7
Hours not stated	1.1*	1.2	1.0	1.0	1.0	1.5
<b>Other occupation<sup>a</sup></b>						
Occupation (prior to training)						
Managers	22.5	21.5	25.0	15.2	21.1	26.5
Professionals	32.8	24.1	54.4	16.8	32.3	37.3
Technicians and trades workers	44.6	54.4	20.6	68.0	46.6	36.2
Qualification						
Diplomas and above	4.9	4.0	7.1	6.6	5.7	3.1
Certificate IV	6.6	5.4	9.7	8.9	7.2	5.4

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Table 34 (cont.)

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
Certificate III	8.8	8.6	9.5	24.7	7.5	6.0
Certificate II	4.4	3.3	7.1	8.2	4.0	4.0
Certificate I	1.2*	1.1	1.5	0.9	1.3	1.2
Other	56.9	61.7	44.9	39.7	58.4	60.9
Statement of attainment	14.0	12.8	16.9	8.8	13.0	16.0
Subject only enrolment	3.2*	3.1	3.2	2.2	2.9	3.5
<b>Work hours (prior to training)</b>						
Full-time	82.5	89.5	65.1	73.6	86.6	79.5
Part-time	16.7	9.7	34.1	25.9	12.8	19.5
Hours not stated	0.8	0.8	0.8*	0.5*	0.7*	1.0

Note: a Occupation defined by ANZSCO 2006.

\*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## Sources of income during training

Table 35 Sources of income for module completers during training by low paid and other occupation type, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Government allowance/pension/benefit <sup>a</sup>	6.9	5.8	8.0	3.6	8.2	9.4
Scholarship/cadetship	0.3	0.3	0.2	0.4	0.3	n.a.
Paid work (including apprenticeship/traineeship)	72.8	73.0	72.6	72.2	76.3	67.7
Own business	6.6	7.5	5.7	0.9	7.2	12.7
Parents or spouse/partner	9.2	6.5	11.9	17.9	5.9	3.8
<b>Other occupation</b>						
Government allowance/pension/benefit <sup>a</sup>	2.7	2.1	4.0	2.0	2.6	3.2
Scholarship/cadetship	0.2	0.2	0.4	n.a.	0.3	0.1
Paid work (including apprenticeship/traineeship)	70.9	69.8	73.7	81.5	73.2	63.8
Own business	19.2	21.8	12.7	3.0	18.0	26.4
Parents or spouse/partner	3.1	1.8	6.5	8.6	2.7	2.0

Notes: Survey respondents could select multiple responses to this question.

n.a = Estimate not reported as cell size < 5 respondents.

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## Employment outcomes after training

**Table 36** Module completers' employment outcomes after training, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Employed	89.7	90.0	89.4	83.8	92.2	92.3
Not employed <sup>a</sup>	10.3	10.0	10.6	16.2	7.8	7.7
Unemployed	5.1	5.8	4.5	9.4	3.4	3.1
Not in the labour force/not employed	5.2	4.3	6.1	6.8	4.4	4.6
Employed in first full-time job after training <sup>b</sup>	17.0	19.7	14.4	16.7	18.0	16.0
<b>Pre and post-training occupation</b>						
Movement to a higher skill level	15.2	15.3	15.2	26.0	12.5	7.7
Movement to a lower skill level	3.8	3.6	4.0	5.2	3.6	2.8
No change in skill level	81.0	81.2	80.8	68.9	83.9	89.5
Employed or in further study after training <sup>b, c</sup>	91.0	91.1	91.0	86.4	93.1	92.6
<b>Other occupation</b>						
Employed	94.8	95.6	92.7	90.0	95.6	95.1
Not employed <sup>a</sup>	5.2	4.4	7.3	10.0	4.4	4.9
Unemployed	2.5	2.7	2.0	6.4	2.0	2.0
Not in the labour force	2.8	1.7	5.3	3.6	2.4	2.9
Employed in first full-time job after training <sup>b</sup>	22.0	24.5	15.7	28.6	21.3	21.2
<b>Pre and post-training occupation</b>						
Movement to a higher skill level	1.6	1.5	1.7	2.5	1.9	0.8
Movement to a lower skill level	7.7	6.3	11.3	20.5	7.3	4.8
No change in skill level	90.7	92.2	87.0	77.0	90.8	94.4
Employed or in further study after training <sup>b, c</sup>	95.1	95.8	93.2	90.7	95.9	95.4

Notes: a 'Not employed' is defined as unemployed (looking for full-time or part-time work), not in the labour force, or not employed (no further information).

b These questions are not asked of students from community education providers. Therefore, the percentage reported represents the proportion of module completers excluding those from community education providers.

c For module completers, the only further study included is university study as, by definition, module completers have left the VET system.

