



# Education and training divides

## Gendered skills, pathways and outcomes

TECHNICAL PAPER



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# Introduction

This technical paper serves as a companion document to [Paper 2](#). It provides more in-depth and technical information on the approach, methodology, data sources and key concepts relating to education and training divides and the analysis of data coded to the new Occupation Standard Classification for Australia (OSCA). This supplementary information aims to facilitate a deeper understanding of the results and limitations of some of the data we are using.

- As per [Paper 1](#) and [Technical Paper 1](#), we have largely used ABS Census and Person Level Integrated Data Asset (PLIDA) quantitative data in this paper, with the addition of [Australian Census Longitudinal Dataset \(ACLD\)](#) data to investigate skills divides over time. We also introduce more qualitative focus group data from our study.
- We have a stronger focus on education and training related datasets, in particular [VET National Data Asset \(VNDA\)](#) and the Jobs and Skills Australia (JSA) PLIDA project '[Skills Tracker](#)'. We continue to use the linked ATO data to investigate and offer novel analysis on post-training outcomes in relation to pay and broader economic wellbeing and occupational pathways.
- We use the Culturally and Linguistically Diverse (CALD) proxy outlined in [Technical Paper 1](#) for all CALD-related insights.

The skills mismatch, occupational pathways and Field of Education (FOE) analysis in [Paper 2](#) uses PLIDA data to track the occupational pathways and outcomes of graduates three years post training across three cohorts and three different time periods.

- These are VET and higher education students' completions in 2015, 2016 and 2017 and the corresponding 3 years post study occupation outcome and median income are aggregated together to maximise the sample size.
- The 2015 graduates' completion data were link to their post 3 years (FY2018-19) ATO data; The 2016 completers link to their 2019-20 Individual Tax Return (ITR) data and the 2018 completers link to their 2021-22 ITR data.
- There are some limitations in this PLIDA data—the inability to determine whether individuals pursued further study after their initial qualification or had a higher-level qualification before this study commenced.
- The higher education graduate data is also limited to students who had a Commonwealth Supported Place (CSP) but this is a large proportion of graduates. We discuss these caveats in more detail in each section below.

Broader study approaches, key concepts and key data challenges can be found in our [Consultation Paper](#) and [Technical Paper 1](#).

# Part 1 Technical detail: choices, skills mismatches and outcomes

## Gendered divides across education and training choices

The Study has analysed the VET enrolments of the top growing occupations outlined in [Paper 1](#). We did this to compare the gender divides in the occupation pathway with the corresponding pipeline from VET enrolments in 2023. To do this, the gender segregation intensity of the 2023 VET enrolments was compared to the existing gender segregation intensity of the intended Australian and New Zealand Standard Classification of occupations (ANZSCO) 4-digit occupation that is used by the National Centre for Vocational Education and Research.

Where the gender segregation intensity of the VET enrolments was at a lower gender segregation compared to the occupation, the segregation change was marked as lessening segregation, and vice versa. Of the top 20 largest employing occupations, only four occupations VET pipelines had a lower gender segregation intensity than the occupation's gender segregation intensity (which would suggest the potential for the occupation to become more gender balanced, as a more gender balanced group of people leave the VET pipeline and enter the occupation).

## Methodology: gendered divides across skills mismatches

To explore skill mismatch, we compared qualifications and occupations across established classification systems, using integrated data from the Person Level Integrated Data Asset (PLIDA) data. The primary classifications used included the [Australian Qualifications Framework](#) (AQF), and the [Australian and New Zealand Standard Classification of Occupations \(ANZSCO\) Skill Level](#).

The AQF defines 10 levels of educational attainment, ranging from Certificate I (Level 1) through to Doctoral Degree (Level 10). These levels describe the depth of knowledge, skills, and application of learning across the education system.

By contrast, ANZSCO classifies jobs into five broad skill levels. Occupations at higher skill levels usually demand more specialised knowledge, longer training, and greater prior experience. These levels reflect both the formal education and/or experience typically required and align to an ANZSCO 4-digit occupation. This common mapping was used for the analysis for total graduates and the cohorts of CALD and people with disability.

First Nations data in the analysis was conducted at a 3-digit ANZSCO occupation due to the smaller workforce size. As 3-digit occupations do not always map cleanly to a single skill level, data was extracted from TableBuilder by 3-digit occupation and skill level for First Nations individuals, including workforce counts for each combination. Where a 3-digit occupation appeared against more than one skill level, the skill level associated with the larger workforce was assigned to that occupation for this analysis. This approach provided a single prevailing skill level for each 3-digit occupation in the First Nations dataset, and results should be interpreted as reflecting the dominant skill level within each occupation at that level of aggregation.

To align the formal education of the AQF level and skill competency required in the ANZSCO occupation, the ABS AQF-to-ANZSCO concordance was used. As the AQF has 10 levels while ANZSCO has five levels, this alignment is not one-to one and requires grouping. The most notable for the analysis were AQF levels 7 to 10 condensed into 7+, which align with ANZSCO Skill Level 1.

