

VET and higher education pathways – do outcomes differ for the same occupation? — support document

Julie Moschion Cain Polidano Daniel Fischer Melbourne Institute: Applied Economic and Social Research

This document was produced by the author(s) based on their research for the report VET and higher education pathways - do outcomes differ for the same occupation?, and is an added resource for further information. The report is available on NCVER's Portal: https://www.ncver.edu.au.

Publisher's note

The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Australian Government, state and territory governments or NCVER. Any errors and omissions are the responsibility of the author(s).

© Commonwealth of Australia, 2022



With the exception of the Commonwealth Coat of Arms, the Department's logo, any material protected by a trade mark and where otherwise noted all material presented in this document is provided under a Creative Commons Attribution 3.0 Australia http://creativecommons.org/licenses/by/3.0/au licence.

The details of the relevant licence conditions are available on the Creative Commons website (accessible using the links provided) as is the full legal code for the CC BY 3.0 AU licence http://creativecommons.org/licenses/by/3.0/legalcode>.

The Creative Commons licence conditions do not apply to all logos, graphic design, artwork and photographs. Requests and enquiries concerning other reproduction and rights should be directed to the National Centre for Vocational Education Research (NCVER).

This document should be attributed as Moschion, J, Polidano, C and Fischer, D, 2022, *VET and higher education pathways – do outcomes differ for the same occupation – support document*, Melbourne Institute: Applied Economic and Social Research, Melbourne.

This work has been produced by NCVER on behalf of the Australian Government and state and territory governments, with funding provided through the Australian Government Department of Employment and Workplace Relations.

Published by NCVER, ABN 87 007 967 311

Level 5, 60 Light Square, Adelaide, SA 5000 PO Box 8288 Station Arcade, Adelaide SA 5000, Australia

Phone +61 8 8230 8400 Email ncver@ncver.edu.au

Web <https://www.ncver.edu.au>

Follow us: Solution of the second sec

Im <https://www.linkedin.com/company/ncver>

Contents

Tables and figures	4
Tables	4
Figures	4
Introduction	5
HILDA	5
Defining education qualifications	5
Selecting occupations with a mix of VET and HE	6
Sample of analysis	6
Results	9
Descriptive analysis	9
Estimation of differences in outcomes between VET and HE pathways	14
Robustness checks	29
Reflection on the results	29
Appendix A - Other main results	30
Appendix B - Robustness check: Restricted list of control variables	70
Appendix C- Robustness check: Balanced Panel	82
Appendix D - Robustness check: Extended list of occupations	94

Tables and figures

Tables

1	Sample selection	7
2	Number of observations by occupation and qualification type	8
3	Descriptive statistics by qualification group	9
4	Drivers of qualifying with a VET, or VET and HE versus a HE qualification	11
Fi	gures	
1	Difference in rates of employment by qualification type (relative to HE) among those in the same occupations (regression results)	17
2	Difference in rates of casual employment by qualification type (relative to HE) among those in the same occupations (regression results)	18
3	Difference in the usual number of hours of work per week by qualification type (relative to HE) among those in the same occupations (regression results)	19
4	Difference in rates of non-standard work schedule by qualification type (relative to HE) among those in the same occupations (regression results)	20
5	Difference in hourly gross wage by qualification type (relative to HE) among those in the same occupations (regression results)	21
6	Difference in workplace entitlements for paid maternity leave by qualification type (relative to HE) among those in the same occupations (regression results)	22
7	Difference in rates of supervisory responsibilities by qualification type (relative to HE) among those in the same occupations (regression results)	23
8	Difference in job characteristics index (weighted by factor loading) by qualification type (relative to HE) among those in the same occupations (regression results)	24
9	Difference in job satisfaction (index weighted by factor loading) by qualification type (relative to HE) among those in the same occupations (regression results)	25
10	Difference in satisfaction with work opportunities by qualification type (relative to HE) among those in the same occupations (regression results)	26
11	Difference in tenure in the occupation (years) by qualification type (relative to HE) among those in the same occupations (regression results)	27

12 Difference in tenure in the job (years) by qualification type (relative to HE) among those
in the same occupations (regression results)28

Introduction

The aim of this analysis of data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey is to compare labour market outcomes between individuals who have Vocational Education and Training (VET) qualifications only, VET and Higher Education (HE) qualifications and HE qualifications only, but who work in the same occupations. In the following, we describe:

- how we define VET vs HE education qualifications;
- how we selected a group of occupations that present a mix of qualifications;
- how we selected the sample of respondents for analysis;
- the characteristics of the sample;
- how labour market outcomes differ between the qualification groups, including how these differences evolve over time as respondents progress through their career; and
- the stability of the results to key decisions about the approach (section 6).

HILDA

The Household, Income and Labour Dynamics in Australia¹ Survey was used as the basis of analysis for this exercise as it contains data (beginning from 2001) on various aspects of a sample² of Australian's lives over time, including educational and labour market data. The longitudinal nature of the survey allows for analysis effects due to the presence of before and after information (e.g., ability to analyse what the completion of an educational qualification leads to in the labour market). This data is therefore suitable for the analysis undertaken here.

Defining education qualifications

HE and VET qualifications are defined using the number of qualifications that HILDA respondents obtained since leaving school for each level of education in the Australian Standard Classification of Education. This information is updated at each wave in HILDA. Based on this information, we are able to distinguish respondents with only VET qualifications, integrated qualifications (i.e., with both VET and HE qualifications) and only HE qualifications.

VET and higher education qualifications are distinguished following the Australian Qualifications Framework (AQF), with VET being any qualification lower than bachelor's degree.

- VET qualifications include Associate degree; Advanced diploma; Diploma; Certificate I to IV; Certificate (level unknown)
- HE qualifications include Postgraduate; Doctoral degree; Master degree; Graduate Diploma; Graduate Certificate; Bachelor Degree (incl. Honours and Pass)

Respondents are classified as "VET only" if they only have VET qualifications; "VET and HE" if they have some VET and some HE qualifications; and "HE only" if they only have HE qualifications.

