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A multi-institution study of the impacts of concurrent work and study among university students in Australia

Mark Brosnan ^a, Dawn Bennett ^b, Kim Kercher ^a, Tyler Wilson ^c and Justin W.L. Keogh ^d

^aBond Business School, Bond University, Queensland, Australia; ^bOffice of the Provost, Bond University, Queensland, Australia; ^cTransformation Colab, Bond University, Queensland, Australia; ^dFaculty of Health Sciences and Medicine, Bond University, Queensland, Australia

ABSTRACT

A growing number of university students balance concurrent study and work. Previous studies highlight potential benefits including heightened career awareness alongside risks including decreased study time. This study asked to what extent paid work affects university students' self-assessment of perceived employability. The study employed an online survey with 38,458 domestic students from Australian universities; students were not working full-time. The findings suggest that full-time students who hold part-time or casual work are significantly more confident in their perceived employability, and significantly more likely to understand the relevance of their studies to their future career. Practical and theoretical implications are discussed.

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Employability; graduate outcomes; career awareness; graduate employability; study skills; self-efficacy

Introduction

Globally, a growing number of university students balance the demands of concurrent study and work. Previous studies observe that students who work part-time are motivated to work by a variety of factors, with financial necessity the most prevalent (Coates, 2015; Hall, 2010). Research also highlights potential benefits of concurrent study and work including heightened career awareness, organisational socialisation skills, and the development of professional ('soft') skills. Multiple studies have highlighted the complexity of concurrent work and study and the need to better understand students' perspectives (Bennett et al., 2023; Robotham, 2012).

The study reported here extended previous research by analysing the extent to which concurrent work and study affects university students' confidence in two indicators of perceived employability (PE):

1. *Career exploration and awareness*, measured using Lent et al.'s (2016) eight-point *decisional self-efficacy* factor; and

CONTACT Mark Brosnan  mbrosnan@bond.edu.au

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2. *Perceived relevance of study to future career*, measured using Bennett and Ananthram's (2022) four-point *study-career awareness* measure.

We begin with a review of the literature on concurrent work and study among university students, then set out the theoretical framework and approach. The results are followed with discussion and implications.

Background and context

The prevalence and rationales for part-time work

Many full-time university students undertake concurrent work and study (Oonyu, 2019). Australian higher education accounts for 42% of students aged 15–74: some 2.1 million students, most studying full-time (Australian Bureau of Statistics, 2022, May). Following a fifteen-year trend reported by Hall (2010), Norton (2021) reported the number of full-time students engaged in work in 2021 to be the highest recorded. It follows that understanding the impact of concurrent work and study has broad sectoral interest.

The rise of concurrent work and study is synchronous with changes in university funding models which place greater financial burden on individual students (Hall, 2010). Numerous studies have explored the work-study dynamic within the full-time student population in the United Kingdom (UK), with Richardson et al. (2009) concluding that part-time work was a financial necessity for most students. This finding is supported by Robotham (2013), who added that part-time work is more prevalent during the first two years of a three-year program. Similar results have been found in New Zealand (Richardson et al., 2013) and in Australia, where the primary motivation for concurrent work and study is financial need (Muldoon, 2009). This finding is consistent across 15 years of Hall's (2010) longitudinal Australian study (from 1994), which finds work experience to be the second most common motivation for work.

The impacts of part-time work

Concurrent work and study among full-time university students has the potential to be both beneficial and detrimental. Potential negative impacts include the ability to meet study commitments with reduced time to study (Robotham, 2012) and poorer academic outcomes (Neyt et al., 2019). Benefits might include increased employability confidence and the development of professional skills which enhance graduate employability (Jackson & Bridgstock, 2021).

Gbadamosi et al. (2015) explored the relationships between part-time work and self-efficacy among business students at two UK universities. The authors found study mode to be a key predictor of part-time work; they also found students engaged in part-time work to have higher career aspirations, with self-efficacy the strongest predictor. Gbadamosi et al. (2015) noted that students who did not work typically made this choice in order to focus on their studies.

In the Australasian context, the relationship between work and career aspirations is consistent with the findings of Coates' (2015) multi-institutional student survey, which found working students more likely to express higher levels of academic engagement. Jackson and Wilton (2017) explored the work-study relationship from the perspective

of work-integrated learning, looking at one UK and one Australian institution and finding that concurrent work and study had a positive influence on students' employability confidence. In trying to make sense of the disparate findings, Bennett et al. (2023) suggest a complex relationship in which factors such as motivation to work, financial status, work type and other (non-work) commitments combine to influence the benefit or otherwise of concurrent work and study.

