Career choice status among undergraduates and the influence of career management competencies and perceived employability

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Abstract

This study examines the influence of career management competencies and perceived employability on career choice status among undergraduates. Making informed and appropriate career choices is positively linked with well-being, work performance and academic and career success. Early career decision-making is now critical if students wish to succeed in highly competitive graduate labour markets. This study gathered quantitative data from 370 Business undergraduates in an Australian and UK university. Findings suggest that students have largely made career decisions and are reasonably satisfied with their choices. Career choice status varied with age, stage of study, perceived employability and student capabilities in career self-management. Findings highlight the need for universities to not only equip students with the necessary skills to enter their chosen career but also – in collaboration with industry - develop strategies to engage students in the different aspects of career self-management earlier on in their studies.

Keywords

Career choice status; career management competencies; perceived employability; undergraduate.

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Over the last three decades, the function of higher education (HE) - particularly within advanced 'knowledge-intensive' economies - has increasingly focused on its role in developing graduate employability (Naidoo and Jamieson 2004) and its contribution to both national economic and social prosperity (Salter and Tapper 1994; Confederation of British Industry 2009). Commensurately, evidence increasingly suggests that prospective entrants to HE choose to complete an undergraduate degree to enhance their employability and career prospects (Greenbank, 2011; Gribble and Blackmore, 2012). Reflecting human capital theory (Becker, 1964), the development of various skills and competencies through higher levels of education is argued to provide an individual with greater employment opportunities (van der Heijden, 2002). As such, employment outcomes are now the principle driver not only for whether an individual will enter HE but also their study destination, particularly among international students (International Education Association of Australia, 2012).

Alongside the massification and marketisation of HE (Brown, Hesketh and Williams, 2003), this focus on the economic return of undergraduate study can also be attributed to the global softening of graduate labour markets (Accenture, 2013) and developing trends in graduate unemployment and underemployment (Graduate Careers Australia, 2012). Erosion of the traditional salary premiums typically commanded among new graduates in those countries where massification has taken place (Purcell et al., 2013), such as the UK and Australia (whilst these trends are prevalent in Anglo-Saxon countries, it is acknowledged that they are not apparently prevalent more widely), adds further to student and parental concerns for the need to secure graduate-level positions soon after graduation. These concerns are intensified with increased global migration where potential students are willing to relocate with high expectations of securing post-study employment (Gribble and Blackmore, 2012). Recent initiatives to further marketise HE (such as greater encouragement given to private providers of HE in the UK) and the gradual shifting of the costs of HE from the state to the individual add further to the need for both HE institutions and students to take steps to secure an adequate return on

the investment in HE and an increased focus on both short and long-term graduate employment outcomes.

Given this increasing focus on employment prospects among those entering HE, engaging in active career management and developing the capacity to make career choices with certainty is imperative among undergraduates from early in their studies (Daniels et al., 2011). Career management spans the development of a range of competencies including labour market awareness and analysis, networking with stakeholders in one's chosen profession and successfully searching and applying for relevant positions (Bridgstock, 2009). Possession of these competencies will better enable an undergraduate to effectively manage their careers and make informed career choices both during and after their studies. Early career decision-making is critical if students wish to succeed in highly competitive graduate labour markets where addressing increasingly complex selection criteria require forward planning and resourcing. Developing strategies to ensure the capacity to meet such criteria in their targeted profession early on in their studies will allow students the necessary time to participate in activities and initiatives to accrue evidence of required capabilities and gain positional advantage. This may include participating in certain extra-curricular activities; pursuing a leadership role in a sporting or community group; joining a professional association to interact and engage with professionals in the targeted field; or undertaking voluntary work or an internship for relevant work experience (see Roulin and Bangerter, 2013). Undergraduates need to become what Brown and Hesketh (2004) refer to as 'players' who engage in extracurricular activities and initiatives to enhance their own employability.