¹ See https://melbourneinstitute.unimelb.edu.au/hilda

² About 17,000 Australians each year.

Selecting occupations with a mix of VET and HE

To define respondents' occupation, we use the 4-digit ANZSCO 2006 code of respondents' current main job. For respondents who are unemployed, not in the labour force or changed jobs or did not provide the occupation of their current job, we use the 4-digit ANZSCO 2006 code of respondents' previous job.

To select occupations with a mix of VET and HE qualifications, we keep 3-digit ANZSCO 2006 occupations for which we have at least 10 respondents in each qualification group (VET only, VET and HE, HE only). This restricts the sample to white-collar occupations because no blue-collar occupation has a good mix of VET and HE qualifications (all have less than 10 observations for HE and VET and HE qualification groups at the 2 and 3-digit level). As defined by the ABS, white-collar occupations include the following 1-digit ANZSCO 2006 codes: 1: Managers; 2: Professionals; 4: Community and personal service workers; 5: Clerical & administrative workers; 6: Sales workers³.

This enables us to have enough observations in each occupation group to produce robust comparisons and at the same time maintain a decent sample size overall (when we increase the number of observation requested for each group, less occupations make the threshold and the sample is reduced).

After analysis of the number of observations by occupation at the 3-digit level and qualification groups, we build two sample of occupations for analysis:

- The main sample includes occupations that have at least 10 observations in each qualification group at the 3-digit level.
- The extended sample includes extra occupations that have at least 10 observations in each qualification group at the 2-digit level (but less than 10 at the 3-digit level).

Sample of analysis

We use HILDA wave 11 (2011) as the base sample to observe respondents' occupations and qualifications (as described above).⁴ This maximises the sample size by including HILDA's top-up sample of 5,500 individuals. This also allows us to observe the evolution of the sample's outcomes for 8 years up to 2019, providing a sense of how the difference between the pathways of VET and HE qualified respondents evolve as individuals progress through their careers.

Our sample of analysis includes working age respondents, 25-56 years old in wave 11 with non-missing information on occupation and qualifications (33-64 years old in 2019). Table 1 below shows the sample sizes as restrictions are applied.

We exclude respondents with neither a VET nor HE qualification (19% of the wave 11 sample between 25 and 56 years old).

We then restrict the sample to occupations that contain a mix of workers with VET only, VET and HE, and HE only qualifications (our three qualification groups of interest), following the process described above leading to two samples of analysis:

³ Blue-collar occupations include: 3: Technicians and trades workers; 7: machinery operators and drivers; 8: labourers.

⁴ This means that respondents' belonging to the sample is defined once and for all in 2011. If respondents change occupations over time, it does not change their being part of the sample (if the sample changed over time, it would be impossible to know how much of the evolutions observed over time are actually due to variations in the sample over time rather than variations in the outcomes). However, it will affect their outcomes, e.g. tenure in occupation.

- Main sample based on 3-digit ANZSCO 2006 occupations: N = 2,723
- An extended sample based on a combination of 3-digit and 2-digit ANZSCO 2006 occupations: N = 3,745 (this will be used to test the sensitivity of the results to the inclusion of a larger set of occupations).

	Number of observations	% of base sample
Full Hilda sample	23,415	-
Wave 11 respondents	17,612	-
Age between 25 and 56 at wave 11	9,455	100
With non-missing qualification	9,449	100
With non-missing occupation	8,258	87
With a VET and or HE qualification	6,423	68
Extended sample of occupations	3,745	40
Main sample of occupations	2,723	29

Table 1 Sample selection

Source: HILDA wave 11.

Table 2 below gives the number of observations for each occupation by qualification group for our two samples.

	Number of observations by qualification ty		
	VET only	VET & higher	Higher
Occupation		education	education only
Main sample (3-digit ANZSCO)			
Chief Executives, General Managers and Legislators	25	14	46
Advertising and Sales Managers	54	21	52
Business Administration Managers	34	29	73
Construction, Distribution and Production Managers	96	16	35
Education, Health and Welfare Services Managers	11	32	31
ICT Managers	13	12	24
Miscellaneous Specialist Managers	22	14	22
Miscellaneous Hospitality, Retail and Service Managers	50	11	20
Accountants, Auditors and Company Secretaries	15	32	77
Financial Brokers and Dealers, and Investment Advisers	25	15	25
Human Resource and Training Professionals	39	18	28
Information and Organisation Professionals	26	31	80
Architects, Designers, Planners and Surveyors	32	16	38
Engineering Professionals	14	18	47
School Teachers	49	121	195
Tertiary Education Teachers	19	19	38
Health Diagnostic and Promotion Professionals	15	16	42
Midwifery and Nursing Professionals	23	48	113
Business and Systems Analysts, and Programmers	16	12	64
Social and Welfare Professionals	23	32	58
Health and Welfare Support Workers	107	21	12
Contract, Program and Project Administrators	37	21	36
Miscellaneous Clerical and Administrative Workers	53	13	20
Sales Assistants and Salespersons	131	13	23
Total	929	595	1199
Extra accurations in extended sample (2 digit ANZSCO)			
Hospitality, Retail and Service Managers	118	12	21
Arts and Media Professionals	26	11	30
Design Engineering Science and Transport Professionals	21	19	76
ICT Professionals	30	15	30
Carers and Aides	233	14	26
Inquiry Clerks and Recentionists	110	11	28
Numerical Clerks	144	17	30

Table 2 Number of observations by occupation and qualification type

Source: HILDA wave 11, respondents aged 25-56 with non-missing occupation information and a VET and/or a HE qualification.