The main consideration in understanding the AQF to ANZSCO mapping used in the analysis is that ANZSCO acknowledges both AQF Level and experience—whereas the analysis in [Paper 2](#) is derived only from the AQF level and excludes the experience element of individuals. For this reason, the AQF ANZSCO Skill Level concordance presented in Table 1 assigns the AQF level to the lowest ANZSCO Skill Level used in the classification. For example, the ABS aligns AQF 3 (Certificate III) with ANZSCO Skill Level 4, or with at least two years of on-the-job training ANZSCO Skill Level 3. Table 1 categorises it in line with ANZSCO Skill Level 4, the lower skill level, to ensure the analysis does not over represent skills mismatching.

**Table 1: AQF ANZSCO Skill Level concordance**

ANZSCO Skill Level	AQF Skill Level/s	Qualification (LOE)
1	7+	Bachelor Degree or higher
2	5 and 6	Diploma, Advanced Diploma and Associated Degree
3	4	Certificate IV
4	2 and 3	Certificate II and III
5	1	Certificate I

Source: ABS ANZSCO Skill Level to AQF type

For the analysis, we used PLIDA data, which tracks the outcomes of recent graduates from 2015-17 and their occupation three years later.

- The PLIDA data captures the majority of students who completed a qualification through Vocational Education and Training (VET) - which covers AQF Levels 1 through 4. AQF 5 and 6 qualifications are more nuanced as these courses are provided by both VET and higher education institutions.
- The higher education data in PLIDA captures individuals who completed a course with a Commonwealth Supported Place (CSP)—therefore some AQF 5 and 6, and all of AQF 7+ qualifications are limited to CSP graduates only.

The skills mismatch analysis references skill level matching as alignment between the AQF and ANZSCO Skill Level or above. Therefore, if a person is working in an occupation at the skill level equal to or above their qualification level, they are considered to have a skill level match. For this reason, some tables in [Paper 2](#) exclude ANZSCO Skill Level 5 as 100% of people who work at this level or above are matched to their completed AQF 1.

In exploring skill matching with the PLIDA data, there are some key caveats to consider for the analysis:

- The AQF Level data does not necessarily represent the person's most recent qualification nor their highest qualification level (the data only represents a persons completed AQF Level at a point in time). Therefore, as the data is unable to identify whether a person went on to complete further qualifications or already had higher

qualifications to be in their current job—individuals working in an occupation above their completed AQF Skill Level could not be explored in the analysis. Due to this limitation in the data, individuals working at or above skill level are considered skill matched.

- PLIDA data only covers CSP students for higher education. This has several implications for interpretation for AQF 5-10 as an estimated 76% commencing domestic students in 2023 were commonwealth funded so not all graduates are represented in the analysis. (DESE 2020).
- This also excludes international students who are not eligible for CSP.

As the data reflects the outcomes of domestic CSP students, it does not fully capture the breadth of graduate pathways across the entire higher education system. It also does not capture post-graduate pathways. However, the PLIDA linkage rate was above 90% for domestic CSP and the overall linkage quality was high (DESE 2020).

Future analyses could disaggregate higher qualifications (AQF 8-10) to provide greater precision in how advanced tertiary education aligns with occupational skill outcomes. This would help clarify whether graduates are transitioning into roles that fully utilise their specialised knowledge, or whether mismatches persist between qualification and occupational skill level.

In parallel, it may be valuable to examine cases of underqualification—where individuals occupy roles requiring higher skill levels than their formal qualifications suggest. Identifying such patterns could reveal important dynamics in labour market access and progression across genders and cohorts—further exploring gender bias.

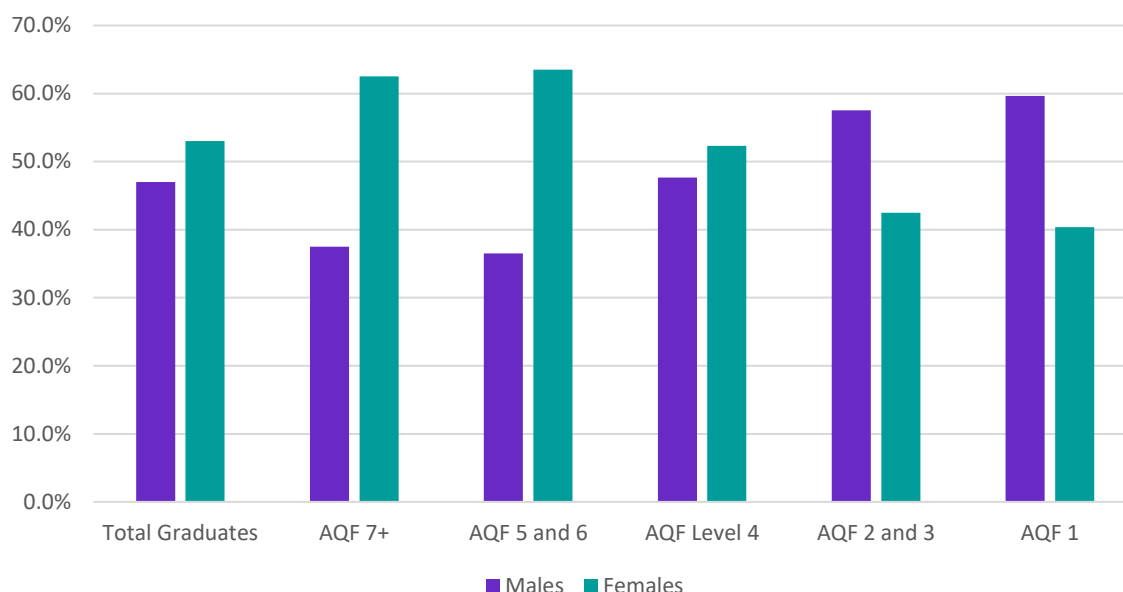
Moreover, these patterns may intersect with other demographics such as age, location or socioeconomic background, suggesting the value of further intersectional analysis in the future.