Professional skills

University funding is increasingly linked with graduate outcomes (Jackson & Bridgstock, 2021) and there is agreement that university programs are insufficient in and of themselves to develop students' professional skills including communication, time management, problem-solving, critical thinking, collaboration, teamwork, interpersonal skills, and technological skills (Jackson, 2016; Suleman, 2018). Work-integrated learning initiatives are one example of the sector's response (Henderson & Trede, 2017).

From a career development perspective, students' perceived work readiness, self-awareness and career awareness are receiving increasing attention (Jackson, 2019). This includes students' ability to understand the relevance of their studies to the workplace, as identified by Evans et al. (2014). Robotham (2012) and Clark et al. (2015) similarly connected part-time work with enhanced self-confidence and career awareness.

Few studies have considered prior work or the perspective of employers. Among these, Bennett et al. (2023) examined university students' employability confidence based on work *prior* to starting university and found these students to report higher PE confidence than students with no work experience. Muldoon (2009) found that employers relate concurrent work and study with organisational and time management skills, reliability, and overall employability.

Research aims

The current study investigated the relationship between full-time domestic students' work status and their self-appraisal of study and career confidence (combined as PE) and extended this inquiry to multiple institutions. The research questions were as follows:

1. To what extent does concurrent work and study affect university students' confidence in relation to career exploration and awareness?
2. To what extent does concurrent work and study affect university students' understanding of the relevance of their studies to their future career?

Methodology

Theoretical framework

The study was grounded in social cognitive career theory (SCCT), which derives from Bandura's (1986) social cognitive theory (SCT) and is an established framework for understanding study and career decision-making. SCT considers the reciprocal

determinism of environmental, cognitive, and behavioural drivers. In turn, SCCT considers the social construction of career identity and decision-making, including the influences of proximal and distal factors and the role of psychological capital.

SCCT posits that study and career interests develop alongside growing confidence in activities related to interest (efficacy beliefs) and that outcome expectations are validated through expended effort such as work experience during study (Johnson & Muse, 2017). It follows that efficacy beliefs may cognitively mediate outcome expectations, career supports or barriers, and subsequent career interests and goals (Lent et al., 2016).

SCCT was also appropriate because the population was comprised of direct-entry university students. Donald et al. (2019, p. 599) describe PE at this pre-professional stage as ‘part of a life-long learning process, replacing a job for life as a mechanism for career sustainability’. As such, students’ PE, or study and career confidence, enables research on multiple aspects of study and career thinking.

Instrument

The study employed the Employability Measure, an established online self-assessment of study and career confidence grounded in SCCT (Bennett & Ananthram, 2022), which combines existing and unique scales to measure multiple facets of PE. Completion produces a personalised profile report which includes activities and developmental resources. The instrument includes open response fields and structured (Likert scale) responses. The scales, factors, and open responses specific to our study are discussed in the *dependent variables* section. Table 2 presents the descriptive statistics for the dataset.

Ethical statement

Ethical approvals were obtained before commencement (approval HRE2017-0125). The self-assessment tool was often set as a preparation task prior to a career-related class. Students received an information sheet and an assurance of anonymity, and they completed an informed consent form. Students were aware that their responses might be linked with broader institutional datasets using an established protocol. Students chose whether to include their responses in the research dataset; their decision did not affect their access to the tool or to associated supports.

Participants

Participants were domestic, full-time students who were enrolled with Australian universities and not working full-time. Data was collected from 2017 to 2022 (inclusive). Of 54,435 responses, 15,977 were excluded because they did not meet the inclusion criteria, leaving a sample of 38,458. Robustness checks were performed on the full sample and are reported later. Multiple Australian universities participated, seven of them contributing between 1,000 and 18,700 responses each. One university linked study data with student administrative records, enabling the inclusion of demographic control variables for this subset. Table 1 summarises the sample.

Table 1. Sample size.