Total

1,611

1,440

694

Results

Descriptive analysis

To describe our sample and how our respondents vary across the three qualification groups of interest, Table 3 presents the following average demographic characteristics (as at wave 11):

- gender: dummy=1 for male
- age: at 30 June 2011
- ATSI: dummy=1 for respondents who identify as Aboriginal or Torres Strait Islander
- Australia born: dummy=1 for being born in Australia
- Speaks language other than English: dummy=1 for respondents who speak another language than English
- State/Territory of residence: dummy for each State and Territory (in regressions, NSW is the reference)
- remoteness indicator: dummies for whether place of residence is a major city, inner regional, other regional or remote location (in regressions, "major city" is the reference)
- Number of children under 25 years old (including partner's resident children)
- Number of years since left Full-Time education
- Parents' highest level of education: dummies for father (resp. mother) having completed University; VET; Y12; anything below or equal to Year 11; information being missing (in regressions, "University" is the reference)
- Dummy for whether father (resp. mother) was in paid employment when respondent was 14
- Dummy for whether father was unemployed more than 6 months while respondent was growing up (note that this information does not exist for mothers)
- Father (resp. mother) Australian Socio-Economic Index (AUSEI06): this is a 0 (low status)-100 (high status) scale capturing an occupational status score from the ANZSCO occupation codes. See https://www.acer.org/au/ausei06 for more information.
- Big 5 personality traits: agreeableness, conscientiousness, emotional stability, extroversion, openness to experience measured on a 0-7 scale for each item. This was measured in wave 13.

	VET	VET and HE	HE
Male	0.492	0.387	0.470
Age	42.0	42.2	38.9
Aboriginal or Torres Strait Islander	0.023	0.008	0.009
Australian-born	0.816	0.751	0.719
Language other than English	0.079	0.131	0.169
State/Territory			
New South Wales	0.291	0.351	0.298
Victoria	0.254	0.266	0.319
Queensland	0.211	0.175	0.159

Table 3 Descriptive statistics by qualification group

South Australia	0.091	0.074	0.064
Western Australia	0.085	0.064	0.084
Tasmania	0.030	0.022	0.026
Australian Capital Territory	0.006	0.008	0.010
Northern Territory	0.031	0.040	0.040
Region			
Major city	0.661	0.736	0.829
Inner regional	0.241	0.203	0.108
Outer regional	0.088	0.042	0.054
Remote	0.010	0.018	0.008
Number of dependent children	1.05	1.04	1.07
Number of years since left full-time education	24.9	23.5	19.3
Father's highest education level			
University degree	0.117	0.287	0.333
VET degree	0.381	0.338	0.287
Year 12	0.059	0.061	0.078
Year 11 or lower	0.334	0.271	0.247
Missing	0.109	0.044	0.056
Father in paid employment when 14	0.910	0.914	0.925
Father unemployd for more than 6 months	0.096	0.099	0.114
Father occupational status			
AUSEI06 occupational status	42.5	51.5	54.3
Missing	0.051	0.049	0.050
Mother's highest education level			
University degree	0.116	0.222	0.314
VET degree	0.206	0.255	0.181
Year 12	0.090	0.104	0.089
Year 11 or lower	0.481	0.380	0.365
Missing	0.107	0.039	0.051
Mother in paid employment when 14	0.583	0.608	0.599
Mother occupational status			
AUSEI06 occupational status	33.1	42.3	45.5
Missing	0.191	0.153	0.169
Big 5			
Agreeableness	4.46	4.68	4.48
Conscientiousness	4.25	4.48	4.32
Emotional stability	4.20	4.39	4.27
Extroversion	3.67	3.82	3.61
Openness to experience	3.54	3.86	3.72
Missing	0.188	0.158	0.185
Number of observations	929	595	1,199

Interpretation example: Among respondents with a VET qualification only, 49.2% are male.

Note: Sum of categorical variables (e.g. State of residence) may not sum to 100% because of rounding.

Source: HILDA wave 11, respondents aged 25-56 with non-missing occupation information and a VET and/or a HE qualification.

The main features of the Table are that:

 Relatively more females have a combination of VET & HE qualifications: among respondents with a VET & HE qualification, 61.3% are female vs 53% for HE and 50.8% for VET). Note that our sample has more females than males suggesting that the occupations with a balance of qualifications may be more female-dominated occupations.

- Respondents with a HE qualification are on average younger (38.9 years old).
- Qualifications that include any HE (VET & HE or HE alone) have less than 1% ATSI Australians.
- Australian-born respondents and respondents without a language other than English both do more VET (respectively 81.6% and 92.1%) possibly reflecting selective migration in Australia.
- Respondents in Victoria and the ACT are over-represented in the HE qualification group, while NSW
 are over-represented in the VET and HE group and Queensland and South Australia are overrepresented in the VET group.
- Respondents from major cities are over-represented in the HE group, while respondents from inner and outer regional are over represented in VET. Perhaps surprisingly, residents in remote Australia are over represented in the VET & HE group.
- Consistently with being younger, respondents with HE qualifications have also left the education system more recently (19.3 years on average).
- There is a clear intergenerational pattern by which children are more likely to go to University if their father or mother did, and do a VET degree if their father or mother did.
- Respondents' likelihood to have a HE qualification also increases with the occupational status of their mother and father.

The characteristics presented in Table 3 are used in the regression analysis of labour market outcomes to control for the drivers of the decision between a VET and HE pathway (and may be correlated with labour market outcomes). To analyse the drivers of the decision to undertake a VET and/or HE qualification, table 4 presents regressions of these characteristics on: (i) having a VET qualification (vs the reference category of having a HE qualification; (ii) having a VET+HE qualification (vs the reference category of having a HE qualification.

