Employability beliefs of business students by gender and year of study: Implications for higher education

Bennett, Dawn; Ananthram, Subramaniam; Lindsay, Sophie; Benati, Kelly; Jevons, Colin

Employability beliefs of business students by gender and year of study: Implications for higher education

ABSTRACT

Grounded in social-cognitive theory, the study reported here explored undergraduate business students' perceptions of their employability and the impact of year of study and gender on these perceptions. 6,004 undergraduate business students enrolled with multiple Australian universities self-assessed their study and career-related confidence using an online, validated measure of perceived employability. Exploratory factor analysis was conducted and five predicted factors were obtained. Multivariate analysis of variance then identified gender and year-of-study differences across five employability factors. The findings highlight gender and year of study differences in students' understanding of how well their programs related to their future careers. The same differences were noted in students' confidence that their learning tasks were career-relevant and also their confidence that they could apply their learning in a workplace setting. Student confidence that their degree programs were preparing them for graduate life and work lessened as they progressed through their programs. Implications include the need for business educators to be clear about the relevance of each learning and assessment task, and to take a data-driven approach to informing career development learning activities in higher education.

Keywords: Business, perceived employability, higher education, gender

1.1 INTRODUCTION

The rapidity of labour market change is transforming the structure of higher education business schools and the demands made upon them (Choi & Kang, 2019; Kovoor-Misra, 2020). In Australia, 2017 Graduate Statistics indicate that 76.5% of business and management graduates held full time employment at the time of the survey (Graduate Careers Australia, 2018). This rose to 77.9% in 2018 and rose again in 2020, to 92.9% (QILT, 2019). However, the 2019 figures also reveal a shift in the type of employment secured by graduates, with a marked increase in the proportion of short-term and medium-term contracts and a corresponding decline in permanent roles (QILT, 2020). The 2019 figures pre-date COVID-19, as do concerns about the ability of business graduates to negotiate an increasingly precarious labour market alongside the impacts of artificial intelligence, machine learning and automation (Krishnamurthy, 2020). These concerns are fuelled by longer-term evidence that business and management graduates have for some time been underprepared for the demands of the workplace, including their ability to manage the problem solving, decision making, teamwork and independent learning expected by employers (Crebert et al., 2004).

There has been significant research into employers' perceptions of the employability skills of business graduates (for example, Jackson, 2013; Wickramasinghe & Perera, 2010), including valuable insight into the types of skills required (Maxwell et al., 2008). Extant studies have been generally consistent about which skills are important and valued by employers, and these skillsets have persisted within post-COVID predictions (McKinsey, 2021). However, research into students' own perceptions of the value of employability skills, or their preparedness for the workplace, has received relatively little attention (Garcia-Aracil et al., 2021; Gedye & Beaumont, 2018). Multiple studies indicate students' awareness of the advantages of gaining employability skills (Tomlinson, 2008; Tymon, 2013), in

particular those related to communication and teamwork (Jackson, 2013). A lesser known and equally important concern is how students self-rate their ability to succeed in their studies and transition successfully to the workforce. The study reported here analysed the self-reported perceived employability of over 6,000 business students across Australia and considered whether and how student confidence is impacted by gender and year of study. Thus, the study was guided by two research questions:

H1: Do female students have higher self-reported employability confidence than male students?

H2: Does self-reported employability confidence increase with students' year of study?

1.1.1 Graduate employability

Universities worldwide are under increasing pressure from government, employers and students alike to provide positive graduate employment outcomes (Clarke, 2018; Wilton, 2012). Nonetheless, across developed economies there is evidence of a significant gap between the graduate skills expected by employers and those of graduating students (Clark et al., 2015; Osmani et al., 2019). Universities have responded by emphasising the development of employability skillsets considered critical for new graduates (McCowan, 2015). Despite ongoing debate about the characteristics of these skillsets (Osmani et al., 2019), common inclusions are communication, teamwork, personal organisation, self-motivation and career awareness (Shah et al., 2004).

Prior research highlights several practices that can support students' development of employability skills. These include problem-based learning, which can assist in developing communication and interpersonal skills (Warnock & Mahammadi-Aragh, 2016) as well as contributing to a positive perception of one's preparedness for work (Tomlinson, 2017). Within the curriculum, simple changes such as enhanced participation in lectures can improve students' development of employability skills such as critical thinking (Garcia-Aracil et al., 2021). The literature also demonstrates that authentic assessments can promote the development of employability skills (Qenani et al., 2014), just as the inclusion of practical as well as theoretical content has a positive impact upon student perceptions of their work-readiness (Edwards 2014; Garcia-Aracil et al., 2021).

There is ample evidence that universities have had a positive impact on the development of employability skills through curricular and pedagogical reforms, alumni engagement, work-integrated learning and explicit career development programs (see Bennett, 2019; Reid et al., 2011; Saito & Pham 2020; Warnock & Mahammadi-Aragh, 2016). In addition, increased emphasis on the development of employability through non-formal learning activities such as volunteering, part-time work (Muldoon, 2009) and extracurricular activities (Thompson et al., 2013) has helped students to develop the skills they require to successfully transition to the workplace. However, labour market conditions arising from COVID-19 (as in previous recessions) are likely to put further pressure on graduates and make their transition to work more difficult. This underlines the fact that graduates are also at the mercy of external factors, such as labour market conditions, which are outside the control of universities (Clarke, 2018; Cockx, 2016).

The definition of employability has moved beyond a relatively narrow focus on skills to encompass social cognitive, dynamic and contextual dimensions (Clarke 2018, Dacre-Pool & Sewell, 2007; Tomlinson, 2017). Garcia-Aracil et al. (2021) are among several researchers to suggest that self-belief and confidence are important aspects of a successful transition to the labour market, although these traits can be regarded as situated behaviours rather than fixed traits (see Tymon et al., 2020). We take the view that employability has a bi-dimensional structure, with an internal dimension related to subjective and individual elements and an external dimension related to organizational and labour market factors (Rothwell et al., 2008). We therefore adopt Bennett's (2019: p. i) definition of employability as "the ability to find, create and sustain meaningful work across the career lifespan and

in multiple settings", which highlights the need for a holistic approach across the tertiary education sector to incorporate employability education into business higher education thinking and practice in order to promote life-long learning.

1.1.2 Perceived employability

Donald et al. (2019, p. 599) position perceived employability at the 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' employability confidence relates to multiple aspects of both their studies and their career thinking. This study analysed students' self-reported confidence in relation to study and employability traits including awareness of self and program relative to career; career identity and commitment; perceived program relevance; and career exploration and awareness. Both Hogan et al. (2015) and Tymon (2013) report that many business students equate their perceived employability with their actual ability to gain and retain formal employment. This is important because inaccurate self-assessments of perceived employability can deter graduates from applying for suitable roles or prompt them to attempt and fail to obtain work for which they are not suited; it may also result in students becoming discouraged or disengaging from their studies.