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## Characteristics of employment after training

Table 37 Characteristics of module completers' employment after training by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Full-time	61.0	75.7	46.6	47.3	70.6	61.9
Part-time	39.0	24.3	53.4	52.7	29.4	38.2
<b>Employment status</b>						
Permanent	59.3	61.2	57.4	43.6	67.4	63.6
Casual	32.2	28.8	35.6	54.0	23.6	21.3
Employee (other)	0.4	0.3*	0.4*	0.3*	0.4*	0.5*
Employer	2.6	2.8	2.5	n.a.	2.7	5.4
Self-employed	5.5	6.9	4.1	2.0	5.9	9.1
<b>Other occupation</b>						
Full-time	82.6	89.7	64.3	76.3	86.5	78.9
Part-time	17.4	10.3	35.7	23.7	13.5	21.1
<b>Employment status</b>						
Permanent	66.1	64.7	69.8	66.4	68.9	61.3
Casual	12.4	10.9	16.3	26.3	10.3	11.4
Employee (other)	0.3*	0.4*	n.a.	n.a.	0.3*	0.5*
Employer	9.2	10.7	5.4	2.6*	9.0	11.5
Self-employed	11.9	13.4	8.2	4.6*	11.5	15.3

Notes: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.  
n.a. Estimate not available as cell size less than 5 respondents.

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## Reasons for undertaking training and satisfaction with training

**Table 38** Module completers' reasons for undertaking training and satisfaction with training outcomes by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Reasons for undertaking the training						
Employment-related	75.5	77.4	73.7	70.5	79.6	75.9
Further study	3.5	3.0	4.0	7.5	2.0	1.1*
Personal/other	21.0	19.6	22.3	21.9	18.4	23.0
Satisfaction with training						
Wholly or partly achieved main reason for doing the training	79.4	80.2	78.8	73.3	80.6	84.2
Satisfied with overall quality of training (agree/strongly agree)	83.6	84.7	82.6	78.7	85.7	86.5
<b>Other occupation</b>						
Reasons for undertaking the training						
Employment-related	79.1	82.2	71.4	84.2	81.2	76.1
Further study	1.1	0.9	1.7	2.6*	1.1	0.8*
Personal/other	19.7	17.0	26.8	13.2	17.8	23.1
Satisfaction with training						
Wholly or partly achieved main reason for doing the training	89.1	90.1	86.6	80.5	89.4	91.2
Satisfied with overall quality of training (agree/strongly agree)	85.8	87.0	83.0	78.8	86.6	86.8

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

## Benefits of training

**Table 39** Benefits of undertaking training reported by module completers by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years and over
	%	%	%	%	%	%
<b>Low paid occupation</b>						
No benefits	11.1	11.6	10.6	10.6	11.1	12.0
Job-related benefits only	2.8	3.7	2.0	3.4	2.9	2.2
Personal benefits only	37.2	32.9	41.5	37.9	35.9	37.8
Job and personal benefits	48.8	51.9	45.9	48.1	50.1	48.0
<b>Other occupation</b>						
No benefits	10.7	11.1	9.8	7.8	11.0	11.2
Job-related benefits only	4.3	5.0	2.5	3.5*	4.3	4.8
Personal benefits only	34.7	32.1	41.5	30.4	34.2	36.2
Job and personal benefits	50.3	51.8	46.1	58.4	50.4	47.7

Note: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.