## **Broader context of graduate trends by AQF Level completions by gender and cohort**

Analysing the link between the AQF Level of qualification and the ANZSCO Skill Level of the subsequent occupation of graduates three years post-completion is used for determining potential skills mismatches. Figure 4 in [Paper 2](#) shows females made up 53% of all graduates and were significantly more likely than males to attain a AQF 4 qualification or above (68% of total females compared to 51% of total males). With AQF 7+ qualifications (higher education qualifications), females were around 25 percentage points higher than males

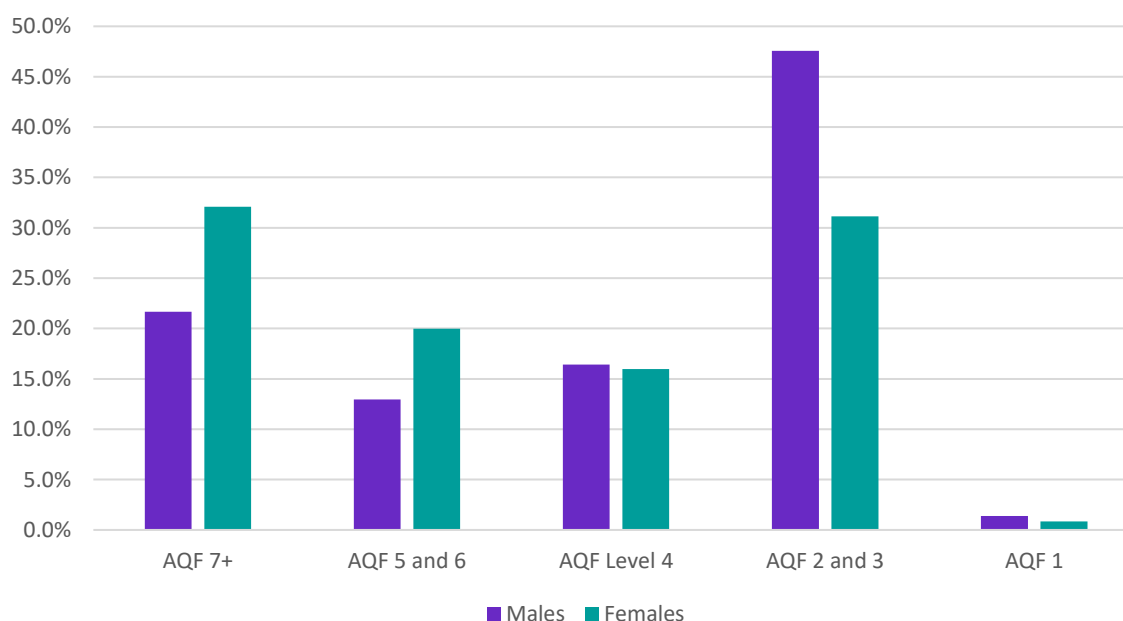
Figure 1 shows that for males, AQF 2 and 3 were the most common qualifications (at 48%), and for women a qualification at AQF 7+ was most common (at 32%); a notable difference at the AQF 7+ level, is that only 22% of all males have a qualification at AQF 7+, 10 percentage points lower than females.

**Figure 1: Share of total graduates and AQF Level completions by gender (%)**



Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab. Findings based on use of PLIDA data.

**Figure 2: Distribution of AQF Level completions for Males and Females (%)**



Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab. Findings based on use of PLIDA data.

There are also completion trends by AQF level for CALD, First Nations and persons with disability. The following table presents the AQF Levels of total graduates and by cohort for reference on the skill level potential of each group. The AQF 2 and 3 was the most common level for Total Graduates, and First Nations. As noted in [Paper 2](#), an AQF 7+ was almost exclusively the AQF level qualification for people with disability at 91%. For CALD, it was the most common level at 35%, and was the second most common level for total graduates at 27%.

For people with disability this skews the level of skills mismatch below the AQF 7+ due to lower sample size. With 91% of the sample concentrated in qualification levels at AQF7+, the mismatch rates at the other levels are especially sensitive to small variations.

The most common AQF level for First Nations people was AQF 2 and 3, with more than one in every two First Nations graduates at this level and three in every four First Nations graduates graduating with AQF 1 to 4 qualifications.