Recent debates about graduate preparedness for the workplace (Tomlinson 2017) also emphasise the psychological, cultural and identity capitals which help graduates to negotiate a difficult labour market and workplace conditions. It is therefore useful to also understand how students feel they are prepared for and connected with graduate life more generally. Recent evidence suggests that many graduates perceive themselves to be underprepared in terms of psychological capital (Benati & Fischer, 2020), which includes resilience and agility (Brown et al., 2012; Chen & Lim, 2012). This may have relevance for the generation of graduates referred to as Generation Z or Millennials, who are more likely than previous generations to seek work-life balance (Manuti et al., 2018; Chalofsky & Cavallaro, 2013).

Another important element of students' self-perception is career identity: the extent to which individuals identify with their chosen career pathway (London, 1993), which influences the level of career-related investment (Tomlinson, 2017). There is a knock-on effect with self-esteem and status (Holmes, 2015), personal values, social engagement, intellect (gained through discipline-related study) and performance (the ability to deliver results within a professional context) (see Hinchliffe & Jolly, 2011). An under-explored aspect of career identity is that of career awareness, which among business undergraduates can impede effective career decision-making (Gunkel & Schlaegel, 2010).

1.1.3 Social cognitive career theory

The study was grounded in social cognitive career theory (SCCT), which is derived from Bandura's (1986) social cognitive theory (SCT). SCT considers the reciprocal determinism of three behavioural drivers: environmental, cognitive and behavioural. 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 has become an established framework with which to understand student perception and decision making (Janz & Nichols, 2010); however, SCCT theories have evolved over time. Lent et al.'s (1994) original SCCT focus was on interest, goals and performance (Lent et al., 1994). Lent and Brown later focussed on wellbeing (2008), adaptive behaviour (2013), and career self-management (2013). The link with higher education is that learners' development is underpinned by their ability to be self-regulated learners who "invoke systematic and regular methods of learning to improve performance, and…adapt to changing contexts" (Cassidy, 2011, p. 991). Self-regulated learning behaviour can be attributed to reciprocal causation between personal processes such as goal-related behaviour and academic self-efficacy (belief in one's abilities relating to overcome challenges and complete tasks), the learning environment and associated task demands, and the accumulation of individual outcomes over time.

Social cognitive theory (Bandura, 1986) also recognises that personal and professional identity formation underpins students' ability to relate to and engage with their studies and to successfully negotiate their future work and career (Alt, 2015). Social cognitive career theory (SCCT) formalises this relationship by applying social cognitive theory to career exploration and decision-making (Lent et al., 1994). SCCT is now an established theoretical framework for studies of career interest, choice and performance. Originally focussed on the determinants of educational and occupational interest, choice and performance, later studies have considered wellbeing and longitudinal career management (Lent & Brown, 2006; 2013). Within higher education, SCCT has been successfully employed to understand the outcome expectations, interests and goals of students (Fouad & Santana, 2017; Hardin & Longhurst, 2016).

Efficacy beliefs and outcome expectations are directly and indirectly influenced by career-related supports and barriers. As their interests develop, students "(re)conceptualise their strengths, interests and goals" (hidden, 2012, p. 27) and self-regulate their behaviour to achieve their goals (Lent et al., 1994). Increased interest leads to "career curiosity, student engagement and capacity for creativity and problem solving, active agency in the learning domain, and motivation to learn" (hidden, 2019, p. 18). However, both efficacy beliefs and outcome expectations are mediated by students' explorations of self and career, including their perceptions of whether and how their study programs relate to their future careers. The study reported here adopted SCCT to explore these dimensions of employability thinking with a specific focus on undergraduate business students. We included students' year of study to understand the temporal dimension of students' employability thinking and we explored gender in order to investigate the need for gender-specific career development learning supports.

1.1.4 Impacts of gender and year of study

Multiple studies have suggested that gender and year of study may impact self-perceived employability. Opinions on the role of gender are, however, divided and complex (Donald et al., 2017). Garcia-Aracil et al. (2021), for example, suggest that gender does not play a role in students' perceptions of their preparedness for the transition to work and similarly Monteiro et al. (2016) find no significant gender difference in students' perceptions of their competencies, preparedness, or expectations of success in the labour market. However, studies by Rothwell and Arnold (2007) and by Van der Heijden (2002) indicate that older, male respondents report lower perceived employability confidence than their peers. Moreover, both Bennett et al. (2020) and Qenani et al. (2014) find male students to be more confident in their ability to secure graduate-level work. Furthermore, Bennett et al. (2021) find that in both STEM and non-STEM student cohorts, female students report higher confidence in their goal-directed behaviour, career exploration and career awareness than do their male counterparts.

Students' exploration of their future careers has been linked to their perceptions of study and program relevance (hidden, 2019). Indeed, employability perceptions related to program relevance and career exploration could potentially vary across gender. In support of this view, Tomlinson (2013) agrees that gender can influence students' perceptions of the graduate labour market. Perhaps indicative of the dangers of generalization with respect to gender, Garcia-Aracil and Van der Velden (2008) note that gender is an important contextual consideration since workplaces are socially constructed, complex domains. Combined, these discussions suggest that gender may impact employability differences. Based on Bennett et al. (2021), we expected that female students would report higher perceived employability confidence than their male counterparts. As such, we offer our first hypothesis:

H1. Gender will impact perceived employability differences such that female students will report higher perceived employability confidence than male students.

Few studies have considered whether and how perceived employability might change across the student lifecycle - a temporal aspect of development that is well served by social cognitive approaches. Similarly, most studies have collected data at a single point in time or have contrasted insights across only two years of study. In exploring perceived employability among final-year United Kingdom (UK) undergraduates, for example, Tomlinson (2008) found that students perceived their degrees to be insufficient to enable their transition to the labour market or their 'marketability' as graduates. Jackson and Wilton (2017) considered the perceived employability of third- and fourth-year students in the UK and Australia. Participating students had all held paid or unpaid roles, including industry placements, for a minimum of 12 months. The researchers found a positive age effect and a negative association between year of study and perceived employability within the UK sample, but not in Australia.

In line with the social construction of career outlined in SCCT, students are likely to become more career curious as they journey through the life cycle of a program. Experience in industry, for example, is likely to enhance students' understanding of the relevance of their studies to career (Spence & Hyams-Ssekasi, 2015). This gave rise to our second hypotheses in that we students' perceived employability to increase as they progressed through their programs.

H2: Year of study will impact perceived employability such that employability confidence will increase across the degree lifecycle.

The study reported here explored business students' self-perceptions of employability—specifically, career-related explorations of self and the relationship between study program and future career—and whether these were any differences based on gender or year of study. The study engaged 6,004 students from multiple universities in Australia and was designed to address a significant gap in understanding self-perceived employability among business students and graduates. The arrival of COVID-19 and its impact on graduate labour markets heightened the importance of the study.