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## Job-related benefits of training

Table 40 Type of job-related benefits of undertaking training reported by module completers who perceived a job-related benefit, by occupation, employed 6 months before training, 2007

	All	Men	Women	15-24 years	25-44 years	45 years & older
	%	%	%	%	%	%
<b>Low paid occupation</b>						
Got a job	27.6	28.6	26.3	47.0	22.0	15.3
Was able to set up/expand my own business	9.8	10.9	8.6	5.5	11.8	12.2
Change of job	20.3	18.9	21.9	26.6	20.4	13.8
A promotion/increased status	41.8	40.6	43.2	30.6	43.3	51.6
Increase in earnings	21.8	24.6	18.6	27.1	22.0	15.7
<b>Other occupation</b>						
Got a job	12.2	12.8	10.5	32.1	11.4	6.5
Was able to set up/expand my own business	19.1	20.6	14.2	7.1*	21.7	19.9
Change of job	11.7	11.5	12.7	20.7	13.4	5.9
A promotion/increased status	52.7	51.6	56.4	47.0	49.6	59.1
Increase in earnings	15.8	16.6	13.4	29.4	16.9	9.3

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## HILDA Survey

### Work-family balance

#### Satisfaction with flexibility to balance work and non-work commitments

Table 41 Mean rating of flexibility to balance work and non-work commitments (standard deviations in parentheses), HILDA 2006

	Low paid occupation	Other occupation
Current VET student	7.12 (2.40)	7.40 (2.21)
Not current VET student		
Year 11 or lower qualification	7.50 (2.30)	7.83 (2.28)
Year 12 qualification	7.32 (2.30)	7.67 (2.29)
VET/higher Ed. qualification	7.22 (2.43)	7.39 (2.23)

### Time pressure

Table 42 Mean rating of time pressure in daily life (standard deviations in parentheses), HILDA 2006

	Low paid occupation	Other occupation
Current VET student	2.58 (0.79)	2.50 (0.87)
Not current VET student		
Year 11 or lower qualification	2.77 (0.92)	2.64 (0.88)
Year 12 qualification	2.65 (0.92)	2.51 (0.90)
VET/higher Ed. qualification	2.65 (0.88)	2.49 (0.87)

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## Work-family gains and strains

**Table 43 Mean rating of work-family strains (standard deviations in parentheses), HILDA 2006**

	Low paid occupation	Other occupation
Current VET student	2.86 (1.08)	3.33 (1.17)
Not current VET student		
Year 11 or lower qualification	3.21 (1.23)	3.39 (1.34)
Year 12 qualification	3.28 (1.22)	3.36 (1.16)
VET/higher Ed. qualification	3.47 (1.21)	3.60 (1.25)

**Table 44 Mean rating of work-family strains (standard deviations in parentheses), HILDA 2006**

	Low paid occupation	Other occupation
Current VET student	4.79 (1.31)	5.21 (0.95)
Not current VET student		
Year 11 or lower qualification	4.99 (1.13)	5.02 (1.08)
Year 12 qualification	4.94 (1.18)	5.05 (1.02)
VET/higher Ed. qualification	4.91 (1.10)	5.21 (1.08)

## Contribution to costs of training

**Table 45 Percentage of employees in low paid and other occupations who contributed to costs of training as part of employment in past 12 months by educational status, HILDA 2006**

	Low paid occupation				Other occupation			
	VET student	Yr 11	Yr 12	VET/HE	VET student	Yr 11	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
Men	28.1*	17.6*	17.8*	22.3	35.0	10.0*	13.5*	18.7
Women	17.9*	22.3	20.7	16.8	31.0*	n.a	15.4	27.6
All	21.0*	20.1	19.6	19.5	33.7	8.3*	13.9*	22.8

Notes: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.  
n.a Estimate not provided due to insufficient cell size (< 5).

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## Aims of training

**Table 46** Aims of training in low paid and other occupations by gender and educational status (all employees), HILDA 2006

	Low paid occupation				Other occupation			
	VET student	Yr 11	Yr 12	VET/HE	VET student	Yr 11	Yr 12	VET/HE
	%	%	%	%	%	%	%	%
<b>Men</b>								
Help get started in job	25.0*	16.8*	22.2*	10.7*	12.1*	n.a	13.5*	7.8
Improve skills for current job	68.8*	61.6	61.1	68.8	71.8	56.9*	69.7	71.1
Maintain professional status/meet occupational standards	46.9*	52.0	41.7	57.7	50.8	37.3*	49.4	61.4
Prepare future job/facilitate promotion	21.9*	14.4*	27.4*	29.3	48.8	19.6*	31.5*	28.1
Develop skills generally	56.3*	39.2	45.2	45.6	55.6	43.1*	59.6	51.8
Health/safety concerns	37.5*	48.8	35.6*	47.0	39.0	38.0*	19.3*	26.1
<b>Women</b>								
Help get started in job	17.6*	16.9*	15.3*	8.6*	n.a	n.a	10.3*	6.6
Improve skills for current job	59.7	62.2	67.6	72.8	71.9	70.7	72.7	77.6
Maintain professional status/meet occupational standards	54.4	49.0	52.7	39.2	57.9	64.9	55.1	64.6
Prepare future job/facilitate promotion	29.9*	23.6	27.9	20.7	36.2*	24.1*	24.4*	25.1
Develop skills generally	52.9	38.9	46.4	50.0	66.7	55.2	42.9	55.4
Health/safety concerns	35.3*	29.7	32.4	30.5	21.1*	15.5*	21.8*	17.3