**Table 2: Share of total graduates and cohorts at AQF Levels (%)**

AQF Level/s	Total Graduates	CALD	People with disability	First Nations
7+	27%	35%	91%	15%
5 and 6	17%	23%	2%	12%
4	16%	12%	1%	13%
2 and 3	39%	30%	5%	59%
1	1%	1%	0%	1%

Source: Person Level Integrated Data Asset (PLIDA), ABS DataLab. Findings based on use of PLIDA data

There are some unique considerations to consider for the AQF Levels 5 and 6 data. Further analysis found some instances where an individual's occupation was a professional Skill Level 1 role—indicating that some individuals had received a 'partial' completion at AQF 5 or 6 before completing an AQF 7+ education pathway (i.e. Around 1 in 6 female registered nurses had an AQF 5 or 6 qualification). Therefore, the relatively low completions and skill match rate (54%) for AQF 5 and 6 could be influenced by some individuals having only partially completed their intended education pathway - which would skew the mismatches towards people working below their intended Skill Level while they complete their studies. Additionally, AQF 5 and 6 qualifications spans both VET and higher education sectors, with the graduate representation biased towards VET completions, which may further influence the results at this level.

## Gendered skills mismatches across the Top 10 areas of study

To deepen the analysis of skills mismatch trends, this section introduces an additional classification—the [Australian Standard Classification of Education \(ASCED\) Field of Education \(FOE\)](#). The FOEs categorise areas of study comprising of 12 fields such as Engineering, Health, Management and commerce, and Creative arts— and 71 narrow FOEs (which were explored for the analysis). Similar to occupational classifications, FOEs are hierarchically structured, allowing for more granular analysis. For instance, the broad FOE of Health is disaggregated into narrow FOEs like Nursing, Medical Studies and Pharmacy. This paper focuses on narrow FOEs to enable more nuanced insights into gendered skill matching trends and occupational pathways, using PLIDA data.

The analysis in [Paper 2](#) explores the top 10 most common FOEs based on 2015-17 CSP counts. These FOEs are examined across gender, CALD and people with disability cohorts to provide insights into skills matching outcomes for graduates in Skill Level 1 occupations and with AQF 7+ qualifications.

The top 10 most common FOEs are presented by gender split, with counts (compared to percentages in [Paper 2](#)) at the AQF 7+ Level. The second set of tables for total graduates, CALD and people with disability presents additional analysis of the proportion of individuals

with a AQF7+ qualification in each FOE who are working in occupations in each of the five ANZSCO Skill Levels. The key findings were:

- Overall, for total graduates and the cohorts, specialist FOEs such as Teacher Education and Nursing had higher rates of skill matching for total students and across all cohorts. Whereas more broader fields such as Business and Management and Communication and Media studies saw fewer Skill Level 1 outcomes and a broader distribution across all Skill Levels.
- For total graduates, 1 in every 5 female Business and Management graduates was employed in a Skill Level 4 or 5 job, slightly more than males. And around 1 in every 4 female graduates in Communication and Media studies was employed in a Skill Level 4 or 5 job, slightly less than males. These numbers were similar across the cohorts.
- Around 1 in 4 individuals that graduated at AQF 7+ did so in Teacher Education or Business and Management - with both reporting a lower conversion of graduates to Skill Level 1 occupations for females compared to males, across total graduates, CALD, and people with disability.

**Table 3: Occupation skill level outcome for those who attained an AQ7 or above—all graduates**

Top 10 FOEs by completion counts	Total	Female share (%)	Male share (%)	Segregation Intensity
Teacher Education	48,650	77%	23%	Highly female dominated
Business and Management	39,600	50%	50%	Gender balanced
Nursing	34,960	90%	10%	Highly female dominated
Law	14,830	61%	39%	Moderately female dominated
Rehabilitation Therapies	11,570	76%	24%	Highly female dominated
Communication and Media Studies	11,370	65%	35%	Moderately female dominated
Behavioural Science	10,260	80%	20%	Highly female dominated
Other Health	9,800	62%	38%	Moderately female dominated
Human Welfare Studies and Services	9,420	87%	13%	Highly female dominated
Other Natural and Physical Sciences	8,600	56%	44%	Gender balanced

Source: Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab. Findings based on use of PLIDA data.

**Table 4: Occupation skill level outcome for those who attained an AQ7 or above by field of education—  
All graduates**

Top 10 FOEs by completion counts	Skill level 1		Skill level 2		Skill level 3		Skill level 4		Skill level 5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Teacher Education	89%	93%	2%	2%	5%	1%	3%	3%	1%	1%
Business and Management	57%	63%	18%	13%	5%	7%	15%	13%	5%	4%
Nursing	93%	92%	3%	5%	0%	0%	3%	3%	1%	0%
Law	78%	79%	11%	9%	5%	6%	5%	5%	1%	1%
Rehabilitation Therapies	95%	95%	2%	1%	0%	0%	3%	3%	0%	1%
Communication and Media Studies	60%	51%	11%	10%	3%	8%	17%	17%	9%	14%
Behavioural Science	64%	61%	17%	18%	2%	1%	13%	13%	4%	7%
Other Health	45%	29%	35%	44%	2%	6%	14%	15%	4%	6%
Human Welfare Studies and Services	72%	69%	17%	24%	2%	0%	8%	6%	1%	1%
Other Natural and Physical Sciences	55%	61%	21%	16%	2%	2%	15%	12%	7%	9%

Source: Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab.  
Findings based on use of PLIDA data.