In reporting our work, we first introduce the materials and method. We then present and discuss the findings. In the closing section, we consider the study's limitations and implications and make recommendations for practice.

2.0 MATERIALS AND METHOD

2.1.1 Instrument and selection of employability traits

Students responded to an established, SCCT-based formative self-measure of perceived employability (Bennett & Ananthram, 2021). The self-assessment was provided online and it generated a personalised profile report for students based on their results. Summarised in Table 1, the study analysed four scales within the self-measure) that had specific, metacognitive relevance to students' explorations of self and career, career identity, and perceived program relevance. The items are reproduced in Appendix 1.

Self-awareness and program awareness was selected because it forms part of the metacognitive view of graduate employability. Self-awareness informs students' awareness of how their study programs relate to their future employability. As such, self- and program awareness are social cognitive constructs of motivation and are understood to positively influence engagement and self-regulation (Bandura, 1993; Zimmerman et al., 1992). This aspect of employability was assessed using a seven-item scale which reports students' awareness of employability-related personal strengths and challenges alongside the perceived alignment of their employability and their studies. Two items were adapted from Jackson and Wilton (2017).

Career identity and commitment relates to the extent to which students identify with and commit to their chosen study pathway. The study took a longitudinally retrospective view of student confidence by analysing the data by year of study. The inclusion of *career identity and commitment* enabled the researchers to understand whether, and if so how, business students' commitment and identification with their studies changed across the lifecycle of a degree program. This was measured using an eight-item scale developed by Mancini et al., (2015) as part of their *professional identity status questionnaire*. The scale includes two sub-factors: '*identification with commitment*' (4 items) and '*reconsideration of commitment*' (4 items).

Perceived program relevance refers to students' confidence and includes students' motivation, study retention and completion, and knowledge retention. Perceived program relevance was selected in order to gauge students' confidence in their ability to recognize the relevance of their learning tasks and integrate theory and practice into workplace settings. Three of the four items were derived from Smith et al.'s (2014) broad *employability* scale.

Career exploration and awareness was measured using factor 1 of Lent et al.'s (2016) *career exploration and decision self-efficacy scale (CEDSE).* Factor 1 is labelled *brief decisional self-efficacy* and includes eight items measured using a 10-point Likert scale. The scale was selected because of its relevance to making informed decisions. This is another part of the metacognitive view of graduate employability and one that has been used successfully in studies of college students' career exploration and decision-making (see Wang et al., 2018).

Table 1. Perceived employability scales included in the study

Scale	Items (count)	Indicators of employability
Self-awareness (SA) and program awareness (PA)	7	SA: Awareness of employability-related personal strengths and challenges. (3 items) PA: Awareness of how a study program relates to the development of graduate employability. (4 items)
Career identity (CI) and reconsideration of commitment (RC)	8	CI: Being proud and happy about becoming a professional in the discipline (identification and affirmation). RC: Considering alternative study or career pathways when a current commitment is unsatisfactory.
Perceived program relevance	4	PPR: Ability to recognise the relevance of learning tasks and integrate theory and practice into workplace settings.
Career exploration and awareness	8	CEA: Ability to understand and match self-qualities with career and study options.

2.1.2 Sample and recruitment

Invitations to participate in the study were issued to university staff via the Australian Business Deans' Council, individual institutions and professional networks. Participating classes were given an

introductory video, access to the self-assessment tool and assistance to unpack the findings with educators and careers practitioners.

The final sample included 6,004 students at 32 Australian universities, including offshore campuses, who were undertaking major and/or minor studies in business. Of the students, 3,356 (55.9%) were female and 2,627 (43.8%) were male. Twenty-one participants (0.3%) were non-binary, transgender, intersex or gender variant. As there were insufficient numbers to analyse these categories separately, they were combined as 'other'. Given the growing calls to make higher education more inclusive of transgender, non-binary and gender (McKendry & Lawrence, 2020), the 'other' category was retained within the dataset in the hope that future analyses with larger populations can be more nuanced and respectful. Students were enrolled in accounting, business and management, sales and marketing, banking, finance and related fields, and other management and commerce areas; however, 41.2% of the sample was enrolled in first-year foundation studies and had yet to specialise. As a result, we did not seek to analyse the data by field of study. The average age of students was 23.22 (SD 5.37) and 93.6% of the students were studying full time.

Table 2 shows the entire population including representation across years of study. We note that the category year four and above includes undergraduate students in a four-year degree, honours students (a fourth year of study and with a research focus), and graduate-level students. To allow for part time study, year level was determined by the year level of units in which students were enrolled.

Table 2. Demographics (n=6,004)

Gender	Count	%		Year of study	Count	%
Female	3356	55.9		1	2474	41.2
Male	2627	43.8		2	961	16.0
Other	21	.003		3	1787	29.8
				4	782	13.0

3.0 Analysis

Data was analysed using SPSS version 25. Exploratory factor analysis was conducted, and five predicted factors (with eigenvalues >1) were obtained. Multivariate analysis of variance (MANOVA) was then conducted to identify whether there were gender differences or year-of-study differences across the five employability factors. MANOVA allows dependent variables to be correlated and is an appropriate technique to detect group differences (Tabachnick & Fidell, 2007). Numerous studies that explore demographic differences such as gender and other demographics have utilised MANOVA (Fuller & Delorey, 2016; Jackson, 2014).

3.1.1 Ethical considerations

Ethical approvals were obtained before the study commenced (approval number HRE2017-0125). The self-assessment tool was most often set as a required task or reading. In some cases, analysis of students' aggregated responses informed a session with a careers practitioner. Students received an information sheet and an assurance of anonymity, and they completed a consent form. Students chose whether or not to include their online tool responses in the research dataset. Their decision did not affect their access to the tool or to associated resources and supports.

4.0 RESULTS

Despite using a subset from Bennett and Ananthram's (2021) validated measure, further validity and reliability checks were undertaken. First, an exploratory factor analysis (Hair et al., 1998) was conducted with the 27 items. Five distinct factors with eigenvalues >1 were expected and these were indeed obtained underscoring the validity of the survey instrument (see Appendix 1 for items).

Table 3 presents the descriptive statistics, correlations and Cronbach alphas for the factors. At 99% confidence, Table 3 shows statistically significant relationships between employability traits within the instrument. Collectively, these constructs correlate with a high degree of confidence. Cronbach alphas for all factors were above 0.80 indicating acceptable reliabilities (Cronbach, 1951).

Table 3. Descriptive statistics, correlations and Cronbach alphas

Constructs	Means	s.d.	PPR	PSA	IC	RC	CEA
PPR	4.032	0.563	**0.804**				
PSA	4.746	0.740	.546*	**0.839**			
CI	3.837	0.760	.398*	.483*	**0.830**		
RC	2.772	0.997	-.185*	-.184*	-.166*	**0.810**	
CEA	7.806	1.420	.504*	.572*	.449*	-.187*	**0.941**

Notes: 1. PPR: perceived program relevance; PSA: program and self-awareness; IC: Identification with commitment; RC: reconsideration of commitment; CEA: career exploration and awareness; 2. * p < 0.01; 3. Values across diagonal are Cronbach alphas.