	<i>n</i>
Total observations	54,435
Less students not studying a full-time load	(6,781)
Less students with full-time employment	(2,859)
Less non-Australian students	(6,337)
Final sample size	38,458
Observations with demographic data	12,212

Dependent variables

Based on the literature, two factors within the Employability Measure were selected for the study: ‘*career exploration and awareness*’ (Lent et al., 2016); and ‘*study-career awareness*’ (Bennett & Ananthram, 2022). The questions for each construct are included in Appendix A. Students often equate PE with their actual ability to gain and retain employment (Hogan et al., 2015). This has two opposite implications. First, an overly positive self-appraisal might lead a student to pay insufficient attention to career development learning, work experience and formal studies. In contrast, an overly negative self-appraisal might deter graduates from applying for roles and lead them to disengage. By examining the two factors alongside students’ work status, we sought to determine the potential relationship between the two.

Career exploration and awareness examines participants’ self-appraisal of how their skills and interests relate to career choice and applies Lent et al.’s (2016) eight-item *Decisional self-efficacy* scale. Reliability was tested using Cronbach’s alpha coefficient (α) and obtained $\alpha = 0.94$ (Cronbach, 1951), indicating acceptable internal consistency.

The *study-career awareness* construct measures the perceived relationship between study and career using Bennett and Ananthram’s (2022) four-item scale, which borrows two items from Jackson and Wilton’s (2016) *career management* scale (Appendix A). Reliability was tested using Cronbach’s alpha coefficient (α) and obtained $\alpha = 0.77$, indicating acceptable internal consistency.

We also examined an open response field which asks participants, ‘*Beyond your studies, what are you doing to prepare for graduate life and work?*’ The open response field was included because of its potential to add rich insights to the quantitative data. We include analysis and illustrative quotes in the discussion section of the paper.

Independent and control variables

Respondents nominated their current work status as *Full-time work*, *Part-time work*, *Casual work*, *I am not currently working*, and *Not working and have never worked*. Forty-six of the 4,435 respondents selected ‘Not working and have never worked’ and were excluded. Other control variables (Table 2) included *gender* (female, male and LGBTQ+), *study mode* (on campus, online or mixed mode), *age*, and *year* (to minimise Covid-19 related impacts). The subset of data linked to student administrative records provided control variables in the form of established equity considerations: *socioeconomic status*; *people living with a disability*; *culturally and linguistically diverse learners*; *Australian Indigenous and Torres Strait Islanders*; and *students from regional and remote areas*.

Table 2. Participant descriptive statistics.

	Sample <i>n</i> = 38,458	Demographic subset <i>n</i> = 12,212
Dependent variables		
<i>Perceived employability factors, Mean (SD)</i>		
Career exploration and awareness (0-9)	6.9 (1.4)	6.9 (1.4)
Study-career awareness (1-6)	4.9 (0.8)	5.0 (0.8)
Independent variables		
<i>Work status, n (%)</i>		
Part-time	9,367 (24.4)	2,840 (23.2)
Casual	14,034 (36.5)	4,833 (39.6)
Not working	15,057 (39.1)	4,539 (37.2)
Control variables		
<i>Study mode, n (%)</i>		
On campus	26,462 (68.8)	10,321 (84.5)
Online	4,807 (12.5)	894 (7.3)
Mixed mode	7,189 (18.7)	997 (8.2)
<i>Gender, n (%)</i>		
Female	22,117 (57.5)	7,581 (62.1)
Male	16,015 (41.6)	4,578 (37.5)
LGBTQ+	326 (0.8)	53 (0.4)
<i>Age, Mean (SD)</i>		
	21.8 (5.4)	21.5 (5.2)
<i>Year of entry, n (%)</i>		
2017	329 (0.9)	94 (0.8)
2018	4,117 (10.7)	875 (7.2)
2019	8,731 (22.7)	5,939 (48.6)
2020	12,525 (32.6)	4,384 (35.9)
2021	12,659 (32.9)	917 (7.5)
2022	97 (0.3)	3 (0.0)
Demographic control variables		
<i>Socioeconomic status (SES), n (%)</i>		
Low-SES		1,749 (14.3)
Not low-SES		8,548 (70.0)
Unknown		1,915 (15.7)
<i>Disability status, n (%)</i>		
Disability		347 (2.8)
No disability		11,865 (97.2)
<i>Indigenous status, n (%)</i>		
Indigenous		99 (0.8)
Not indigenous		10,289 (84.3)
Unknown		1,824 (14.9)
<i>English as a second language (ESL), n (%)</i>		
No		9,476 (77.6)
Yes		2,390 (19.6)
Unknown		346 (2.8)
<i>Location, n (%)</i>		
Urban		8,668 (71.0)
Regional		1,445 (11.8)
Remote		182 (1.5)
Unknown		1,917 (15.7)

The supplemental analysis examined the role of demographic variables, and gender, in predicting the likelihood a student will engage in concurrent work and study. The dichotomous dependent variable was current work status.