**Table 5: Occupation skill level outcome for those who attained an AQ7 or above—CALD**

Top ten FOEs by completion counts	Total	Female share (%)	Male share (%)	Segregation Intensity
Business and Management	9,420	49%	51%	Gender balanced
Nursing	8,300	83%	17%	Highly female dominated
Teacher Education	5,410	82%	18%	Highly female dominated
Law	3,280	62%	38%	Moderately female dominated
Management and Commerce	3,030	58%	42%	Gender balanced
Medical Studies	2,190	50%	50%	Gender balanced
Accounting	1,970	60%	40%	Gender balanced
Pharmacy	1,950	68%	32%	Moderately female dominated
Other Natural and Physical Sciences	1,700	65%	35%	Moderately female dominated
Rehabilitation Therapies	1,480	70%	30%	Moderately female dominated

Source: Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab.  
Findings based on use of PLIDA data.

**Table 6: Occupation skill level outcome for those who attained an AQ7 or above by field of education—CALD**

Top 10 FOEs by completion counts	Skill level 1		Skill level 2		Skill level 3		Skill level 4		Skill level 5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Business and Management	55%	62%	16%	13%	6%	6%	18%	14%	5%	5%
Nursing	91%	93%	2%	2%	0%	0%	7%	5%	0%	0%
Teacher Education	85%	100%	2%	0%	9%	0%	3%	0%	1%	0%
Law	76%	79%	12%	9%	5%	6%	6%	5%	1%	1%
Management and Commerce	69%	74%	8%	7%	7%	9%	13%	8%	3%	2%
Medical Studies	98%	100%	2%	0%	0%	0%	0%	0%	0%	0%
Accounting	68%	72%	5%	3%	5%	6%	19%	15%	3%	4%
Pharmacy	94%	92%	1%	2%	0%	0%	5%	6%	0%	0%
Other natural and Physical Sciences	60%	68%	23%	17%	1%	0%	9%	10%	7%	5%
Rehabilitation Therapies	98%	100%	1%	0%	0%	0%	1%	0%	0%	0%

Source: Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab. Findings based on use of PLIDA data.

**Table 7: Occupation skill level outcome for those who attained an AQ7 or above—People with disability**

Top10 FOEs by completion counts	Total	Female share (%)	Male share (%)	Segregation Intensity
Teacher Education	27,650	76%	24%	Highly female dominated
Business and Management	27,090	50%	50%	Gender balanced
Nursing	21,520	89%	11%	Highly female dominated
Law	9,990	62%	38%	Moderately female dominated
Rehabilitation Therapies	8,160	77%	23%	Highly female dominated
Communication and Media Studies	7,310	68%	32%	Moderately female dominated
Management and Commerce	6,310	50%	50%	Gender balanced
Behavioural Science	6,230	81%	19%	Highly female dominated
Human Welfare Studies and Services	5,600	87%	13%	Highly female dominated
Medical Studies	5,560	54%	46%	Gender balanced

Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab. Findings based on use of PLIDA data.

**Table 8: Occupation skill level outcome for those who attained an AQ7 or above by field of education—  
People with disability**

Top 10 FOEs by completion counts	Skill level 1		Skill level 2		Skill level 3		Skill level 4		Skill level 5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Teacher Education	90%	95%	2%	1%	4%	1%	3%	2%	1%	1%
Business and Management	57%	63%	18%	12%	5%	7%	16%	13%	4%	5%
Nursing	94%	93%	2%	3%	0%	0%	4%	4%	0%	0%
Law	78%	81%	11%	9%	5%	6%	5%	4%	1%	0%
Rehabilitation Therapies	95%	96%	2%	1%	0%	0%	2%	2%	1%	1%
Communication and Media Studies	62%	58%	11%	10%	2%	6%	17%	15%	8%	11%
Management and Commerce	68%	71%	11%	8%	6%	9%	12%	9%	3%	3%
Behavioural Science	66%	63%	17%	20%	2%	1%	12%	11%	3%	5%
Human Welfare Studies and Services	73%	71%	17%	25%	2%	0%	7%	4%	1%	0%
Medical Studies	99%	100%	1%	0%	0%	0%	0%	0%	0%	0%

Source: Person Level Integrated Data Asset (PLIDA), 2002-22, VET National Data Asset, ABS DataLab. Findings based on use of PLIDA data.

## Methodology: gendered divides in education and training outcomes

### ABS Australian Census Longitudinal Dataset (2011-2016-2021)

Longitudinal data as provided by the Australian Census Longitudinal Dataset (ACLD) refers to information at the individual level reported in successive censuses. Longitudinal (or panel) surveys typically collect information from the same sample of persons, households or other entities at regular time intervals.

In the ACLD, a longitudinal data set has been recreated through taking records from a 5% sample of the 2006 Census and bringing them together with corresponding records from the 2011 Census, 2016 Census and 2021 Census, using data linkage techniques without name and address (which are not retained between Censuses). Four waves of data have so far contributed to the ACLD from the 2006 Census (wave 1), 2011 Census (wave 2), 2016 Census (wave 3) and 2021 Census (wave 4).