		VET		VET and HE
	Coefficient	Standard errors	Coefficient	Standard errors
Male	0.048**	(0.020)	-0.049**	(0.023)
Age	-0.043***	(0.012)	-0.003	(0.014)
Age squared	0.000	(0.000)	0.000	(0.000)
Aboriginal or Torres Strait Islander	0.069	(0.080)	-0.068	(0.120)
Australian-born	-0.019	(0.026)	0.011	(0.030)
Language other than English	-0.043	(0.032)	-0.001	(0.036)
State/Territory (ref: NSW)				
Victoria	-0.059**	(0.024)	-0.087***	(0.028)
Queensland	-0.009	(0.028)	-0.048	(0.034)
South Australia	0.014	(0.039)	-0.037	(0.048)
Western Australia	-0.031	(0.036)	-0.099**	(0.042)
Tasmania	-0.154**	(0.063)	-0.271***	(0.073)
Australian Capital Territory	-0.189	(0.122)	-0.074	(0.110)
Northern Territory	-0.010	(0.055)	-0.047	(0.060)
Region (ref [.] major city)				

Table 4 Drivers of qualifying with a VET, or VET and HE versus a HE qualification

Inner regional	0.153***	(0.028)	0.151***	(0.037)
Outer regional	0.089**	(0.042)	-0.048	(0.052)
Remote	0.041	(0.094)	0.204*	(0.113)
Number of dependent children	-0.015	(0.009)	-0.023**	(0.011)
Number of years since left full-time education	0.055***	(0.004)	0.016***	(0.004)
Father's highest education level (r	ef: University degree)			
VET degree	0.072**	(0.043)	-0.072	(0.047)
Year 12	-0.013	(0.035)	-0.034	(0.038)
Year 11 or lower	0.040	(0.047)	-0.061	(0.064)
Missing	0.119**	(0.044)	-0.063	(0.055)
Father in paid employment when 14	-0.034	(0.044)	-0.063	(0.055)
Father unemployd for more than 6 months	-0.053*	(0.029)	-0.029	(0.035)
Father occupational status				
AUSEI06 occupational status	-0.002***	(0.001)	0.000	(0.001)
Missing	-0.167***	(0.061)	-0.048	(0.075)
Mother's highest education level (r	ef: University degree)			
VET degree	0.064**	(0.031)	0.086**	(0.035)
Year 12	0.054	(0.041)	0.080*	(0.046)
Year 11 or lower	0.001	(0.033)	0.004	(0.037)
Missing	0.092*	(0.049)	-0.013	(0.070)
Mother in paid employment when 14	0.039*	(0.023)	0.032	(0.027)
Mother occupational status				
AUSEI06 occupational status	-0.003***	(0.001)	-0.001	(0.001)
Missing	-0.108***	(0.038)	-0.033	(0.048)
Big 5				
Agreeableness	0.009	(0.014)	0.008	(0.016)
Conscientiousness	-0.017	(0.012)	-0.002	(0.013)
Emotional stability	-0.022*	(0.011)	-0.010	(0.013)
Extroversion	0.030***	(0.009)	0.018*	(0.011)
Openness to experience	-0.033***	(0.011)	0.000	(0.013)
Missing	-0.150	(0.104)	0.041	(0.122)
Number of observations	2,128		1,794	

Interpretation example: Male respondents are 5 percentage points more likely to have a VET qualification than females (reference group).

Note: Coefficients and standard errors (s.e.) reported are from OLS regressions on the type of qualification obtained by the respondent (VET; VET and HE; HE). In the second and third columns the sample is restricted to respondents with either a "VET" or a "HE" qualification; in the fourth and fifth columns the sample is restricted to respondents with either a "VET and HE" or a "HE" qualification.

Source: HILDA wave 11, respondents aged 25-56 with non-missing occupation information and a VET and/or a HE qualification. * indicates significance at 10%; ** at 5% and *** at 1 %.

The regression analyses presented in Table 4 above and on outcomes in section 5 are unweighted as is standard in regression analyses. Weights can be used to extrapolate descriptive statistics to the Australian population and/or deal with non-response and attrition in the survey. Weights are not commonly used in regressions because the controls used in the regressions largely overlap with the demographic characteristics used to build weights, such that adding weights does not add additional information and results are very similar with or without weights. Weights would significantly alter estimates if they were built using variables that are relevant to both responding behaviours and the outcome of interest in the regression analysis and that these variables were uncorrelated with the control variables included in the regression analysis. In our analysis of an unbalanced panel, the appropriate Hilda weights would be the cross-sectional responding person weights calculated at each

wave. They are calculated from respondents': geographical location, labour force status, sex, age, number of adults, number of children, marital status, English language ability, and dwelling type. Our extensive list of controls is largely overlapping and includes additional controls (incl. personality traits). We also compare results using a balanced panel (to test the effect of attrition over time) finding much similar results. You can find more details about Hilda weights at:

https://melbourneinstitute.unimelb.edu.au/assets/documents/hilda-bibliography/hilda-technical-papers/htec212.pdf

The main findings from table 4 are that:

- The regression coefficients above show partial effects from multivariate models, i.e. they show how different characteristics are associated with the type of qualification all else being equal. For example, the coefficient on the State of residence is interpreted while holding the region constant, i.e. respondents in VIC are 6 percentage points less likely to have a VET qualification than respondents in NSW independently of whether they live in major cities, regional or remote locations.
- Overall, most characteristics appear to be independently related to the qualification type obtained. It
 is therefore important to control for those differences in regressions of labour market outcomes to
 reduce the differences in outcomes that are stemming from these characteristics (gender, age etc.)
 rather than true differences in outcomes stemming from differences in qualification types. It is
 important to remember that some characteristics that may affect qualifications and outcomes may
 still be unobserved and affect the results: we are only reducing this issue, not completely eliminating
 it.
- A number of associations described above disappear because of the association between the different variables (e.g. between age and number of years since leaving full-time education; or between country of birth, language spoken, State/Territory and region of residence)
- Males are more likely to qualify from VET and less likely from VET and HE qualifications than females.
- The negative age coefficient suggests that older people are less likely to hold a VET qualification than younger people. At the same time, the likelihood that someone in the sample holds a VET qualification increases with the number of years since the respondent left full-time education. This reflects the fact that HE qualifications take longer to get: among two respondents who left full-time education the same number of years ago, the eldest of the two has studied FT for longer, and is therefore less likely to have qualified from VET and more likely to have qualified HE.
- Residents of Victoria and Tasmania are less likely than residents of NSW to have any VET qualifications. But this is after accounting for the fact that residents in inner and outer regional and remote Australia are more likely to have VET or VET & HE qualifications.
- There is a clear positive and independent association between respondents' attainment of a VET qualification and their parents' attainment.
- Similarly, there is a clear negative and independent association between respondents' VET qualification attainment and their parents' occupational prestige (AUSEI06). In other words, the likelihood of VET qualification attainment is associated with their parents having less prestigious jobs.
- It also appears that extroverts are more likely to do VET or VET & HE, while respondents with higher levels of emotional stability and openness to experience are less likely to get a VET qualification.