Notes: \*Estimate not reliable due to small sample size (< 30) and should be used with caution.  
n.a Estimate not provided due to insufficient cell size (< 5).

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## Adult Literacy and Life Skills (ALLS) Survey

### International comparisons

Table 47 International rankings of adult literacy proficiency: Australia and six selected countries, ALLS 2006

Ranking	Country and literacy domain	Adequate or better proficiency %
<b>Prose literacy</b>		
1	Norway	65.9
2	Bermuda	61.9
3	Canada	58.1
4	Australia	56.5
5	Switzerland	47.8
6	United States	47.4
7	Italy	20.5
<b>Numerical literacy</b>		
1	Switzerland	60.7
2	Norway	59.9
3	Australia	50.3
4	Canada	50.3
5	Bermuda	45.9
6	United States	41.5
7	Italy	19.8
<b>Document literacy</b>		
1	Norway	67.6
2	Canada	57.4
3	Australia	56.5
4	Bermuda	53.8
5	Switzerland	50.9
6	United States	47.6
7	Italy	19.4
<b>Problem Solving Literacy</b>		
1	Norway	39.2
2	Switzerland	33.8
3	Australia	32.2
4	Canada	31.6
5	Bermuda	30.1
6	Italy	9.3
NA	United States	Not available

Notes: a Countries which participated in the first round of the ALLS study for which data were available at the time of release of the Australian results (ie excludes Mexico).

b Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive.

c Includes persons aged 16 to 65.

d United States did not collect data for the problem solving skills domain.

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e International response rates vary greatly affecting the reliability of the data reported here.  
Refer ABS 2006b: 70.

f Source: ABS (2006c)

## Literacy and employment status

Table 48 Measures of association between literacy proficiency and employment status, men and women, ALLS 2006

	Probabilities		Odds			
	Not employed	Employed	Not employed	Employed	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.400	0.600	0.667	1.499	2.524	
Adequate (or better) proficiency	0.209	0.791	0.264	3.782		(2.518, 2.53)
<b>Numerical Literacy</b>						
Below minimum proficiency	0.396	0.596	0.664	1.506	3.044	
Adequate (or better) proficiency	0.179	0.821	0.218	4.585		(3.037, 3.052)
<b>Document Literacy</b>						
Below minimum proficiency	0.421	0.579	0.727	1.376	3.136	
Adequate (or better) proficiency	0.188	0.812	0.232	4.317		(3.129, 3.144)
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.337	0.663	0.508	1.970	2.775	
Adequate (or better) proficiency	0.155	0.845	0.183	5.467		(2.768, 2.784)

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 49** Measures of association between literacy proficiency and employment status, men, ALLS 2006

	Probabilities		Odds			
	Not employed	Employed	Not employed	Employed	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.307	0.693	0.442	2.260	2.403	
Adequate (or better) proficiency	0.155	0.845	0.184	5.431		(2.395, 2.412)
<hr/>						
<b>Numerical Literacy</b>						
Below minimum proficiency	0.309	0.672	0.459	2.178	2.904	
Adequate (or better) proficiency	0.137	0.863	0.158	6.323		(2.893, 2.914)
<hr/>						
<b>Document Literacy</b>						
Below minimum proficiency	0.329	0.672	0.491	2.038	2.851	
Adequate (or better) proficiency	0.147	0.853	0.172	5.812		(2.842, 2.862)
<hr/>						
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.227	0.773	0.294	3.401	2.255	
Adequate (or better) proficiency	0.115	0.885	0.130	7.670		(2.245, 2.266)

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
 Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 50** Measures of association between literacy proficiency and employment status, women, ALLS 2006