Making informed and appropriate career choices is positively linked with well-being, academic and work performance and the likelihood of one pursuing a singular career pathway (see Gati, Asulin-Peretz and Fisher, 2012). Graunke and Woosley (2005) found undergraduates in the later stages of their study who possessed comparatively less career certainty achieved lower average grades. Career uncertainty is also associated with long-term feelings of incompetence among new graduates (Daniels et al., 2006). Importantly, it is not simply making the career decision that is

important but also satisfaction with one's choices. Anxiety relating to decisions may cause individuals to be 'less committed to their career, experience less satisfaction, and generally fail to become active contributors to society despite their extensive accumulation of knowledge and education' (Daniels et al., 2011, 410). Not only are poor choices damaging for the individual, there are known negative effects of career shifts (resignation and discharges) on organisational performance (Kacmar et al., 2006).

Despite wide acknowledgement that career management competencies represent an important subset of employability (Gunn, Bell and Kafmann, 2010; Popovic and Tomas, 2009), evidence suggests that students are not embracing career management as emphatically as they should (see Greenbank, 2011) and are failing to engage in early career decision-making (Greenbank, 2009). This study examines the career choice activity among undergraduates and the influence of a range of employability, education and demographic characteristics on the extent to which they are satisfied with choices they have made. The research objectives are to: (i) gauge career choice status among undergraduates; and (ii) assess the influence of career management competencies, perceived employability and certain demographic/study characteristics on this status. These objectives are addressed using quantitative data gathered from 370 Business undergraduates in an Australian and a UK university. A background review of literature on career choice, particularly among undergraduates, is first presented, followed by an outline of the adopted methodology, results of the study and discussion of the findings. Directions for future research and any limitations to the study are raised in the concluding section.

Background

Although still important (Ackah and Heaton, 2004; Inkson et al. 2012; Rodrigues and Guest, 2010), evidence suggests that over the last two decades there has been a decline in access to traditional organisational career where individuals progressed systematically through a largely vertical career pathway over a prolonged period of employment. Instead, individuals are more likely to be required to engage in less stable 'new deals' in employment (Adamson, Doherty and Viney, 1998)

with an onus to self-manage their careers in a continuum of casual working, flexible employment contracts, (global) job mobility and multiple career changes (Clarke, 2009). Under less secure conditions for career development, career success has become more greatly predicated on one's employability and marketability to enable individuals to initiate career change as desired and to guard against career risk. The role of organisations has, therefore, seen to shift away from interventionist career management to the facilitation of continuous professional development and the enabling of individuals to manage their careers effectively (see Sturges et al., 2002).

Individual employability can be understood as encompassing non-technical skills, career management competencies, disciplinary expertise, labour market conditions, skill transfer and work experience (Dacre Pool and Sewell, 2007; Jackson, 2013). Implementing tools for gauging undergraduate employability - including skill audits, e-portfolios and holistic and grading rubrics - predominantly focus on mastery of technical expertise and key employability skills. The measurement of career management competencies, and their potential influence on employment outcomes, lags considerably behind despite some valuable contributions (for example, de Vos, de Hauw and van der Heijden et al., 2011; Hooley et al., 2013; McKeown and Lindorff, 2011). While extant literature develops our understanding of career choice among undergraduates, its importance and antecedents, there is little empirical exploration of satisfaction with career choice among undergraduate.

Determinants of informed career choice

Numerous theories have emerged to explain how individuals make career choices. These include person-environment fit where individualities are matched to a particular job setting; selection that best aligns with an individual's self-concept; and individual perception of their ability to perform in a particular career (see Duffy and Dik, 2011). Beyon, Kellon and Kishor (1998) classify determinants of career choice into a three dimensional framework of intrinsic, extrinsic and interpersonal factors while Jain and Jain (2013) provide a useful summary of individual characteristics which influence career choice. Humlum, Kleinjans and Nielsen (2012) combined the sociological concept of identity with the economic model of career choice and argued that self-image is as

important as capability in determining career choice. They found that 'career-oriented' individuals were more likely to pursue education pathways in business, law and social sciences while the 'socially oriented' selected humanities or certain sciences. Emmerling and Cherniss (2003) note the absence of theory on the emotional processes associated with career choice and assert that greater levels of emotional intelligence will empower individuals to make more informed career decisions.