4.1.1 Gender differences

MANOVA was conducted to identify gender differences across the five employability traits. Shown in Table 4, there was an overall statistically significant difference in the assessed constructs based on gender: $F(10, 11994) = 4.109$, $p < .001$; Wilk's $\Lambda = 0.993$ thus supporting H1.

In contrast to Garcia-Aracil et al. (2021) and shown at Table 4, gender played a significant role in three of the five employability traits. Female students reported more confidence than their male peers in their self-awareness relative to career, their program awareness relative to career, and in their identification with career commitment. Of interest, directionally opposite to our hypothesised dimension and in line with lower career commitment, male students were more likely than their female counterparts to be reconsidering their career (study) choice. This indicates that female students were more confident that they had made the right study choice in relation to their future career or were at least more committed to completing their programs. For the same construct, students who identified their gender as "other" were more likely than female and male students to be reconsidering their study and career choices.

Table 4. Multivariate analysis of gender differences (n = 6004)

Item	(I)	(J)	Mean Diff (I-J)	Std. Error	Sig.
Perceived program relevance (PPR)	Female	Male	0.314	0.014	0.082

Item	(I)	(J)	Mean Diff (I-J)	Std. Error	Sig.
		Other	-0.036	0.123	0.952
	Male	Other	-0.068	0.123	0.845
Program and self-awareness (PSA)	Female	Male	0.085*	0.019	0.000
		Other	0.111	0.161	0.772
	Male	Other	0.025	0.162	0.987
Career identity (CI)	Female	Male	0.058*	0.019	0.009
		Other	-0.185	0.166	0.504
	Male	Other	-0.244	0.1664	0.307
Reconsideration of commitment (RC)	Female	Male	-0.082*	0.025	0.004
		Other	-0.634*	0.218	0.010
	Male	Other	-0.552*	0.218	0.031
Career exploration and awareness (CEA)	Female	Male	0.058	0.037	0.250
		Other	0.148	0.310	0.882
	Male	Other	0.089	0.311	0.955

Note: *p<0.05

4.1.2 Year of study differences

MANOVA was conducted to identify whether there were year-of-study differences across the five employability traits. There was an overall statistically significant difference in the assessed constructs based on year of study, $F_{(15, 16552)} = 20.177$, $p < .001$; Wilk's $\Lambda = 0.951$, thus supporting H2.

Table 5 indicates that students' year of study played a significant role in their confidence across all five employability traits, but, as with gender discussed above, with opposite directionality to that hypothesised. First-year students were generally more confident than later-year students in their perceived program relevance, program and self-awareness, identification of commitment, and career exploration and awareness. The likelihood that students were reconsidering their choice of study increased significantly from first to second year and again from second to third year.

Table 5. Multivariate analysis of year of study differences (n = 6,004)

Item	(I)	(J)	Mean Diff (I-J)	Std. Error	Sig.
Perceived program relevance	Year 1	Year 2	0.141*	0.021	0.000
		Year 3	0.227*	0.017	0.000
		Year 4	0.138*	0.022	0.000
	Year 2	Year 3	0.085*	0.022	0.001
		Year 4	-0.003	0.026	0.999
	Year 3	Year 4	-0.088*	0.023	0.001
Program and self-awareness	Year 1	Year 2	0.172*	0.027	0.000
		Year 3	0.249*	0.022	0.000
		Year 4	0.151*	0.030	0.000
	Year 2	Year 3	0.077*	0.029	0.042
		Year 4	0.020	0.035	0.940
	Year 3	Year 4	-0.097*	0.031	0.010
Career identity (CI)	Year 1	Year 2	0.073	0.028	0.054
		Year 3	0.130*	0.023	0.000
		Year 4	0.116*	0.031	0.001
	Year 2	Year 3	0.057	0.030	0.228

		Year 4	0.042	0.036	0.644
	Year 3	Year 4	-0.014	0.032	0.969
Reconsideration of commitment	Year 1	Year 2	-0.136*	0.037	0.002
		Year 3	-0.328*	0.030	0.000
		Year 4	-0.041	0.040	0.729
	Year 2	Year 3	-0.192*	0.039	0.000
		Year 4	0.094	0.047	0.195
	Year 3	Year 4	0.286*	0.042	0.000
Career exploration and awareness	Year 1	Year 2	0.117	0.053	0.128
		Year 3	0.248*	0.043	0.000
		Year 4	0.125	0.058	0.136
	Year 2	Year 3	0.131	0.056	0.096
		Year 4	0.007	0.068	0.999
	Year 3	Year 4	-0.123	0.060	0.177

Notes: $*p<0.05$

5.0 DISCUSSION

Two main findings emerged from the study. The first of these was a gendered difference, with females reporting significantly more program awareness and self-awareness than their male counterparts (H1). The second finding was that business students' perception of program relevance, program awareness and self-awareness worsened from the first to the second year of study and again from second to third year (H2). We discuss each finding in turn.

5.1.1 Gender and employability

The study explored students' awareness of employability-related personal strengths and challenges alongside the perceived alignment of their employability and their studies. Our findings indicate that female students are significantly more confident in their program and self-awareness than are their male counterparts. Notwithstanding the recent finding that female STEM students are no less confident than men (Bennett et al., 2021), this finding runs contrary to much of the gender-focussed employability literature (Garcia-Aracil et al., 2021; Qenani et al., 2014; Pitan & Muller, 2019).

Self-awareness and program awareness form part of students' metacognitive view of their employability in that they enable learners to diagnose their occupational interests, strengths, and areas in need of further development (Lent et al., 2016). Self-awareness also informs students' perceptions of how their study programs relate to their future employability. However, program and self-awareness is a complex, socially constructed concept related to confidence and the perceived ability to secure graduate work (see Appendix 1). We could speculate that female students are more aware of their personal strengths and challenges but not more confident that they can secure graduate work; in turn, less confidence in the ability to secure graduate work might relate to a growing awareness of gendered work and career progression and fierce competition in the graduate labor market. The differences between these two factors merit further exploration, perhaps with the inclusion of questions relating specifically to the anticipated transition from study to work.

Furthermore, it is plausible that gender differences could be grounded culturally: for example, whilst male South African business students have been found to be more confident than females in their self-perceived employability (Pitan & Muller, 2019), this appears not to be the case in Australia or in the UK (see Rothwell & Arnold, 2007). We note that our male participants were young (average 22.33 years). Rothwell and Arnold's US study (2007) and Van der Heijden's (2002) study in the Netherlands found that older male respondents reported lower perceived employability confidence than their female peers.

Taking these studies together, it is possible that males' self-perceived preparedness to obtain graduate work is not influenced by consideration of age. However, little research has yet considered self-perceived employability among younger males in Australia, and there are rich opportunities to investigate this further.