Data analysis

Open-source package R was employed for the statistical tests. Analysis included a series of multivariate and logistic regressions containing the dependent, independent and control (including demographic) variables. Untabulated assumption testing revealed

no significant issues with independence of observations, normality or linearity; however, the data violated the assumption of homogeneity (Levene's Test). We removed the homoscedasticity assumptions by performing a quartile regression and achieved inferentially the same results as the multivariate model. The study employed the following models to address the research questions:

$$\text{Career exploration and awareness} = \text{constant} + \text{work status} + \text{controls} + \text{error (RQ1)}$$

$$\text{Study-career awareness} = \text{constant} + \text{work status} + \text{controls} + \text{error (RQ2)}$$

In total, 36,668 participants (95%) responded to the open-text question. Content analysis enabled the compress of text into fewer categories based on explicit rules of coding and inspection for recurrent instances (Weber, 1990). Analysis began with searches for keywords informed by Suleman (2018): communication, problem-solving, critical thinking, collaboration and teamwork, and interpersonal and technological skills (Table 3). The search was not case sensitive and some terms were truncated as shown at Table 3. Finally, complete responses were read to ensure that original meanings had been maintained and to identify new themes. These are discussed later in the article.

Results

Research question analysis

In addressing the first research question, we regressed *work status* and our control variables against the independent variable *career exploration and awareness* and found a significant positive relationship between paid employment and students' career exploration and awareness. Column two of Table 4 contains the results of the multiple regression model ($F(12, 38356) = 32.59, p < .001, R^2 = .010$). We found those full-time students participating in part-time or casual work to be significantly more confident in their career-related decision-making. There was no significant difference between part-time or casual *work status*; however, non-working students reported significantly lower *career exploration and awareness* ($\beta = -0.227, p < .001$) compared to peers working part-time.

In addressing the second research question, we regressed *work status* and our control variables against the independent variable *study-career awareness* and found a significant positive relationship between paid employment and students' understanding of how their studies related to their graduate work and career. Column three of Table 4 contains the results of the multiple regression model ($F(12, 38356) = 54.82, p < .001, R^2 = .017$). We found students participating in part-time or casual work, with a full-time study load,

Table 3. Keyword search results.

Employability skill	Keyword(s) search	Instances found	% (n = 36,668)
Communication	'communicat'	1,131	3.1%
Interpersonal	'interpersonal', 'people skills'	283	0.8%
Technological	'technolog'	215	0.6%
Teamwork	'teamwork', 'team work'	134	0.4%
Problem-solving	'problem'	125	0.3%
Collaboration	'collaborat'	25	0.1%
Critical thinking	'critical'	23	0.1%

Table 4. Regression results.

Variable	Career exploration and awareness coefficient (<i>p</i> -value)	Study-career awareness coefficient (<i>p</i> -value)
Independent variable ^a		
Casual work status	−0.014 (.462)	0.019 (.071)
Not working	−0.227*** (<.001)	−0.078*** (<.001)
Gender ^a		
Male	−0.108 *** (<.001)	−0.164*** (<.001)
LGBTQ+	−0.102 (.189)	−0.297*** (<.001)
Control variables		
Study mode	Yes	Yes
Age	Yes	Yes
Year of entry	Yes	Yes
Observations	38,369	38,369
<i>R</i> squared	.010	.017
<i>F</i> statistic	32.59	54.82
<i>p</i> -value for model	<.001	<.001

^aPart-time work status and female are the base measures.

Significance. codes: *** < .001, ** < .01, * < .05

to be significantly more confident in their ability to identify and understand the alignment of their studies and graduate career. There was no significant difference between part-time or casual *work status*; however, non-working students reported significantly lower *study-career awareness* ($\beta = -0.078$, $p < .001$) compared with peers working part-time.