	Probabilities		Odds			
	Not employed	Employed	Not employed	Employed	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.503	0.497	1.011	0.989	2.905	
Adequate (or better) proficiency	0.258	0.742	0.348	2.872		(2.896, 2.914)
<hr/>						
<b>Numerical Literacy</b>						
Below minimum proficiency	0.469	0.531	0.883	1.133	2.955	
Adequate (or better) proficiency	0.230	0.770	0.299	3.347		(2.946, 2.965)
<hr/>						
<b>Document Literacy</b>						
Below minimum proficiency	0.505	0.495	1.021	0.980	3.373	
Adequate (or better) proficiency	0.232	0.768	0.303	3.304		(3.363, 3.384)
<hr/>						
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.438	0.562	0.780	1.282	3.238	
Adequate (or better) proficiency	0.194	0.806	0.241	4.150		(3.226, 3.25)

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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## Literacy and occupational disadvantage

### Occupational status

Table 51 Measures of association between literacy proficiency and occupational status, employed men and women, ALLS 2006

	Probabilities		Odds		Odds ratio	Confidence interval (95%)
	Low paid Occupation	Other Occupation	Low paid Occupation	Other Occupation		
<b>Prose Literacy</b>						
Below minimum proficiency	0.580	0.420	1.381	0.724	1.855	(1.851 , 1.86)
Adequate (or better) proficiency	0.427	0.573	0.745	1.343		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.609	0.391	1.557	0.642	2.442	(2.436 , 2.448)
Adequate (or better) proficiency	0.389	0.611	0.638	1.568		
<b>Document Literacy</b>						
Below minimum proficiency	0.598	0.402	1.487	0.672	2.079	(2.074 , 2.084)
Adequate (or better) proficiency	0.417	0.583	0.715	1.398		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.557	0.443	1.258	0.795	2.220	(2.214 , 2.226)
Adequate (or better) proficiency	0.362	0.638	0.567	1.764		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 52 Measures of association between literacy proficiency and occupational status, employed men, ALLS 2006**

	Probabilities		Odds		Odds ratio	Confidence interval (95%)
	Low paid Occupation	Other Occupation	Low paid Occupation	Other Occupation		
<b>Prose Literacy</b>						
Below minimum proficiency	0.507	0.493	1.029	0.972	2.024	(2.017 , 2.031)
Adequate (or better) proficiency	0.337	0.663	0.508	1.967		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.534	0.466	1.145	0.873	2.408	(2.4 , 2.417)
Adequate (or better) proficiency	0.322	0.678	0.476	2.102		
<b>Document Literacy</b>						
Below minimum proficiency	0.527	0.473	1.114	0.898	2.200	(2.193 , 2.208)
Adequate (or better) proficiency	0.336	0.664	0.506	1.975		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.483	0.517	0.934	1.071	2.475	(2.467 , 2.485)
Adequate (or better) proficiency	0.274	0.726	0.377	2.652		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
 Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 53 Measures of association between literacy proficiency and occupational status, employed women, ALLS 2006**

	Probabilities		Odds		Odds ratio	Confidence interval (95%)
	Low paid Occupation	Other Occupation	Low paid Occupation	Other Occupation		
<b>Prose Literacy</b>						
Below minimum proficiency	0.691	0.309	2.240	0.446	2.068	(2.06 , 2.077)
Adequate (or better) proficiency	0.520	0.480	1.083	0.923		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.689	0.311	2.213	0.452	2.406	(2.397 , 2.415)
Adequate (or better) proficiency	0.479	0.521	0.920	1.087		
<b>Document Literacy</b>						
Below minimum proficiency	0.686	0.314	2.187	0.457	2.077	(2.069 , 2.085)
Adequate (or better) proficiency	0.513	0.487	1.053	0.950		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.652	0.348	1.872	0.534	2.211	(2.203 , 2.22)
Adequate (or better) proficiency	0.458	0.542	0.846	1.181		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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## Income

**Table 54** Measures of association between literacy proficiency and income, employed men and women, ALLS 2006

	Probabilities			Odds		
	Less than average weekly earnings	Average weekly earnings or above	Less than average weekly earnings	Average weekly earnings or above	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.651	0.349	1.865	0.536	1.911	(1.906 , 1.916)
Adequate (or better) proficiency	0.494	0.506	0.976	1.025		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.665	0.335	1.989	0.503	2.267	(2.261 , 2.273)
Adequate (or better) proficiency	0.467	0.533	0.878	1.140		
<b>Document Literacy</b>						
Below minimum proficiency	0.667	0.333	2.004	0.499	2.114	(2.108 , 2.12)
Adequate (or better) proficiency	0.487	0.513	0.948	1.055		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.618	0.382	1.616	0.619	2.024	(2.019 , 2.03)
Adequate (or better) proficiency	0.444	0.556	0.798	1.253		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
 Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 55 Measures of association between literacy proficiency and income, employed men, ALLS 2006**