In addition, our findings emphasise the importance of including transgender, non-binary and gender-diverse students as the results suggest that the confidence of this cohort – specifically 'reconsideration of commitment' – may differ from that of their male and female counterparts.

5.1.2 Confidence across the student lifecycle

Our findings indicated that year of study had a significant effect across the four employability domains. Significantly more students reconsidered their career and study commitment as they moved through their programs of study. Similarly, students' confidence in the other four traits - perceived program relevance, program and self-awareness, identification of commitment, and career exploration and awareness - reduced as the students progressed through their studies. On the face of it, this is a concern for higher education in general; as it would in any other industry where the confidence in a service declined as the people paying for that service experienced it. It may be that higher education needs to focus more overtly on communicating that it is delivering lifelong employability skills.

The fact that fewer students reconsidered their commitment as they move through their programs might be explained quite simply in that students are incrementally more likely to complete as they advance through their programs. Given the decreasing confidence described in the previous paragraph, it may be that this persistence is influenced by the "sunk-cost" effect, which again does not augur well for the perceived relevance of higher education. Indeed, given the broad acceptance that perceptions of program relevance influence students' confidence and motivation (Kember et al., 2008), retention and completion rates (DeLottel et al., 2010) and knowledge retention (Malau-Aduli et al., 2013), the decrease in students' confidence across the four constructs outlined above is of great concern. Although the loss of confidence appeared to reverse in the fourth year of study, our cohort included both final-year students within four-year undergraduate programs and students enrolled in a one-year honours program; hence more research is needed in order to tease out the nuances of the fourth-year population.

It is possible that fourth-year students were genuinely more confident, having participated in work-integrated-learning and career development learning programs; however, this finding would not align with Jackson and Wilton's (2017) conclusion that there is a negative association between year of study and perceived employability. Consistent with Tomlinson (2008), it is more likely that as they progress in their studies, students increasingly recognise that improving their marketability as graduates necessitates the development of experience and credentials beyond their formal program requirements. For many students, especially those moving in to higher education directly from secondary school, this will be the first time that they experience a need for informal, out-of-classroom skills to supplement their formal academic scores. Students may also become more aware of personal challenges (for example, lack of mobility or caring responsibilities) as they near graduation (Bennett et al., 2020). Those fourth-year students doing an Honours year may be more confident of their futures as they are enrolled in a specialist, low-volume program that often has a more targeted outcome than mass-market undergraduate degrees.

The low perception of perceived program relevance and its decline across years of study is a surprising result and suggests the need for further research. It is possible that students' growing awareness of graduate labour markets and potentially fierce competition for graduate roles lessens their confidence. Similarly, students might initially believe that their program will meet their graduate employment needs, perhaps influenced by university marketing campaigns (Jevons, 2006) but become less confident that this is the case as they become more career and self-aware. Either way, more needs to be done to

relate program content and learning tasks to students' future work and career (Bennett, 2020). Drawing on Kulcsar et al. (2020), research relating to students' career decision making would benefit from increased understanding about the factors which affect student confidence.

5.1.3 Recommendations for practice

Self-beliefs play a critical role in learners' cognition, motivation and behaviour; however, we noted earlier that business students have been known to equate their perceived employability with their actual ability to gain and retain formal employment (Tymon, 2013). Despite the dangers of a skewed self-assessment, Bandura (1994) is one of many scholars to note that people's self-efficacy beliefs can be a better predictor of performance than their actual capabilities. Therefore, and in line with the principles of SCCT, enabling students to understand their strengths and the alignment of program and career early on and across their programs can assist with overall confidence and more realistic self-appraisals.

Students' self-perception of employability is often skewed by misinformation, insufficient industry exposure or inflexible career decidedness (Fearon et al., 2016; Jackson, 2018). As such, there is a place for employability self-assessments which are wide-ranging, presented in non-technical language, revisited across the student lifecycle, and designed to support a degree of autonomy. When housed within a developmental framework and adequately scaffolded, such self-assessments have the potential to help students form "more complex and sophisticated expectations of university and of their own roles and responsibilities" (James, 2002, p.81).

A second recommendation is for higher education to engage in students' "experience economy" (Pine & Gilmore, 1999) and to view the *curriculum vitae* and associated portfolio of professional evidence as a vehicle for building a narrative of individual competence and skill that will benefit graduates and employers alike. In meeting this aim, collaboration across academics, industry and careers services in supporting the employability of emerging business professionals indicates that career identity and commitment are related and valued. Relatedly, the development of soft credentials (i.e., those that fall outside students' formal learning) and hard credentials (those related to formal learning) across the degree experience can play an important role in motivating career-related behaviours (hidden, 2016; Tomlinson, 2008).

5.1.4 Limitations and recommendations for future research

Every study has limitations and we note these here. First, the data for this project was gathered prior to the COVID pandemic and this should be considered when interpreting the results. As noted earlier, the study was based in Australia and may not be generalizable to other locations. Moreover, the combined fourth year of honours and final-year coursework students may have skewed the findings for the fourth-year students and merits further exploration.

This study considered perceived employability differences based on gender and year of study. We encourage multi-year longitudinal studies with samples sufficiently large to analyse according to discipline cohort and gender diversity. Future studies are encouraged to analyse other demographic factors including age, employment status, study mode (online/face to face/hybrid and full time/part time) and to also cross-tabulate these results (e.g., age * employment status; gender * year of study etc.) to confirm the results, ensuring that relevant patterns are maintained. Moreover, we do not ascertain causality in this study and future studies are encouraged to develop regression models to further analyse the impact of gender, year of study and other demographic factors on both perceived employability and graduate employment rates by gender, while noting that these are separate concepts. A broader sample might also enable analysis according to students' specific field of study. It may be that specific measures of psycho/social capabilities such as teamwork and focus would give more insight. Depth of student knowledge might also be a factor; perhaps programs that teach skills in current demand, such as rigorous data analytics, would increase student confidence in employability. Our

sample was very large and encompassed a wide range of business schools; it may be that results would vary by type or perceived quality of the school: for example, whether the school and its program were AACSB-accredited. Business school practices such as delivery method, career guidance and mentoring, the presence of industry placements, and even course content may be investigated for their effects on perceived employability.

We encourage future researchers to include transgender, non-binary and gender diverse individuals by incorporating separate categories under gender to take their choices into consideration in a respectful manner. Indeed, our study has shown that there are potentially important differences across all gender categories. These should be carefully considered given the growing calls to make higher education more inclusive (McKendry & Lawrence, 2020) in the context of on-going employment discrimination against gender diverse individuals (Bates et al., 2021).

Further opportunities for research include exploring the impact of COVID on self-perceived employability among both students and new graduates. Perspectives on employability by students from different cultural backgrounds and analysed by gender and year of study would also provide interesting areas for further research given that there is limited research to date. While we do not report linkages between perceived employability and student performance (e.g., grade point average), future studies are encouraged to discern this linkage. We would also suggest future in-depth, qualitative work where students' belief structures and behavioral intentions can be dissected to elucidate how student expectations are forged and subsequently changed by both internal and external events and gain a deeper and more nuanced explanation of why students' cognitive and affective states change.