Estimation of differences in outcomes between VET and HE pathways

To estimate differences in outcomes between individuals with a VET, VET+HE, or HE qualification within the same occupation, we run linear regressions with occupation fixed effects and individual controls. The occupation fixed effects allow us to control for all drivers of occupation choice, i.e. differences in average respondent characteristics that vary by occupation (OCC_k). For example, this includes characteristics that are not measured in HILDA, such as childhood circumstances or IQ as long as they don't vary over time. We also include individual respondent controls from Tables 3 and 4 that affect the decision to obtain a VET or HE qualification and may be correlated with outcomes ($CONTROLS_i$). Those controls are as at wave 11.

Regressions are run separately for each year from 2011 to 2019, allowing to analyse the evolution of outcomes over 9 years.

We estimate the following equation:

$$y_{ikt} = \beta_0 + \beta_1 QUAL_{1i} + \beta_2 QUAL_{2i} + \beta_3 CONTROLS_i + \sum_k \beta_{4k} OCC_k + \varepsilon_{iki}$$

Where:

 $QUAL_1=1$ for respondents who did VET, 0 for other respondents;

 $QUAL_2=1$ for those who did VET and HE, 0 for other respondents;

 OCC_k =3-digit ANZSCO 2006 occupation group (2-digit ANZSCO groups for extra occupations in the extended sample).

 ε_{ikt} = an error/residual term that includes all of the factors that affect outcomes that are not controlled for in the regression.

Standard errors are robust and clustered at the level of the occupation group.

Outcomes are measured from 2011 to 2019 using waves 11 to 19 of Hilda, following respondents from our wave 11 sample described above. Our base analysis includes any of the wave 11 sample for whom we have available information on the outcome of interest at each date. For example, if a respondent has available data for wave 16 but not for wave 15, his data is included in the analysis at wave 16 but not 15. The benefit of this approach is to keep the largest possible sample and avoid biases in results that may be relate to the specificities of respondents that answer at each wave and may relate to outcomes (e.g. conscientiousness). The downside is that our sample changes slightly from wave to wave. We run a robustness check to check that using the balanced panel (i.e. respondents who responded to each wave between 11 and 19) yields similar results.

In term of outcomes, we analyse characteristics of respondents' overall labour market history:

- Tenure in occupation (in years)
- Number of years spent unemployed and looking for work (since left full-time education)

We also analyse standard features of respondents' current labour market status and job:

- Current labour force status: dummy for being employed (main job)
- Dummy for being currently employed full-time defined as 35 hours or more per week, based on usual hours (main job)
- Current weekly gross wage (main job), deflated using CPI indices (\$A2011)

- Current hourly gross wage (main job), deflated using CPI indices (\$A2011), this allows to account for full-time vs part-time
- Usual number of hours worked per week (main job)
- Dummy for whether the respondent has more than 1 job
- Dummy for whether respondent is employed on a casual contract (vs fixed term or permanent) (main job)
- Tenure in the job (in years) (main job)
- Dummy for whether the respondent was promoted in the last year
- Dummy for whether the respondent works non-standard work schedule (days vary from week to week or from month to month) (main job)
- Dummy for whether the respondent took part in any work-related training in the past 12 months (this
 includes any structured education or training schemes, as part of one's employment the respondent
 has received)
- Dummy for whether the employer provides paid annual and sick leave (main job)
- Total number of days of paid leave taken in the past 12 months (annual leave, sick leave, maternity leave, paternity leave, bereavement, family, carers leave) (main job)
- Dummy for whether the workplace provides paid maternity leave (main job)
- Dummy for whether the workplace provides paid paternity leave (main job)
- Percent chance of voluntarily leaving job in next 12 months (main job)
- Percent chance of losing job in next 12 months (main job)
- Dummy for whether respondent has supervisory responsibilities (main job)
- Dummy for whether the respondent wants to work more hours (main job)
- Dummy for whether the respondent wants to work less hours (main job)

In addition, we analyse subjective features of respondents' current job as captured by:

- Job characteristics (main job), scale 1-7 with 1=strongly disagree; 7: strongly agree
 - Autonomy in deciding when to take a break
 - Autonomy in deciding what to do at work
 - Freedom to decide how to do own work
 - Freedom to decide when to do own work
 - My job provides me with a variety of interesting things to do
 - Job requires initiative
 - Job is complex and difficult
 - My job often requires me to learn new skills
 - I use many of my skills and abilities in my current job
 - My job requires me to do the same thing over and over again
 - My job is more stressful than I thought it'd be

- I fear that the amount of stress in my job will make me physically ill
- I don't have enough time to do everything in my job
- Has to work fast
- 4 different indices that summarise the 14 characteristics above (reversing the last 5 that are negatively correlated with others):
 - ✓ average of items
 - ✓ items weighted by factor loading in each year and standardised (this variable has a mean of 0 and std of 1)
 - ✓ average of items, standardised (this variable has a mean of 0 and std of 1)
 - \checkmark average of items for people with all items, standardised (this variable has a mean of 0 and std of 1)
- Job satisfaction (main job), scale 0-10 with 0=totally dissatisfied; 10: totally satisfied
 - With flexibility to balance work and non-work commitment
 - With pay
 - With the work
 - With job security
 - With the hours you work
 - 4 different indices that summarise the 5 characteristics above:
 - ✓ average of items
 - \checkmark items weighted by factor loading in each year and standardised (this variable has a mean of 0 and std of 1)
 - \checkmark average of items, standardised (this variable has a mean of 0 and std of 1)
 - $\checkmark~$ average of items for people with all items, standardised (this variable has a mean of 0 and std of 1)
- Overall job satisfaction (main job), scale 0-10 with 0=totally dissatisfied; 10: totally satisfied
- Satisfaction with work opportunities (in general), scale 0-10 with 0=totally dissatisfied; 10: totally satisfied

Note: when respondents do not respond to specific questions or items, the said outcome is coded as missing. Overall, HILDA doesn't have large numbers of item non-response. This means that the number of observations will vary from year to year and outcome to outcome (the number of observations reported in the figure notes is the number in the sample used for analysis: main, extended, balanced panel).