	Probabilities		Odds			
	Less than average weekly earnings	Average weekly earnings or above	Less than average weekly earnings	Average weekly earnings or above	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.557	0.443	1.256	0.796	2.489	(2.481 , 2.499)
Adequate (or better) proficiency	0.335	0.665	0.504	1.982		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.555	0.445	1.248	0.801	2.399	(2.391 , 2.408)
Adequate (or better) proficiency	0.342	0.658	0.520	1.923		
<b>Document Literacy</b>						
Below minimum proficiency	0.561	0.439	1.279	0.782	2.387	(2.378 , 2.395)
Adequate (or better) proficiency	0.349	0.651	0.536	1.865		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.509	0.491	1.036	0.965	2.641	(2.631 , 2.652)
Adequate (or better) proficiency	0.282	0.718	0.392	2.550		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 56** Measures of association between literacy proficiency and income, employed women, ALLS 2006

	Probabilities		Odds			Confidence interval (95%)
	Less than average weekly earnings	Average weekly earnings or above	Less than average weekly earnings	Average weekly earnings or above	Odds ratio	
<b>Prose Literacy</b>						
Below minimum proficiency	0.798	0.202	3.952	0.253	2.012	(2.003 , 2.022)
Adequate (or better) proficiency	0.663	0.337	1.964	0.509		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.784	0.216	3.637	0.275	2.047	(2.038 , 2.056)
Adequate (or better) proficiency	0.640	0.360	1.777	0.563		
<b>Document Literacy</b>						
Below minimum proficiency	0.802	0.198	4.047	0.247	2.148	(2.138 , 2.158)
Adequate (or better) proficiency	0.653	0.347	1.884	0.531		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.760	0.240	3.166	0.316	1.899	(1.891 , 1.907)
Adequate (or better) proficiency	0.625	0.375	1.667	0.600		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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## Literacy and educational disadvantage

Table 57 Measures of association between literacy proficiency and educational attainment, men and women, ALLS 2006

	Probabilities		Odds		Odds ratio	Confidence interval (95%)
	Year 11 (and below)	Year 12 (and above)	Year 11 (and below)	Year 12 (and above)		
<b>Prose Literacy</b>						
Below minimum proficiency	0.424	0.576	0.737	1.356	3.524	(3.514 , 3.534)
Adequate (or better) proficiency	0.173	0.827	0.209	4.779	0.284	
<b>Numerical Literacy</b>						
Below minimum proficiency	0.406	0.594	0.683	1.464	3.458	(3.448 , 3.468)
Adequate (or better) proficiency	0.165	0.835	0.198	5.061	0.289	
<b>Document Literacy</b>						
Below minimum proficiency	0.425	0.575	0.741	1.350	3.486	(3.477 , 3.497)
Adequate (or better) proficiency	0.175	0.825	0.212	4.708	0.287	
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.357	0.643	0.554	1.804	3.997	(3.984 , 4.011)
Adequate (or better) proficiency	0.122	0.878	0.139	7.211	0.250	

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 58** Measures of association between literacy proficiency and educational attainment, men, ALLS 2006

	Probabilities			Odds		
	Year 11 (and below)	Year 12 (and above)	Year 11 (and below)	Year 12 (and above)	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.418	0.582	0.719	1.391	3.963	(3.948 , 3.979)
Adequate (or better) proficiency	0.154	0.846	0.181	5.512	0.252	
<b>Numerical Literacy</b>						
Below minimum proficiency	0.425	0.575	0.739	1.353	4.013	(3.998 , 4.029)
Adequate (or better) proficiency	0.156	0.844	0.184	5.428	0.249	
<b>Document Literacy</b>						
Below minimum proficiency	0.433	0.567	0.764	1.308	3.947	(3.932 , 3.963)
Adequate (or better) proficiency	0.162	0.838	0.194	5.16	0.253	
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.357	0.643	0.556	1.798	5.013	(4.988 , 5.039)
Adequate (or better) proficiency	0.100	0.900	0.111	9.012	0.199	

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 59** Measures of association between literacy proficiency and educational attainment, women, ALLS 2006