6.0 CONCLUSION

The findings of this study highlight differences in gender and year of study relevant to students' perceived program relevance as well as their ability to find and maintain meaningful work. Students' confidence that their degree programs were preparing them for employability and graduate life appears to lessen as they progress through their programs, potentially in line with their growing awareness of labour market opportunities, competition and their own abilities. Implications include the need to be clear about the relevance of each learning and assessment task and to take a data-driven, whole-of-program approach to informing career development learning activities in higher education.

Acknowledgements

Declarations of interest:

The Authors have no conflicts of interest to declare.

References

Please cite as: Bennett, D., Ananthram, S., Lindsay, S., Benati, K., & Jevons, C. (2022). Employability beliefs of business students by gender and year of study: Implications for higher education. *The International Journal of Management Education*. https://doi.org/10.1016/j.ijme.2022.100654.

Alt, D. (2015). Assessing the contribution of a constructivist learning environment to academic self-efficacy in higher education. *Learning Environments Research, 18*(1), 47–67. https://doi.org/10.1007/s10984-015-9174-5.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359–373. https://doi/abs/10.1521/jscp.1986.4.3.359

Bandura, A. (1993). Perceived self-efficacy in cognitive functioning. *Educational Psychologist, 28*(2) 117–148. https://doi/abs/10.1207/s15326985ep2802_3

Author article hidden for review.

Bates, T., Thomas, C. S., & Timming, A. R. (2021). Employment discrimination against gender diverse individuals in Western Australia. *Equality, Diversity and Inclusion, 40*(3), 273–289. https://doi.org/10.1108/EDI-04-2020-0073/full/html.

Author articles are hidden for review

Brown, A., Bimrose, J., Barnes, S.A. & Hughes, D. (2012). The role of career adaptabilities for mid-career changers. *Journal of Vocational Behavior, 80*(3), 754-761. https://doi.org/10.1016/j.jvb.2012.01.003.

Cassidy, S. (2011) Self-regulated learning in higher education: Identifying key component processes. *Studies in Higher Education, 36*(8), 989-1000. https://doi.org/10.1080/03075079.2010.503269.

Chalofsky, N. & Cavallaro, L. (2013). A good living versus a good life meaning, purpose, and HRD. *Advances in Developing Human Resources, 15*(4), 331–40. https://doi.org/10.1177/1523422313498560.

Chen, D. & Lim, V. (2012). Strength in adversity: The influence of psychological capital on job search. *Journal of Organizational Behavio*r, *33*(6), 811-839. doi.org/10.1002/job.1814

Choi, D. & Kang, J. H (2019). The future of jobs in an increasingly autonomous economy. *Journal of Management Inquiry, 28*(3), 298-299. https://doi.org/10.1177/1056492619827373.

Clark, G., Marsden, R., Whyatt, J., Thompson, L. & Walker, M. (2015). It's everything else you do...': Alumni views on extracurricular activities and employability. *Active Learning in Higher Education, 16*(2), 133-147. https://doi.org/10.1177/1469787415574050.

Clarke, M. (2018). Rethinking graduate employability: The role of capital, individual attributes and context. *Studies in Higher Education, 43*(11), 1923-1937. https://doi.org/10.1080/03075079.2017.1294152.

Cockx, B. (2016). Do youths graduating in a recession incur permanent losses? IZA World of Labor 2016, 281. doi:10.15185/izawol.

Crebert, G., Bates, M., Bell, M., Patrick, C. & Cragnolini, V. (2004). Ivory Tower to Concrete Jungle revisited, *Journal of Education and Work, 17*(1), 47-70. https://doi.org/10.1080/1363908042000174192

Cronbach, L. J. (1951). Coefficient alpha and internal structure of tests, *Psychometrika,* 16, 297–334. https://doi.org/10.1007/BF02310555

Dacre-Pool, L. & Sewell, P. (2007). The key to employability: developing a practical model of graduate employability. *Education + Training, 49*(4), 277-289. https://doi.org/10.1108/00400910710754435/full/html

DeLotell, P. J., Millam, L. A. & Reinhardt, M. M. (2010). The use of deep learning strategies in online business courses to impact student retention. *American Journal of Business Education, 3*(12), 49-56. https://eric.ed.gov/?id=EJ1058303

Donald, W., Baruch, Y. & Ashleigh, M. (2017). The undergraduate self-perception of employability: human capital, careers advice and career ownership. *Studies in Higher Education, 44*(4), 599-614. https://doi.org/10.1080/03075079.2017.1387107

Edwards, M. (2014). The impact of placements on students' self-efficacy. *Higher Education, Skills and Work-Based Learning, 4*(3), 228-41. https://doi.org/10.1108/HESWBL-05-2014-0015/full/html

Fearon, C., Nachmias, S., McLaughlin, H. & Jackson, S. (2018). Personal values, social capital, and higher education student career decidedness: A new 'Protean'-informed Model. *Studies in Higher Education, 43*(2), 269-291. https://doi.org/10.1080/03075079.2016.1162781.

Fouad, N. A., & Santana, M. C. (2017). SCCT and underrepresented populations in STEM fields: Moving the needle. *Journal of Career Assessment*, *25*(1), 24–39. https://doi.org/10.1177/1069072716658324.

Fuller, M. A. & Delorey, R. (2016). Making the choice: University and program selection factors for undergraduate management education in Maritime Canada, *The International Journal of Management Education*, *14*(2), 176-186, https://doi.org/10.1016/j.ijme.2016.04.002.

García-Aracil, A. & van der Velden, R. (2008). Competencies for young European higher education graduates: Labor market mismatches and their payoffs. *Higher Education, 55*(2), 219-39. https://doi.org/10.1007/s10734-006-9050-4.

Garcia-Aracil, A., Monteiro, S. C., & Almeida, L. (2021). Students' perceptions of their preparedness for transition to work after graduation. *Active Learning in Higher Education, 22*(1), 49-62. https://doi.org/10.1177/1469787418791026.

Gedye, S. & Beaumont, E. (2018).The ability to get a job: student understandings and definitions of employability. *Education + Training, 60*(5), 406-420. https://doi.org/10.1108/ET-10-2017-0159/full/html

Gunkel, M. & Schlaegel, C. (2010). The Influence of Personality on Students' Career Decisiveness – A Comparison between Chinese and German Economics and Management Students. *Management Revue, 21*(3), 22-243. doi:1688/1861-9908_mrev_2010_03_Gunkel

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. & Black, W. C. (1998). *Multivariate Data Analysis*, 5th edition. Prentice-Hall: Upper Saddle River, NJ.