It is important to note that any estimates produced from this dataset are weighted. Weighting is the process of adjusting a sample to infer results for the population in question. To achieve this, a 'weight' is allocated to each sample unit—in this instance, persons. The weight can be considered an indication of how many people in a given population are represented by each person in the sample. Weights were created for linked records in the ACLD to enable longitudinal population estimates.

In this analysis we produced insights by gender, First Nations status and migrants born in Main English-Speaking Countries (MESC) compared to migrants born in Other Than Main English-Speaking Countries (OTMESC). See Table 9 below.

For the First Nations cohort, despite the small sample size, aggregated income analysis is still provided. However, given some very small sample size counts, First Nations analysis at very disaggregated levels (by educational attainment and labour market outcomes (labour force status) longitudinally over time specifically) was not robust enough to produce any reliable results.

### Use of MESC/OTMESC variables

The ABS Census variables Country of Birth of Person (BPLP) is classified according to the Standard Australian Classification of Countries 2016 (SACC). Subsequent countries are further split into persons who are born in 'main English-speaking countries' (MESC) and those who are not (OTMESC), see Table 9 below.

**Table 9: List of Main English-Speaking Countries (MESC)**

SACC	Country name
1201	New Zealand
1102	Norfolk Island
1199	Australian External Territories, nec
8102	Canada
8104	United States of America
9225	South Africa
2102	England
2103	Isle of Man
2104	Northern Ireland
2105	Scotland
2106	Wales
2107	Guernsey
2108	Jersey
2201	Ireland

Note: OTMESC includes all other countries not listed above sourced from the [Standard Australian Classification of Countries 2016](#).

## VET outcomes across the top 100 courses

The VET National Data Asset (VNDA) is a secure data asset that links VET data collected by the National Centre for Vocational Education Research (NCVER) with government administrative data from the Australian Taxation Office (ATO), Department of Social Services (DSS), Department of Education (DoE) and other sources within an Australian Bureau of Statistics (ABS) secure environment.

VNDA enables examination of a broad range of short-term and long-term outcomes following the completion of training. Post-training outcomes in VNDA refers to the pathways to further study, employment outcome, income uplift, progression to further study and exits from income support that post-training.

For the first time, our Study uses VNDA to understand gender differences within cohorts. Building on existing analysis, our Study highlights the intersectional outcomes for income, employment, income support exits and further study at the national level. Scope of analysis in our Study is for over 430,000 domestic, non-school students, who completed a nationally recognised VET qualification in the 2019-20 financial year. For more information on VNDA methodology and student characteristic definitions, please see the [Strong and Responsive VET Pathways Technical Paper](#), which shares the same data and methodological approach.

Employment outcome refers to the employment status in the year following completion, indicated through the presence of any employee income in 2020-21.

Median income is measured as any income earned as an employee working full-time or part-time in 2020-21, excluding income earned through self-employment or business income. Graduates without an income do not contribute to the median income calculation. This means that courses commonly leading to self-employment may under-report their income and employment outcomes. The 2025 VNDA publication will address the limitation of excluding business income, providing a more holistic view of the outcomes from student engagement in the VET sector.

Income uplift or change refers to the comparison of income one year post completion (2020-21) with employee income in the year prior to commencement of the qualification. Where students had zero income for either the pre-training or post-training income, the individual's income change was not used in calculations of the median income change.

Progression to further study refer to individuals who have commenced a VET or higher education qualification at a higher level of education in the same year (2019-20) or subsequent financial year (2020-21) following completion of a VET or Higher Education qualification.

Income support exits refer to graduates who were previously receiving government income support prior to enrolment and are then no longer receiving income support post study. Due to the impact of COVID-19 income supports, the measurement compares graduates on income support in the month of June prior to enrolment, with the month of June two years after completion in 2021-22. The income support measures included are based on the expectation that income support would reduce with skills gained in a qualification. Although this is the case, people with disability may still be eligible for the Disability Support Pension (JSA 2024) and may therefore equate to a lower income support exit rate.

## **Implications of part time and full-time working arrangements on income**

As the 2019-20 VNDA outcomes do not control for hours worked, findings on median income may be influenced by cohorts with higher proportion of part-time work. The 2025 VNDA publication will partially address this existing limitation by capturing full-time and part-time employment splits which may help to uncover differences in outcomes between student groups.

Importantly, females are more likely than males to be employed part-time (ABS 2025). Additionally, people with disability are more likely to work part-time than those without disability (ABS 2022).

## **Comparisons to the national headline figures and course median outcomes**

The study makes comparisons of cohort outcomes to the national headline figures and course median outcomes. For information on the specific data, please see the National and Cohort results, and Qualification results on the [VET National Data Asset webpage](#).

## **Spotlight on people with disability**

Of the top 10 courses with the highest proportion of completions by people with disability, five are at the Certificate II level of education, which are more likely to be associated with lower employment rates post training than courses at the Certificate III level or higher (JSA 2024).

Overall, the employment rate of VET graduates with disability post study is lower than graduates without disability across all VET courses. Since the introduction of Australia's Disability Strategy in 2021, there have been improvements in VET graduates with disability aged 15 and over who are employed post training from 52% in the 2021 baseline year to 59% in 2024 (Australian Institute of Health and Welfare 2024).