We present regression results on figures showing estimated coefficients and how these coefficients evolve as our sample grows older from 25-56 years old to 33-64 years old. Confidence intervals representing whether coefficients are significant at the 5% level are depicted with dashed vertical lines. An interpretation note is provided below each table to help interpret the magnitude of the coefficient.

The coefficients are interpretable as differences in outcomes between people with VET (resp. VET & HE) and people with HE qualifications who are in the same occupation and with similar observed characteristics (gender etc.). These are not causal effects, i.e. the effect or the impact of doing VET (vs HE) on outcomes.

The figures presented below represent the main results (figures for all other outcomes described above are shown in appendix A).

The main result shown in these figures are that within occupation, respondents with a VET qualification and respondents with VET & HE qualifications share a number of basic labour market characteristics with respondents with a HE qualification. For instance, they have similar levels of employment (Fig. 1), rates of casual employment (Fig. 2) and work the same usual number of hours / week (Fig. 3). They also have similar rates of full-time employment (Fig A1), likelihood to have more than 1 job (Fig. A2) or to have undertaken training in the past 12 months (Fig A3). They also have similar annual and sick leave entitlements (Figs. A4), take similar numbers of paid leave every year (Figs A5) and have similar estimates of their chance to lose or leave their job in the following year (Figs A6-A7).



Figure 1 Difference in rates of employment by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 1.8 percentage point more likely to be employed than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Figure 2 Difference in rates of casual employment by qualification type (relative to HE) among those in the same occupations (regression results)



Interpretation example: In 2011, individuals with VET and HE qualifications were about 0.7 percentage point less likely to be on casual contracts than those with a HE qualification only.

- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

2 ŝ ŝ 0 ŝ Т 7 -1.5 Ņ 2.5 1 ကု -3.5 VET only -VET & HE 4 2011 2013 2015 2017 2019 Year

Figure 3 Difference in the usual number of hours of work per week by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were working 0.7 hours less per week than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

The following figures show that within occupations, a number of labour market characteristics appear inferior for respondents with a VET qualification. Mostly, respondents with VET & HE qualifications do not differ from those with HE qualifications. Specifically, respondents with a VET qualification more often have non-standard work schedules (Fig. 4), have lower wages (Fig 5 & Fig A8) and lower access to paid parental leaves (Fig 6 & Fig A9). They also appear to have less opportunities for career progression in terms of supervisory responsibilities (Fig 7) and lower yearly rates of promotions, although the latter is not statistically significant at 5% (Fig A10). They have also spent more time unemployed and looking for work overall (Fig A11).



Figure 4 Difference in rates of non-standard work schedule by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 0.8 percentage point less likely to have a nonstandard work schedule as those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).



Figure 5 Difference in hourly gross wage by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were earning 3.79\$ less per hour than those with HE qualification only.

- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).



Figure 6 Difference in workplace entitlements for paid maternity leave by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 1.1 percentage point less likely to be entitled to paid maternity leave than those with a HE qualification only.

- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

Figure 7 Difference in rates of supervisory responsibilities by qualification type (relative to HE) among those in the same occupations (regression results)



Interpretation example: In 2011, individuals with VET and HE qualifications were about 3.9 percentage point less likely to have supervisory responsibilities than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

Figure 8 and various figures in appendix A to this support document show that within occupations, respondents with VET qualifications, on average, hold job of lower quality than respondents with a HE qualification on a number of dimensions, while this is less true for those with VET & HE qualifications (Fig 8 & Figs A12-A14). In particular, respondents with VET qualifications tend to have jobs with less autonomy (in deciding when to take a break (Fig A15); what to do at work (Fig A16); how to do own work (Fig A17); when to do work (Fig A18)); that are less interesting (i.e. that includes less variety of interesting things to do (Fig A19); more repetition (Fig A20)) and with less opportunities for new challenges (less likely to report their job involves taking initiative (Fig A21); complex and difficult work (Fig A22); and learning of new skills Fig A23). It is worth noting that there are no differences among the three groups in terms of the extent to which they report using their skills and abilities (Fig A24) or the reported level of stress associated with their work (Fig A25 and Fig A26). And if anything, respondents with a VET qualification feel slightly less time pressure than respondents with a HE qualification (Fig A27 and A28). Consistently with the above results, we also find that those with VET qualifications are less likely to report they have flexible start / finish times as part of their workplace entitlements (Fig A 29).



Figure 8 Difference in job characteristics index (weighted by factor loading) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had jobs with characteristics that were lower by 0.03 standard deviation than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5 point level.

Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

Despite these differences, Figure 9, 10 and various figures in appendix A show that respondents with VET qualifications are not less satisfied with their jobs compared to respondents with a HE qualification (Fig 9 & Figs A30-A33). Specifically, they are as satisfied with the flexibility to balance work and non-work commitments (Fig A 34); their work (Fig A35); their job security (Fig A36) and their hours of work (Fig A37). They tend to be slightly less happy with their pay (Fig A38) and their work opportunities (Fig 10), but these differences are often insignificant. Similarly, the rate at which they report wanting more or less hours is no different to that of those with a HE qualification (Fig A39-A40).



Figure 9 Difference in job satisfaction (index weighted by factor loading) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were less satisfied with their job by 0.11 standard deviation than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).



Figure 10 Difference in satisfaction with work opportunities by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications are less satisfied with their work opportunities by around 1.7 point than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

For respondents with HE & VET qualifications, the most relevant difference we find is that they appear to have shorter tenure in the occupation than respondents with HE qualifications only (Figure 11). This may simply reflect the fact that they have previously completed both VET and HE qualifications, possibly involving some retraining and/or upskilling. However, they do not appear to have shorter tenures in their current job (Figure 12).