Hardin, E. E., & Longhurst, M. O. (2016). Understanding the gender gap: Social cognitive changes during an introductory STEM course. *Journal of Counselling Psychology*, *63*(2), 233–239. https://doi.org/10.1037/cou0000119.

Hinchliffe, G. & Jolly, A. (2011). Graduate identity and employability. *British Educational Research Journal, 37*(4), 563-584. https://doi.org/10.1080/01411926.2010.482200.

Hogan, R., Chamorro-Premuzic, T. & Kaiser, R. (2015). Employability and career success: bridging the gap between theory and reality. *Industrial and Organizational Psychology, 6*(1), 3-16. https://doi.org/10.1111/iops.12001.

Holmes, L. (2015). Becoming a graduate: the warranting of an emergent identity. *Education + Training, 57*(2), 219-238. https://doi.org/10.1108/ET-08-2013-0100/full/html.

Jackson, D. (2013). The contribution of work-integrated learning to undergraduate employability skill outcomes. *Asia-Pacific Journal of Cooperative Education,14*(2), 99-115. https://ro.ecu.edu.au/ecuworks2013/19/.

Jackson, D. (2014). Business graduate performance in oral communication skills and strategies for improvement. *The International Journal of Management Education, 12*(1), 22-34. https://doi.org/10.1016/j.ijme.2013.08.001

Jackson, D. (2018). Students' and their supervisors' evaluations on professional identity in work placements. *Vocations and Learning*, 12, 1-22. https://doi.org/10.1007/s12186-018-9207-1.

Jackson, D. & Wilton, N. (2017). Perceived employability among undergraduates and the importance of career self-management, work experience and characteristics. *Higher Education Research & Development, 36*(4), 747-762. https://doi.org/10.1080/07294360.2016.1229270.

James, R. (2002). Students' changing expectations of higher education and the consequences of mismatches with reality. *In Responding to student expectations*, 71–83. Paris: OECD.

Janz, B. D. & Nichols, E. (2010). Meeting the demand for IT Employees: Can career choice be managed. Conference proceedings, the *SIGMIS-CPR*, 10 May.

Author article hidden for review

Kember, D., Ho, A. & Hong, C (2008). The importance of establishing relevance in motivating student learning. *Active Learning in Higher Education, 9*(3), 249-263. https://doi.org/10.1177/1469787408095849

Kovoor-Mishra, S. (2020). The impetus for resilience and change in business education and management research. *Journal of Management Inquiry*, 29(2), 128-133. https://doi.org/10.1177/1056492619870871

Krishnamurthy, S. (2020). The future of business education: A commentary in the shadow of the Covid-19 pandemic. *Journal of Business Research,* 177: 1-5. https://doi.org/10.1016/j.jbusres.2020.05.034

Kulcsar, V., Dobrean, A. & Gati, I. (2020). Challenges and difficulties in career decision making: Their causes, and their effects on the process and the decision. *Journal of Vocational Behavior.* https://doi.org/10.1016/j.jvb.2019.103346

Lent, R., Ezeofor, I., Morrison, A., Penn, L. & Ireland, G. (2016). Applying the social cognitive model of career self-management to career exploration and decision-making. *Journal of Vocational Behavior*, 93, 47-57. https://doi.org/10.1016/j.jvb.2015.12.007

Lent, R. W. & Brown S. D. (2013). Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span*. Journal of Counseling Psychology, 60(4*), 557–568. https://doi.org/10.1037/a0033446.

Lent, R. W. and Brown, S. D. (2008). Social cognitive career theory and subjective well-being in the context of work. *Journal of Career Assessment*, *16*(1), 6–21. https://doi.org/10.1177/1069072707305769.

Lent, R. W. & Brown S. D. (2006). On Conceptualizing and Assessing Social Cognitive Constructs in Career Research: A Measurement Guide. *Journal of Career Assessment*, *14*(1), 12-35. https://doi.org/10.1177/1069072705281364.

Lent, R. W., Brown, S. D. & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, *45*(1), 79-122. https://doi.org/10.1006/jvbe.1994.1027

London, M. (1993). Relationships between career motivation, empowerment and support for career development. *Journal of Occupational and Organizational Psychology, 66*(1), 55-69. https://doi.org/10.1111/j.2044-8325.1993.tb00516.x

Malau-Aduli, B., Lee, A., Cooling, N., Catchpole, M., Jose, M. & Turner, R. (2013). Retention of knowledge and perceived relevance of basic sciences in an integrated case based learning (CBL) curriculum. *BMC Medical Education,* 13, 139. https://doi.org/10.1186/1472-6920-13-139

Mancini, T., Caricati, L., Panari, C. & Tonarelli, A. (2015) Personal and social aspects of professional identity. An extension of Marcia's identity status model applied to a sample of university students. *Journal of Vocational Behavior,* 89, 140-150. https://doi.org/10.1016/j.jvb.2015.06.002

Manuti, A., Curci, A. and Van der Heijden, B. (2018). The meaning of working for young people: the case of the Millennials. *International Journal of Training and Development, 22*(4), 274-288. https://doi.org/10.1111/ijtd.12138.

Maxwell, G., Scott, B., Macfarlane, D. & Williamson, E. (2008). Employers as stakeholders in postgraduate employability skills development. *International Journal of Management Education, 8*(2), 13-23. https://doi.org/10.1.1.489.5998&rep=rep1&type=pdf

McCowan, T. (2015). Should universities promote employability?. *Theory Research in Education, 13*(3), 267-285. https://doi.org/10.1177/1477878515598060

Mckendry, S. & Lawrencex, M. (2020). Trans inclusive higher education: Strategies to support trans, non-binary and gender diverse students and staff. In: Crimmins G. (eds) *Strategies for Supporting Inclusion and Diversity in the Academy*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-43593-6_11

McKinsey (2021). "Building workforce skills at scale to thrive during—and after—the COVID-19 crisis". Available from: https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/building-workforce-skills-at-scale-to-thrive-during-and-after-the-covid-19-crisis

Monteiro, S., Almeida, L. & García-Aracil, A. (2016). Graduates' perceptions of competencies and preparation for labour market transition: The effect of gender and work experience during higher education. *Higher Education, Skills and Work-Based Learning, 6*(2), 208–220. https://doi.org/10.1108/HESWBL-09-2015-0048/full/html

Muldoon, R. (2009). Recognizing the enhancement of graduate attributes and employability through part-time work while at university. *Active Learning in Higher Education, 10*(3), 237-252. https://doi.org/10.1177/1469787409343189.

Osmani, M., Weerakkody, V., Hindi, N. & Eldabi, T. (2019). Graduates employability skills: A review of literature against market demand. *Journal of Education for Business, 94*(7), 423-432. https://doi.org/10.1080/08832323.2018.1545629.

Pine, J & Gilmore, J. (1999). *The Experience Economy*. Boston: Harvard University School Press.

Pitan, O. & Muller, S. (2019). Students' self-perceived employability (SPE), main effects and interactions of gender and field of study. *Higher Education, Skills & Work Based Learning, 10*(2), 355-368. https://doi.org/10.1108/HESWBL-03-2019-0040/full/html.