**Table 10: Top 100 VET qualifications, by highest proportion of completions by people with disability**

Qualification	Proportion of completions by people with disability (%)
Certificate II in Applied Digital Technologies	29%
Certificate II in Skills for Work and Vocational Pathways	19%
Certificate III in Information Technology	19%
Certificate III in Community Services	18%
Certificate IV in Community Services	18%
Certificate III in Business	17%
Certificate II in Animal Care	17%
Certificate II in Hospitality	17%
Certificate II in Retail Services	16%
Certificate IV in Mental Health	16%

Source: Person Level Integrated Data Asset (PLIDA), 2002-22, ABS DataLab. Findings based on use of PLIDA data.

## Higher education outcomes

The population in scope for this analysis are higher education students who completed a qualification between 2011 and 2017. This allowed for analysis to be undertaken on economic outcomes at least five years after completion.

Student's higher education data was linked to their tax data through the PLIDA dataset. There are some caveats on what students were included in this data:

- Only graduates who continuously reported above zero annual wage income post completion.
- Only graduates who completed a singular higher education field of education (i.e. not students who studied two differing fields of educations).

## Part 2 Technical detail: Gendered divides across highly gendered training and occupation pathways

### Methodology: A GSIS analysis of VET outcomes and training pathways into top growing occupations

The Study used the methodology of mapping the gender segregation intensity of occupation pathways identified for each National Training Register qualification. The ANZSCO Identifier found on the National Training Register uniquely identifies the type of occupation which an individual would be qualified for on completion of the qualification (NCVER 2023).

For example, upon completion of the Certificate III in Individual Support, individuals are qualified for the Aged or Disabled Carer ANZSCO 6-digit occupation, which is a highly female dominated occupation. The Certificate III in Fitness and Diploma of Accounting qualifications were manually mapped to Fitness Instructor and Bookkeeper due to the specificity of ANZSCO Identifiers for these respective qualifications and potential Skill Level disparity.

Of the top 100 VET qualifications, the Certificate I in Spoken and Written English, Certificate I in EAL (Access), Certificate II in Spoken and Written English, and the Certificate II in Skills for Work and Vocational Pathways do not have specific occupation pathways and gender segregation intensity mapped as they are general education accredited courses that are not occupationally specific.

### Methodology: Occupation pathways and economic outcomes by areas of study

This section we calculate shares of students' occupation outcomes and median incomes post three years study in VET and Higher Education.

We used the administrative data from VET and higher education to get the AQF and FOE of the course they studied. The AQFs are mapped based on course of study type code in the completion data. If students completed more than one qualification in a year, only the qualification with highest AQF is counted and linked to a person's Individual Tax Return data. We get the ANZSCO 4-digit and median income from an ATO individual tax return three years after they completed their qualification.

We aggregated the AQF levels (1-10) to six AQF categories (1, 2, 3, 4, 5 and 6, 7+) to reduce the risk of small cells (less than 10 counts) being suppressed by ABS confidentiality rules.

To analyse the divergence in occupation outcomes for students studied the same course (the same AQF and Narrow FOE pair), we ranked the courses by the total graduates counts and get the top occupations by the percentage of each of the cohorts (males, females, CALD males and CALD females) that entered the same occupation.

For the most common occupations destination of a FOE, occupation count ranks are based on overall counts, regardless of the AQF level. Graduates with no reported occupations are excluded from the analysis. This could include people who are not working or who have not submitted a tax return or reported all of their income as business income.

To ensure statistical robustness, a minimum threshold for the total population of each cohort by course was set to be 100. In other words, for a selected AQF and FOE pair, the number of CALD female/male graduates must be at least 100. As only 60 CALD females studied Bachelor of Computer Science, these results are suppressed from the table below as we consider population size less than 100 is not large enough to support robust analysis and inferences. All other cohorts have at least 100 graduates.

**Table 11: Graduates count for overall and CALD graduates by gender and by selected AQF and FOE**

AQF	Narrow Field of Education	Segregation Intensity	Overall count of male graduates	Overall count of female graduates	Count of CALD male graduates	Count of CALD female graduates
7+	Human Welfare Studies and Services	Highly female dominated	1,240	8,180	270	1,130
5&6	Human Welfare Studies and Services	Highly female dominated	2,910	13,800	380	1,420
4	Human Welfare Studies and Services	Highly female dominated	5,390	20,390	1,040	3,520
3	Human Welfare Studies and Services	Highly female dominated	9,140	51,560	2,830	13,340
7+	Law	Moderately female dominated	5,480	9,080	12,50	2,030
7+	Computer Science	Almost completely male dominated	2,270	200	530	60
7+	Information Systems	Highly male dominated	1,570	370	500	150

Source: Source: Person Level Integrated Data Asset (PLIDA), 2002-22, ABS DataLab. Findings based on use of PLIDA data.

## Methodology: Average time spent in job

For this section, we calculate average time spent in a job as the number of consecutive years an individual reports working in the same occupation on their tax return, using PLIDA data. A “spell” refers to a continuous period in the same occupation. At the occupation and gender level, we aggregate these spells to compute the average (in years) for males and females separately at the ANZSCO 4-digit level.