Robustness checks

To test robustness of the findings, we first reran the regressions including only observations with linked demographic data as controls. Shown at [Table 5](#), the results with the main effects hold constant: full-time students with paid work are significantly more confident in their career-related decisional self-efficacy and significantly more confident in their ability to identify and understand the link between their studies and their graduate career. The study's main findings were robust to the addition of demographic control variables.

Illustrated in [Table 6](#), our results were inferentially the same when tests were run with the full sample ($n = 54,435$). Part-time work and female were again the base measures. Similar to the main analysis, part-time and casual work showed no significant differences; however, non-working students rated their career exploration and awareness and study-career awareness significantly lower than peers who held part-time work. Unsurprisingly, full-time working students rated their career exploration and awareness significantly higher than part-time workers, suggesting that full-time work may already hold work related to their graduate careers and may be studying part-time to complete their qualifications.

The models' overall low R^2 , while disappointing, do not negate the importance of significant variables. The statistically significant *p*-values identify important relationships between *work status*, control variables, and our dependent variables *career exploration and awareness* and *study-career awareness*, though clearly there are other factors at play.

Table 5. Regression results including demographic controls.

Variable	Career exploration and awareness coefficient (<i>p</i> -value)	Study-career awareness coefficient (<i>p</i> -value)
Independent variable^a		
Casual work status	-0.010 (.756)	0.008 (.644)
Not working	-0.191*** (<.001)	-0.063*** (.001)
Gender^a		
Male	-0.140*** (<.001)	-0.181*** (<.001)
LGBTQ+	-0.288 (.124)	-0.451*** (<.001)
Control variables		
Study mode	Yes	Yes
Age	Yes	Yes
Year of entry	Yes	Yes
Demographic control variables		
Socioeconomic status	Yes	Yes
Disability status	Yes	Yes
Indigenous status	Yes	Yes
English as a second language	Yes	Yes
Location	Yes	Yes
Observations	12,205	12,205
<i>R</i> squared	.018	.035
<i>F</i> statistic	10.15	20.01
<i>p</i> -value for model	<.001	<.001

^aPart-time work status and female are the base measures.

Significance codes: *** < .001, ** < .01, * < .05.

Supplemental analysis – the effect of gender

Although not our focus, the effect of gender on students' self-assessed study and career confidence is a growing concern. In our main sample ($n = 38,458$), male students

Table 6. Regression results for full dataset.

Variable	Career exploration and awareness coefficient (<i>p</i> -value)	Study-career awareness coefficient (<i>p</i> -value)
Independent variable^a		
Casual work status	-0.020 (.237)	0.011 (.257)
Full-time work status	0.125*** (<.001)	0.002 (.863)
Not working	-0.205*** (<.001)	-0.065*** (<.001)
Gender^a		
Male	-0.098*** (<.001)	-0.164*** (<.001)
LGBTQ+	-0.108 (.113)	-0.306*** (<.001)
Control variables		
Study mode	Yes	Yes
Age	Yes	Yes
Year of entry	Yes	Yes
Country	Yes	Yes
Observations	54,077	54,077
<i>R</i> squared	.012	.017
<i>F</i> statistic	39.83	58.13
<i>p</i> -value for model	<.001	<.001

^aPart-time work status and female are the base measures.

Significance codes: *** < .001, ** < .01, * < .05.

reported significantly lower *career exploration and awareness* ($\beta = -0.108, p < .001$) and significantly lower *study-career awareness* ($\beta = -0.164, p < .001$) when compared to female peers. While LGBTQ+ students exhibited significantly lower *study-career awareness* ($\beta = -0.297, p < .001$) to females, there was no difference in their *career exploration and awareness* ($\beta = -0.102, p = .189$). Untabulated results show LGBTQ+ students exhibit significantly lower *study-career awareness* ($\beta = -0.133, p = .003$) to males, but compared to females there was no difference in their *career exploration and awareness* ($\beta = 0.005, p = .947$). These relationships persist in both the demographic subset and full dataset. Care should be taken regarding the LGBTQ+ results given they represent only 0.8% of the main sample ($n = 38,458$) and full dataset ($n = 54,435$) and 0.4% of the demographic subset ($n = 12,212$).