	Probabilities		Odds			Confidence interval (95%)
	Year 11 (and below)	Year 12 (and above)	Year 11 (and below)	Year 12 (and above)	Odds ratio	
<b>Prose Literacy</b>						
Below minimum proficiency	0.424	0.576	0.737	1.356	3.524	(3.181 , 3.208)
Adequate (or better) proficiency	0.173	0.827	0.209	4.779	0.284	
<b>Numerical Literacy</b>						
Below minimum proficiency	0.406	0.594	0.683	1.464	3.458	(2.893 , 2.917)
Adequate (or better) proficiency	0.165	0.835	0.198	5.061	0.289	
<b>Document Literacy</b>						
Below minimum proficiency	0.425	0.575	1.000	0.741	3.486	(3.01 , 3.036)
Adequate (or better) proficiency	0.175	0.825	1.000	0.212	0.287	
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.357	0.643	0.554	1.804	3.997	(3.01 , 3.036)
Adequate (or better) proficiency	0.122	0.878	0.139	7.211	0.250	

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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## VET participation

**Table 60** Measures of association between literacy proficiency and VET enrolment status, employed men and women, ALLS 2006

	Probabilities			Odds		
	Not Currently enrolled in VET	Currently enrolled in VET	Not currently enrolled in VET	Currently enrolled in VET	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.934	0.066	14.076	0.071	0.957	(0.952 , 0.962)
Adequate (or better) proficiency	0.936	0.064	14.708	0.068		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.928	0.072	12.959	0.077	0.814	(0.81 , 0.818)
Adequate (or better) proficiency	0.941	0.059	15.913	0.063		
<b>Document Literacy</b>						
Below minimum proficiency	0.934	0.066	14.176	0.071	0.969	(0.964 , 0.974)
Adequate (or better) proficiency	0.936	0.064	14.632	0.068		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.932	0.068	13.686	0.073	0.852	(0.848 , 0.857)
Adequate (or better) proficiency	0.941	0.059	16.054	0.062		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
 Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 61** Measures of association between literacy proficiency and VET enrolment status, employed men, ALLS 2006

	Probabilities		Odds		Odds ratio	Confidence interval (95%)
	Not Currently enrolled in VET	Currently enrolled in VET	Not currently enrolled in VET	Currently enrolled in VET		
<b>Prose Literacy</b>						
Below minimum proficiency	0.927	0.073	12.624	0.079	0.942	(0.936 , 0.948)
Adequate (or better) proficiency	0.931	0.069	13.395	0.075		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.922	0.078	11.746	0.085	0.829	(0.823 , 0.834)
Adequate (or better) proficiency	0.934	0.066	14.177	0.071		
<b>Document Literacy</b>						
Below minimum proficiency	0.928	0.072	12.970	0.077	0.990	(0.984 , 0.997)
Adequate (or better) proficiency	0.929	0.071	13.099	0.076		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.928	0.072	12.806	0.078	0.946	(0.94 , 0.952)
Adequate (or better) proficiency	0.931	0.069	13.537	0.074		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive

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**Table 62** Measures of association between literacy proficiency and VET enrolment status, employed women, ALLS 2006

	Probabilities			Odds		
	Not Currently enrolled in VET	Currently enrolled in VET	Not currently enrolled in VET	Currently enrolled in VET	Odds ratio	Confidence interval (95%)
<b>Prose Literacy</b>						
Below minimum proficiency	0.944	0.056	17.013	0.059	1.040	(1.031 , 1.048)
Adequate (or better) proficiency	0.942	0.058	16.361	0.061		
<b>Numerical Literacy</b>						
Below minimum proficiency	0.936	0.064	14.540	0.069	0.766	(0.76 , 0.772)
Adequate (or better) proficiency	0.950	0.050	18.988	0.053		
<b>Document Literacy</b>						
Below minimum proficiency	0.941	0.059	16.006	0.062	0.944	(0.936 , 0.951)
Adequate (or better) proficiency	0.944	0.056	16.959	0.059		
<b>Problem Solving Literacy</b>						
Below minimum proficiency	0.937	0.063	14.985	0.067	0.746	(0.74 , 0.752)
Adequate (or better) proficiency	0.953	0.047	20.092	0.050		

Notes: Below minimum proficiency comprises aggregation of Levels 1 and 2  
Adequate or better proficiency comprises aggregation of Levels 3 to 5, inclusive