For each person there must be 10 years of observed occupations to be included in the calculation for average time in job and at the occupation and gender level of aggregation there must be sufficient data to meet ABS disclosure rules. This means 78 occupations from the 358 ANZSCO 4-digit total are suppressed and not included in the average time in job data. Due to the 'spells' business rule, several almost completely gendered occupations are among the suppressed occupations because there are not enough female or male shares.

For the 280 occupations at the ANZSCO 4-digit level with sufficient data, we measure the average time in job (in years) in the occupation for males and females over a 10-year period (2010-11 to 2021-22).

Across this sample of 280 occupations, we have 75 occupations at the gender balanced segregation intensity, 99 at the moderately male or female dominated intensity, 96 at the highly male or female dominated and 10 at the almost completely male dominated segregation intensity. We only have two occupations in the almost completely female dominated segregation intensity, so our analysis is more limited for this.

**Table 12: Count of ANZSCO 4-digit occupations by gender segregation intensity in average time in job analysis**

Segregation intensity	Count
Almost completely female dominated	2
Highly female dominated	44
Moderately female dominated	48
Gender balanced	75
Moderately male dominated	51
Highly male dominated	52
Almost completely male dominated	8
<b>Total</b>	<b>280</b>

Source: Person Level Integrated Data Asset (PLIDA), ABS DataLab. Findings based on use of PLIDA data.

# Part 3 Technical detail: New perspectives on describing jobs and recognising skills

## Defining occupations

### In Australia

**ANZSCO** is an abbreviation for Australian and New Zealand Standard Classification of Occupations. It categorises occupations. ANZSCO has five hierarchical levels - major group, sub-major group, minor group, unit group and occupation. The categories at the most detailed level of the classification are termed 'occupations'. Major Groups, the broadest level is classed as ANZSCO digit-1, and Occupations, the most detailed level; is classed as ANZSCO digit-6 (ABS 2021a). ANZSCO is currently being phased out and is being replaced by OSCA.

**OSCA** is an abbreviation for Occupational Standard Classification for Australia. The OSCA system replaced the Australian and New Zealand Standard Classification of Occupations (ANZSCO) for use in Australia (ABS 2024).

### Internationally

**ISCO** is an abbreviation for International Standard Classification of Occupations. ISCO provides a basis for international comparisons of occupation statistics between member countries and to provide a conceptual model for the development of national occupation classifications (ABS 2021b).

## Methodology: ABS Partial Coding of ABS 2021 Census data to OSCA

In collaboration with the ABS, this Study uses data from the partial coding of the ABS 2021 Census to the new Occupation Standard Classification for Australia 2024 (ABS 2024). It is important to note that only part of the Census dataset was able to be coded to OSCA at this stage. A full recode of 2021 Census data to OSCA 2024 is expected to be released to ABS Table Builder in 2026.

Some data was suppressed as part of this process for confidentiality and so sex splits were not available for all OSCA 6-digit occupations.

This process was conducted by the ABS and used to classify as many 2021 Census employed persons to OSCA 2024 as possible using a combination of automatic (index based) coding, together with assigning the OSCA code where there was a one-to-one relationship from ANZSCO to OSCA. It did not include any manual coding.

In total, 10,308,656 person records were successfully coded to OSCA 2024 using this initial approach, which is 86.3% of the 11,956,713 employed persons in the 2021 Census. This means that 1,640,521 (13.7%) persons are not yet classified onto an OSCA basis and were not available at the time of this analysis.

For the full recode of 2021 Census data to OSCA 2024 in 2026, the ABS will be using different coding methods to this partial recoding process. It is expected that results from this partial recode may vary to the full recode available next year.

## **Methodology: Recognition of leadership roles in ANZSCO/OSCA**

To identify the improved recognition of leadership roles in OSCA compared to ANZSCO, occupations that contained key leadership terms were counted under each classification. These key leadership terms included occupations containing the word 'leader', 'coordinator', 'director', 'manager', 'chief', 'head' and 'principal', as well as occupations under Major group 1 (Managers) that contained the word 'senior' and 'administrator'.

## **Methodology: Newly identified 6-digit OSCA occupations**

New occupations in OSCA were identified through the Study's manual coding of ANZSCO occupations to OSCA. This includes a combination of ANZSCO occupations that have been disaggregated to give further detail on a subset of occupations, for example School Principals in ANZSCO being disaggregated to School Principals and Assistant School Principals in OSCA, as well as ANZSCO occupations that have been rolled up and combined into a new OSCA occupation, such as Clinical Psychologist, Educational Psychologist, and Organisational Psychologist in ANZSCO being combined into the one Psychologist occupation in OSCA. New occupations also include new 'not elsewhere classified'/'nec' occupations arising from the classification structure changes between ANZSCO and OSCA.

The manual mapping of ANZSCO to OSCA was done using ANZSCO 2021, this means that 6 OSCA 6-digit occupations are classified as 'new' but were in the updated ANZSCO 2022. These occupations include Regulatory Affairs Manager, Data Analyst, Data Scientist, Supply Chain Analyst, Furniture Maker and Fire Protection Plumber.

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