Supplemental analysis – predictors of work status

Given the strong relationship between work status and our dependent variables, *career exploration and awareness* and *study-career awareness*, we employed a logistic regression model to investigate whether demographic variables could predict those students most likely to work. As there was no significant difference between part-time and casual work status, we created the dichotomous dependent variable of *work status* (part-time and casual = 1; not working = 0) and regressed this against variables in the demographic subset ($n = 12,212$). The logistic regression model was statistically significant, ($\chi^2(20, 12212) = 1410.9, p < .001$). Regression results, and odds ratios are illustrated in [Table 7](#).

The logistic regression results show almost all model inputs as being significant. Female students ($\beta = -0.188, p < .001$) were 17% more likely to work while studying than males. Females ($\beta = -1.319, p < .001$) were 73% more likely than LGBTQ+ students to work. Higher SES students ($\beta = -0.168, p = .003$) were 15% more likely to work than low-SES students. Students without a disability ($\beta = -0.582, p < .001$) were 44% more likely, and non-ESL students ($\beta = -0.439, p < .001$) 36% more likely to work than their disability and ESL peers. Urban students were 21% and 43% more likely to work than were regional ($\beta = -0.242, p < .001$) and remote ($\beta = -0.564, p < .001$) students. Our results indicated no significant relationship between Indigenous status and concurrent work and study ($\beta = -0.365, p = .083$). This result is tempered given only 99 (0.8%) identified as Indigenous. Additionally, the SES, Indigenous and ESL variables all had an ‘unknown’ category in which disadvantage was not specified. These students were less likely to be working and studying when compared to their respective base measures.

Discussion

We opened by presenting the literature on concurrent work and study among university students and highlighting both detrimental and advantageous impacts. We then sought to determine the extent to which concurrent work and study affects students’ confidence in relation to career exploration and awareness, and their understanding of the relevance of their studies to their future career.

Our findings support the contention that concurrent work and study heightens students’ study and career confidence, combined here as their PE. The question remains

Table 7. Logistic regression results for work status and demographic variables

Variable	Current work status Estimate (<i>p</i> -value)	Odds ratio	Confidence interval (95%) [lower, upper]
Gender			
Male	−0.188*** (<i><.001</i>)	0.83	[0.76, 0.90]
LGBTQ+	−1.319*** (<i><.001</i>)	0.27	[0.15, 0.48]
Socioeconomic status			
Low	−0.168** (.003)	0.85	[0.76, 0.95]
Unknown	−1.124*** (<i><.001</i>)	0.32	[0.19, 0.56]
Disability status: Yes	−0.582*** (<i><.001</i>)	0.56	[0.45, 0.70]
Indigenous status			
Yes	−0.365 (.083)	0.69	[0.46, 1.06]
Unknown	−0.188 ** (.003)	0.83	[0.73, 0.94]
English as a second language			
Yes	−0.439*** (<i><.001</i>)	0.64	[0.58, 0.72]
Unknown	−0.480** (.001)	0.62	[0.47, 0.82]
Location			
Regional	−0.242*** (<i><.001</i>)	0.79	[0.70, 0.89]
Remote	−0.564*** (<i><.001</i>)	0.57	[0.42, 0.77]
Unknown	−0.424 (.129)	0.65	[0.38, 1.15]
Control variables			
Age	Yes		
Study mode	Yes		
Year of entry	Yes		
Observations	12,206		
Log likelihood	−7348.75		
AIC	14739.50		

^aBase measures are not working (dichotomous *work status* variable), female (*gender*), not low (*SES*), no (*disability*), no (*indigenous*), no (*ESL*) and urban (*location*); Significance codes: *** *<.001*, ** *<.01*, * *<.05*.

as to why this is the case. The literature is consistent in finding the primary rationale for concurrent work and study to be financial need. Further, students are known to have both positive and negative workplace experiences and to hold largely low-paid, unskilled roles (Jackson & Bridgstock, 2021). It follows that skilled, career-aligned work undertaken for the purpose of advancement is far from the norm.

The current study asked students ‘*Beyond your studies, what are you doing to prepare for graduate life and work?*’. We include illustrative quotes to privilege the student voice and add context. The link to Suleman’s (2018) employability skills framework was often simply expressed, as in the following example.

I work in the retail industry developing my critical thinking skills, problem solving skills and communication skills. (Male, 2nd year information technology student)

In line with SCCT, we considered reciprocal determinism with reference to environmental, cognitive and behavioural drivers. We looked for comments which might indicate students’ intentional development of employability skills and the alignment of study

and work (Jackson & Chapman, 2012). As shown below, despite undertaking work for financial need, the development of employability skills was clearly articulated by some students.