Figure 11 Difference in tenure in the occupation (years) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the tenure in the occupation for individuals with a VET and HE qualification was 1.6 years shorter than the tenure for those with a HE qualification only.

- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).





Interpretation example: In 2011, the tenure in the job for individuals with a VET and HE qualification was 0.7 years shorter than the tenure for those with a HE qualification only.

- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).

Robustness checks

We run a number of robustness checks on the 12 main outcomes presented above to verify that our results are independent of the choices made with respect to the list of control variables included the occupations selected in our sample and the response behaviour in over waves.

These robustness checks include:

- Restricted list of controls: we restrict controls to basic demographic characteristics gender; age; Indigenous status; country of birth; language other than English; state of residence; type of location (Results in Appendix B). This is to test how sensitive our results are to the choice of control variables and bias that may arise because we have not controlled for all differences between those who do and do not hold VET qualifications, which may also be correlated with outcomes.
- Balanced panel: this is to test whether results over time may stem from changes in the sample of respondents at every wave, i.e. whether the evolution of the estimated outcomes associated with holding qualifications over time are an artefact of differences in the rate at which VET qualification holders with certain outcomes respond to the survey over time compared with holders of HE qualifications. The advantage of the balanced panel is that the sample is constant over time but the disadvantage is that this group of people may be different from those that do not respond at every wave, in ways that are related to the outcomes (Results in Appendix C).
- Extended sample of occupations: this is to test whether the results are specific to the occupations included (Results in Appendix D).

Results for all of the above scenarios are consistent with those presented above, suggesting that the results are robust to key assumptions of the analysis.

Reflection on the results

The results suggest that labour market outcomes of respondents with VET qualifications are similar or inferior to that of respondents with HE qualifications.

Unfortunately, the HILDA data doesn't allow us to distinguish between the fields of study of VET or whether the VET study was part of an apprenticeship/traineeship or not. It is possible that those with higher-level VET courses (Diploma) or those with an apprenticeship may have different relative outcomes to those in lower level courses. Specifically, some subcategories of holders of VET qualifications may hold jobs that are closer in nature to those with HE qualifications, but quantitative analysis is not well suited to identifying those relevant subcategories and the HILDA sample too small to split the sample in different categories.

The estimates derived for this study are based on a subgroup of occupations where there is cross-over between VET and HE qualifications. It does not reflect the relative outcomes of all people who take VET and HE, only work in those specific occupations.

Finally, these comparisons are for people that are already observed in these occupations now and that they may not necessarily reflect relative trajectories of future VET and HE graduates in these cross-over occupations. One main reason is that, based on evidence above, it looks like those holding VET qualifications are performing more repetitive tasks that require less problem solving and/or innovation. With future technological change, especially the increasing adoption of A.I., more repetitive tasks are at a risk of being automated, which may impact the future employability of VET graduates relative to HE graduates in these occupations.

Appendix A – Other main results

Figure A1 Difference in rates of full-time employment by qualification type (relative to HE) among those in the same occupations (regression results)



Interpretation example: In 2011, individuals with VET and HE qualifications were about 1.1 percentage point more likely to be employed full-time than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A2 Difference in rates of having more than one job by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE were about 0.8 percentage point more likely to have more than one job than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A3 Difference in rates of training in the past 12 months by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 4.3 percentage points more likely to have received training in the past 12 months than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A4 Difference in rates of provision of paid annual and sick leave by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 1.1 percentage point less likely to have paid annual and sick leave than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A5 Difference in the number of days of paid leave in the last 12 months by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications took 1.5 days less of paid leave in the past 12 months than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A6 Difference in the chance to lose their job in the next 12 months (%) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications estimated that they were about 1 percentage point less likely to lose their job than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

10 ω 9 2 0 Ņ 4 Τ φ 1 ထု VET only _ VET & HE -10 20¹⁵ Year 2017 2019 2011 2013

Figure A7 Difference in the chance to leave their job in the next 12 months (%) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications estimated that they were about 2.1 percentage points more likely to leave their job than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.


Figure A8 Difference in weekly gross wage (main job) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were earning 167.49\$ less per week than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A9 Difference in workplace entitlements for paid paternity leave by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about as likely to be entitled to paid paternity leave as those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A10 Difference in rates of promotions in the past year by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 4.1 percentage point more likely to have been promoted in the past year than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A11 Difference in the time spent unemployed and looking for work (years) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 0.6 years longer unemployed and looking for work in their life's than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A12 Difference in job characteristics (items average) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had jobs with average characteristics that were about the same as those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A13 Difference in job characteristics (average item score, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had jobs with average characteristics that were about the same as those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.





Interpretation example: In 2011, individuals with VET and HE qualifications had jobs with average characteristics that were about the same as those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A15 Difference in the autonomy to decide when to take a break by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had around 0.16 point more autonomy in deciding when to take a break than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A16 Difference in the autonomy to decide what to do at work by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had around 0.05 point more autonomy in deciding what to do at work than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A17 Difference in the freedom to decide how to do own work by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had around 0.05 point more freedom to decide how to do their own work than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A18 Difference in the freedom to decide when to do work by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had around 0.09 point more freedom to decide when to do work than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A19 Difference in job's provision of a variety of interesting things to do by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualification had jobs providing 0.08 point less variety of interesting things to do than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A20 Difference in job's requirement to do the same thing over and over again by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had jobs with 0.11 point more requirements to do the same thing over and over again than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A21 Difference in degree of initiative required in job by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualification had jobs that required about 0.05 point less initiative than jobs of those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A22 Difference in job complexity and difficulty by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications have jobs around 0.18 point less complex or difficult than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A23 Difference in job's requirement to learn new skills by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had jobs in which requirements to learn new skills were 0.05 point lower than those with only HE qualification.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A24 Difference the use of one's skills and abilities in job by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications used their skills and abilities as often as those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A25 Difference in job being more stressful than one thought it would be by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualification had jobs with more stress than they thought to the same extent as individuals with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.