Quality Indicators for Learning and Teaching (QILT). (2019). 2018 Graduate outcomes survey. Victoria: QILT. Available from: https://www.qilt.edu.au/docs/default-source/gos-reports/2018-gos/2018-gos-national-report-2018.pdf?sfvrsn=a729e33c_4.

Quality Indicators for Learning and Teaching (QILT). (2020). 2020 Graduate Outcomes Survey – Longitudinal. Victoria: QILT. Available from: https://www.qilt.edu.au/docs/default-source/gos-reports/2020-gos-l/2020-gos-l-national-report.pdf?sfvrsn=954ec3c_2

Qenani, E., MacDougall, N. & Sexton, C. (2014). An empirical study of self-perceived employability: Improving the prospects for student employment success in an uncertain environment. *Active Learning in Higher Education, 15*(3), 199-213. https://doi.org/10.1177/1469787414544875.

Reid, A., Dahlgren, M., Dahlgren, L. & Petocz, P. (2011) *From Expert Student to Novice Professional.* Dordrecht, Netherlands: Springer.

Rothwell, A. & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. *Personnel Review, 36*(1), 23–41. doi/10.1108/00483480710716704/full/html.

Rothwell, A., Herbert, I. & Rothwell, F. (2008). Self-perceived employability: construction and initial validation of a scale for university students. *Journal of Vocational Behaviour*, *73*(1), 1-12. https://doi.org/10.1016/j.jvb.2007.12.001.

Saito, E. & Pham, T. (2020). A comparative institutional analysis on strategies deployed by Australian and Japanese universities to prepare students for employment. *Higher Education Research & Development.* https://doi.org/10.1080/07294360.2020.1800596.

Shah, A., Pell, K., & Brooke, P. (2004). Beyond first destinations: Graduate employability survey. *Active Learning in Higher Education, 5*(1), 9-26. https://doi.org/10.1177/1469787404040457.

Smith, C, Ferns, S. & Russell, L. (2014). Conceptualising and measuring 'employability': Lessons from a national OLT project. Proceedings of the ACEN National Conference. Gold Coast: ACEN. Available from: http://hdl.handle.net/20.500.11937/58546

Spence, S., & Hyams-Ssekasi, D. (2015). Developing business students' employability skills through working in partnership with a local business to deliver an undergraduate mentoring programme. *Higher Education, Skills and Work-Based Learning*. https://doi.org/10.1108/HESWBL-07-2014-0034.

Tabachnick, B. G. & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Boston, US: Allyn and Bacon.

Thompson, L., Clark, G., Walker, M. & Whyatt, J. (2013). It's just like an extra string to your bow': Exploring higher education students' perceptions and experiences of extracurricular activity and employability. *Active Learning in Higher Education, 14*(2), 135-147. https://doi.org/10.1177/1469787413481129.

Tomlinson, M. (2008). The degree is not enough: Students' perceptions of the role of higher education credentials for graduate work and employability. *British Journal of Sociology of Education, 29*(1), 49–61. https://doi.org/10.1080/01425690701737457.

Tomlinson, M. (2013). *Education, Work and Identity: Themes and Perspectives.* London, UK: Bloomsbury.

Tomlinson, M. (2017). Forms of graduate capital and their relationship to graduate employability. *Education + Training, 59*(4), 338-352. https://doi.org/10.1108/ET-05-2016-0090/full/html.

Tymon, A. (2013). The student perspective on employability. *Studies in Higher Education, 38*(6), 841-856. https://doi.org/10.1080/03075079.2011.604408.

Tymon, A., Harrison, C. & Batistic, S. (2020). Sustainable graduate employability: an evaluation of 'brand me' presentations as a method of developing self-confidence. *Studies in Higher Education, 45*(9), 1821-1833. https://doi.org/10.1080/03075079.2019.1602757.

Van der Heijden, B. (2002). Prerequisites to guarantee life-long employability. *Personnel Review, 31*(1), 44-61. https://doi.org/10.1108/00483480210412418/full/html.

Wang, P., Zhang, L., Wang, X., Geng, J., Gao, X., Ma, J., & Jiao, R. (2018). Career exploration and decision self-efficacy scale: Factorial structure and validity. *Journal of College Student Development*, *59*(4), 475–478. https://muse.jhu.edu/article/699393.

Warnock, J. & Mohammadi-Aragh, M. (2016). Case study: Use of problem-based learning to develop students' technical and professional skills. *European Journal of Engineering Education, 41*(2), 142-53. https://doi.org/10.1080/03043797.2015.1040739.

Wickramasinghe, V. & Perera, L. (2010). Graduates', university lecturers' and employers' perceptions towards employability skills. *Education + Training, 52*(3), 226-244. doi/10.1108/00400911011037355/full/html.

Wilton, N. (2012). The impact of work placements on skills development and career outcomes for business and management graduates. *Studies in Higher Education, 37*(5), 603-620. https://doi.org/10.1080/03075079.2010.532548.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, *29*(3), 663–676. https://doi.org/10.3102/00028312029003663.

Appendix 1: Items in the student self-assessment of perceived employability

Perceived program relevance (4 items)
1. Judge the applicability of the knowledge gained in my studies to the workplace
2. Apply knowledge and skills gained in my studies to the workplace
3. Recognise and value the role of theoretical ideas in work or professional contexts
4. Understand the relevance of each study unit (module) to my future career

Program and self-awareness of program (7 items)
1. I can identify the knowledge, abilities and transferable skills I will develop in my degree
2. I expect 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. I can identify personal weaknesses in need of further development
5. I can articulate my personal strengths and how these can be deployed in my career
6. I am satisfied with my progress towards meeting my graduate career goals
7. My degree program is preparing me to meet the needs of graduate life

Career commitment (8 items)
Factor 1: Career identity (identification with commitment) (4 items)
1. Does thinking of yourself as a professional in your discipline help you to understand who you are?
2. Does thinking of yourself as a professional in your discipline make you feel secure in your life?
3. Does thinking of yourself as a professional in your discipline make you feel self-confident?
4. Does thinking of yourself as a professional in your discipline make you feel confident about the future?

Factor 2: Reconsideration of commitment (4 items, lower score equates to higher commitment)
5. If you could change your choice of becoming a professional in your discipline, would you do it?
6. Do you ever think that choosing a different profession would make your life more interesting?
7. Do you ever think that it would be better to prepare yourself for another profession?
8. Are you considering the possibility of changing your University major in order to be able to practice another profession in the future?

Career exploration and awareness (8 items)
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 occupations
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

Please cite as: Bennett, D., Ananthram, S., Lindsay, S., Benati, K., & Jevons, C. (2022). Employability beliefs of business students by gender and year of study: Implications for higher education. *The International Journal of Management Education*. https://doi.org/10.1016/j.ijme.2022.100654.