I live away from home so have to support myself with a well-paying job which unfortunately isn't that related to my course. However, I make a great effort to practice professional skills in this workplace such as interpersonal communication, memory and teamwork to prepare myself for different workplaces in the future. (Female, 4th year speech pathology student)

The following comment illustrates the social construction of self and career and the triadic determinism between self, workplace, and university. It also illustrates the development of human and other career capitals through which learners learn to navigate the labour market.

I currently have 4 jobs while studying including commercial cleaning ... These experiences have taught me what it's like working in the real world and dealing with real workplace problems and people. While university is an excellent learning tool in preparing students for life and work after graduation, these firsthand experiences ... are not able to be taught in a university degree and that's why I believe it is so important to gain this firsthand practical knowledge to compliment [sic] one's academic studies. (Female, 1st year law student)

Jackson (2016) notes the importance of field-specific technical and non-technical skills to the transition to work. The following comment illustrates that some students purposefully develop field-specific skills alongside generic employability skills.

I am working part-time at a pharmacy and tutoring multiple students. I believe that this will improve my communication skills, understanding of the medical field (for the pharmacy) and the ability to work in a team setting. I think that is important to interact with a variety of people in order to experience different personalities and cultures that will equip me to deal with challenging situations. (Male, 3rd year biomedical science student)

Extant research emphasises gendered differences in PE, with females less confident and reporting less career self-efficacy than male peers (Black & Turner, 2016). Sterling et al. (2020) note that lower self-efficacy among women extends into graduate career. In contrast, Bennett et al. (2021) found no gendered difference among commencing STEM students' *career exploration and awareness* confidence, but found first-year women in non-STEM disciplines to be significantly more confident. Our study's findings support Bennett et al. (2021) and we also found female students more likely to be working. We found no mediation effect of work status: although females were more likely to work, this does not explain their increased confidence across our dependent measures. Further research is merited.

Table 3 illustrated literature-derived employability search terms, and analysis of the open response field revealed new themes (Table 8). Despite the openness of the question, 11.5% of students noted skill acquisition as important to gaining graduate work. Whereas Jackson and Wilton (2017) found a relatively low association with access to professional networks, in our study 11.3% of respondents identified networking and connecting as goals.

While 45% of participants intended to improve their skills via paid employment, 11.6% also noted their desire to acquire skills through volunteering. Future research might investigate similarities and differences between paid employment and volunteer work in the development of PE.

Table 8. Key qualitative themes.

Keyword(s)	Instances found	% (n = 36,668)
'work'	16,391	44.7%
'volunteer'	4,266	11.6%
'skill'	4,201	11.5%
'network', 'connect'	4,146	11.3%
'professional'	1,252	3.4%
'nothing'	1,149	3.1%
'time management'	287	0.8%
'leader' (leadership)	265	0.7%

Supplemental analysis identified relationships between the demographic variables and students' propensity to engage in concurrent work (Table 7). Whilst outside the primary scope of our study, we proposed explanations including financial necessity, ability to engage in work, and availability of work, which supports our finding that urban students were working more than regional and remote students (Richardson et al., 2013; Robot-ham, 2013). A limitation of our demographic data was that it was derived from a single, urban university. We note that urban-based students who return to regional or remote homes for holidays or weekends may have more limited opportunities to work.

Pitman et al. (2019) investigated, *inter alia*, the impact of paid work during study on graduate outcomes for disadvantaged students in Australia. They determined that paid work in the final year of study significantly increases graduate employment outcomes. Our finding that low-SES students are less likely to engage in concurrent work is inconsistent with other research in relation to financial stressors experienced by these students (Devlin & McKay, 2018). We find no mediation effect of work status on the demographic variables, with the exception of age and online study. Older students are associated with higher *career exploration and awareness* and *study-career awareness* and online students are associated with greater *study-career awareness*. Consequently, whilst our demographic measures are associated with work status, they do not explain increased confidence in our dependent measures.

Recent evidence suggests that many graduates consider themselves underprepared in terms of psychological capital, which includes resilience and agility (Benati & Fischer, 2020). Debates about graduate preparedness (Tomlinson, 2017) emphasise the psychological, cultural and identity capitals which help graduates negotiate the labour market and workplace. This emphasises the value in understanding students' study and career confidence. Our analysis provides support for concurrent work and study. Although students' work may not relate to their studies, part-time work may be a meaningful way for students to develop their professional skills alongside career identity and decision-making.