Interpretation example: In 2011, individuals with VET and HE qualification had 0.04 point higher fear that the amount of stress in their job would make them physically ill than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A27 Difference in not having enough time to do everything in one's job by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications reported very similar levels of not having enough time to do everything in their job to those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A28 Difference in having to work fast by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications had jobs with 0.2 lower levels of necessitating to work fast than those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A29 Difference in rates of entitlement for flexible start/finish times by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 0.7 percentage point less likely to be entitled with flexible start and finishing times than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A30 Difference in job satisfaction (items average) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the average job satisfaction was about 1.7 point lower for individuals with VET and HE qualifications than for those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A31 Difference in job satisfaction (average item score, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the job satisfaction (average item score, standardised) was about 1.3 point lower for individuals with VET and HE qualifications than for those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A32 Difference in job satisfaction (average item score for people with all items, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the job satisfaction was about 1.2 point lower for individuals with VET and HE qualifications than for those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure 33 Difference in overall job satisfaction by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the overall job satisfaction was about 2.1 points lower for individuals with VET and HE qualifications than for those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.





Interpretation example: In 2011, the job satisfaction with the flexibility to balance work and non-work commitment was about 0.2 point lower for individuals with VET and HE qualifications than for those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A35 Difference in job satisfaction with the work by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the job satisfaction with the work was about 1.5 point lower for individuals with VET and HE qualifications than for those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A36 Difference in job satisfaction with job security by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the job satisfaction with job security was about 2.3 point lower for individuals with VET and HE qualifications than for those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A37 Difference in job satisfaction with the hours to work by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the job satisfaction with the hours of work was about 1.3 point lower for individuals with VET and HE qualification than for those with HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A38 Difference in job satisfaction with the pay by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, the job satisfaction with the pay was about 3 points lower for individuals with VET and HE qualifications than for those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A39 Difference in rates of wanting to work more hours by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 3.3 percentage points more likely to want to work more hours than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure A40 Difference in rates of wanting to work less hours by qualification type (relative to HE) among those in the same occupations (regression results)

Interpretation example: In 2011, individuals with VET and HE qualifications were about 0.6 percentage point less likely to want to work less hours than those with a HE qualification only.

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.

Appendix B – Robustness check: Restricted list of control variables

Figure B1 Difference in rates of employment by qualification type (relative to HE) among those in the same occupations (regression results)



- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics (age, sex, Indigenous status, born in Australia, language spoken other than English, State of residence, Region of residence). Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,723).



Figure B2 Difference in rates of casual employment by qualification type (relative to HE) among those in the same occupations (regression results)

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics (age, sex, Indigenous status, born in Australia, language spoken other than English, State of residence, Region of residence). Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure B3 Difference in the usual number of hours of work per week by qualification type (relative to HE) among those in the same occupations (regression results)

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics (age, sex, Indigenous status, born in Australia, language spoken other than English, State of residence, Region of residence). Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.


Figure B4 Difference in rates of non-standard work schedule by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B5 Difference in hourly gross wage (main job) by qualification type (relative to HE) among those in the same occupations (regression results)

Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics (age, sex, Indigenous status, born in Australia, language spoken other than English, State of residence, Region of residence). Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure B6 Difference in workplace entitlements for paid maternity leave by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B7 Difference in rates of supervisory responsibilities by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B8 Difference in job characteristics (index weighted by factor loading, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B9 Difference in job satisfaction (index weighted by factor loading, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B10 Difference in satisfaction with work opportunities by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B11 Difference in tenure in the occupation (years) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure B12 Difference in tenure in the job (years) by qualification type (relative to HE) among those in the same occupations (regression results)

Appendix C- Robustness check: Balanced Panel

Figure C1 Difference in rates of employment by qualification type (relative to HE) among those in the same occupations (regression results)



- Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.
- Sample: HILDA 2011-2019, respondents aged 25-56 years old with a VET and/or HE qualification and in an occupation that contains a mix of VET and HE qualifications in 2011 (N=2,001).



Figure C2 Difference in rates of casual employment by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C3 Difference in the usual number of hours of work per week by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C4 Difference in rates of non-standard work schedule by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C5 Difference in hourly gross wage (main job) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C6 Difference in workplace entitlements for paid maternity leave by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C7 Difference in rates of supervisory responsibilities by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C8 Difference in job characteristics (index weighted by factor loading, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C9 Difference in job satisfaction (index weighted by factor loading, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C10 Difference in satisfaction with work opportunities by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C11 Difference in tenure in the occupation (years) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure C12 Difference in tenure in the job (years) by qualification type (relative to HE) among those in the same occupations (regression results)

Appendix D – Robustness check: Extended list of occupations

Figure D1 Difference in rates of employment by qualification type (relative to HE) among those in the same occupations (regression results)



Notes: The estimated coefficients are derived from regressions that compare outcomes of: (i) respondents with VET only qualifications; (ii) VET and HE qualifications to respondents with HE qualifications only (in the same regression using dummy indicators for qualification type). Those comparisons are operated within occupations (i.e. regressions include occupation fixed effects) and for respondents with the same individual characteristics as described in table 4. Regressions are run separately for each year. Dashed vertical lines denote statistical significance at the 5% level.



Figure D2 Difference in rates of casual employment by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D3 Difference in the usual number of hours of work per week by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D4 Difference in rates of non-standard work schedule by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D5 Difference in hourly gross wage (main job) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D6 Difference in workplace entitlements for paid maternity leave by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D7 Difference in rates of supervisory responsibilities by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D8 Difference in job characteristics (index weighted by factor loading, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D9 Difference in job satisfaction (index weighted by factor loading, standardised) by qualification type (relative to HE) among those in the same occupations (regression results)



Figure D10 Difference in satisfaction with work opportunities by qualification type (relative to HE) among those in the same occupations (regression results)

Figure D11 Difference in tenure in the occupation (years) by qualification type (relative to HE) among those in the same occupations (regression results)





Figure D12 Diofference in tenure in the job (years) by qualification type (relative to HE) among those in the same occupations (regression results)