Limitations and future research

First, we used a self-assessment of PE. Whilst the literature shows such measures to be suitable proxies, future research might incorporate objective employability outcomes such as job offers or starting salary. Second, future research could focus on volunteer experience. Third, Applegate and Daly (2006) similarly support concurrent work and study but find a positive relationship between paid employment and academic performance for up to 11 h of work per week, beyond which academic performance suffers. Whilst we doubt a

similar curvilinear relationship would be present between our study's variables, future research could plot work hours, academic performance, and PE. Finally, future research might address the impact of career development learning in addition to traditional student-employer transactions and at-elbow supports (Donald et al., 2019).

Implications for stakeholders

Our article highlights the prevalence of concurrent work and study and its positive effects on PE. Only 3.1% of students were not doing anything to enhance their employability and many students stated their intention to secure paid or volunteering work. These intentions might relate to students' engagement in the self-assessment measure; however, they might also realise the benefits of concurrent work and study. Potential benefits were expressed by half of participants using words such as leadership, connection, and networking.

The study suggests that universities have much work to do, and much benefit to gain, from enabling students to gain maximum benefit from paid and unpaid work, even if it is unskilled. This might be achieved by recognising work-related skill development in students' professional portfolios, and helping students to develop confidence and skills in areas they consider underdeveloped. The inclusion of employability skills within documents such as unit outlines is likely to enable students and faculty to make employability development more visible. University employability frameworks would provide a framework for this work. Alongside this is the transition of university careers services to an educational model in which career educators facilitate career development learning within and beyond the curriculum.

Conclusion

Although numerous empirical studies have examined concurrent work and study among university students, there is no conclusive evidence as to whether part-time work has overall negative or positive consequences for full-time students. Robotham (2012) attributes this to the lack of longitudinal evidence, which this study sought to contribute. Bennett et al. (2022) add that there is a deficit of multi-institution studies, and again this study contributed by amassing data from multiple institutions.

The changing nature of work has increased responsibility for career management and employability work on the individual rather than the firm (Donald et al., 2019), highlighting the need for students to learn how to navigate work and learning across the career life-span. This cognitive dimension of employability is often missed within the 'skills' rhetoric. In this study, students reported their confidence in relation to career exploration and awareness, and the perceived relevance of their studies to future career. We controlled for gender, age, study mode and participation year and examined these responses against whether students were working part-time or casually, or not working. We found students engaged in part-time and casual employment to be significantly more confident in their career exploration and awareness than non-working peers. We also found students in part-time and casual employment to have a significantly higher understanding of the relevance of their studies to their future careers. Both results persisted when we introduced a series of demographic controls such as socioeconomic, disability and Indigenous status, and English as a second language, for a substantial subset (32%) of our main sample.

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ORCID

Mark Brosnan  <http://orcid.org/0000-0002-5934-3185>
 Dawn Bennett  <http://orcid.org/0000-0002-0676-1623>
 Kim Kercher  <http://orcid.org/0000-0002-7728-7324>
 Tyler Wilson  <http://orcid.org/0000-0002-3601-651X>
 Justin W.L. Keogh  <http://orcid.org/0000-0001-9851-1068>

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Appendix A

The full instrument can be found at <https://developingemployability.edu.au/>.

Career exploration and awareness

Lent et al.'s (2016) decisional self-efficacy factor (10-point Likert scale).

1. Figure out which career options could provide a good fit for your personality.
2. Identify careers that best use your skills.
3. Pick the best-fitting career option for you from a list of your ideal careers.
4. Learn more about careers you might enjoy.
5. Match your skills, values, and interests to relevant occupation;
6. Make a well-informed choice about which career path to pursue.
7. Learn more about jobs that could offer things that are important to you.
8. Identify careers that best match your interests.

Study-career awareness

Bennett's (2020) self-career awareness scale, two items from Jackson and Wilton (2016), (six-point Likert scale).

1. I can identify the knowledge, abilities and transferable skills I will develop in my degree.
2. I understand what is needed to obtain graduate-level work at the completion of my degree.
3. My degree program is preparing me to meet the needs of graduate life.
4. To secure work in my discipline, I know whether I need graduate-level qualifications.