Duffy and Dik (2011) highlight the important role of family expectations, needs and levels of support, as well as life circumstances and significant life events. They also discuss how an individual's spiritual beliefs and religion can be influential. Ethnicity and socio-economic status may influence CCS with minority groups and those of low SES typically overrepresented in lower paid occupations (see Brown, 2002). Robertson et al. (2010) support the positive association between cognitive ability and educational and occupational outcomes and highlight the influence of lifestyle preferences and vocational interests on career choice. Some maintain individuals have a career 'calling' (Dik and Duffy, 2009; Duffy and Sedlacek, 2010) that relates to religious beliefs, life meaning and life satisfaction. Local culture can also influence career choice (Özbilgin, Kusku and Erdogmus, 2005) and students who perceive themselves as accessing greater economic resources and social power report higher levels of career choice certainty (Thompson and Subich, 2006). Socio-cultural and economic forces can also produce variations in individual career choices, such as those in market economies favouring money and power when making career choices (see Agarwala, 2008). This study, however, focuses more specifically on the influence of career management competencies, perceived employability and background characteristics on career choice status (CCS) with extant literature informing the specified hypotheses.

Career management competencies

Skills in effective career self-management have been captured in a number of different theoretical frameworks, including the Blueprint framework (see Hooley et al., 2013), DOTS model (Watts, 1977) and a range of significant others (for example, Akkermans et al., 2009; King, 2004). These skills are critical to networking and effectively seeking and identifying appropriate career and

professional development opportunities in relevant labour markets (Bridgstock, 2009). Evans (2008) acknowledges that some definitions of career management competencies are broader than others and, drawing on the work of others (for example, Yorke & Knight, 2004; Watts, 2006), advocates the notion of a 'set of meta-skills which enable individuals to develop and use the full range of their other skills … that leads to continuous and sustainable employment' (p. 7). Evans likens these meta-skills to entrepreneurial behaviours that encompass creativity, flexibility, risk-taking, networking and autonomy.

The DOTS framework is often applied to undergraduates (McIlveen et al., 2011; Smith et al., 2009) and is considered highly influential in the career management arena (Watts, 2006). A range of similar models have since emerged (Hillage and Pollard, 1998; Law, 1996; Peterson, Sampson and Reardon, 1991), all based on the four dimensions of 'self-awareness', 'opportunity awareness', 'decision-making learning' and 'transition learning'. 'Self-awareness' in disciplinary expertise, non-technical skills, interests, values, personality and personal strengths and weaknesses is important in 'the continuous construction and maintenance of a healthy self-concept' (Adamson et al., 1998, 257). 'Opportunity awareness' refers to a broad understanding of trends in graduate employment and the expectations of graduate recruiters, particularly in relation to one's discipline of study. 'Decision-making learning' operationalises the link between available opportunities and one's self-concept and perceived capabilities and involves the development of career goals, a realistic action plan and strategies for achieving targeted outcomes. Finally, 'transition learning' relates to proficiency in job seeking and being able to effectively articulate personal strengths and capabilities in selection processes. In 2005, the Association of Graduate Careers Advisory Services asserted that any theory underpinning career management provision 'should be congruent with, and encompass as a minimum, all these four elements, if it is to enable students to implement fully informed and sound career plans' (5). The four dimensions are considered critical for effective career decision-making (Rottinghaus, Day and Borgen, 2005) and confirmed by Gunkel and Schlaegel (2010) who found high levels of career-related knowledge enhanced Business undergraduates' ability to make effective career choices. With reference to the above discussion, the following hypothesis was formed:

H1: Career management competencies will positively predict CCS.

Perceived employability

Lent, Brown and Hackett (2002) developed a Social Cognitive Career Theory (SCCT) that highlighted the importance of self-efficacy in shaping career choices (also Jain and Jain, 2013). Nilsson, Schmidt and Meek (2002) maintain self-efficacy surrounding career choice relates to 'confidence in one's ability to complete five tasks theoretically related to career decision making, including: self-appraisal, occupational information, goal selection, planning, and problem solving' (Essig and Kelly, 2013, 523). While there may appear to be overlap between the self-awareness dimension of the DOTS model and the notion of self-appraisal in perceived employability, the latter focuses on confidence in one's capabilities rather than developing an understanding of one self. Lent, Brown and Hackett (1994) also highlighted the importance of individual perceptions of their ability to perform tasks associated with a particular career when making career choices. Further, Gottfredson (2005) argues young people choose a career which aligns with their self-concept yet are happy to compromise if there are significant barriers to achieving their goals. One would therefore expect a more ready adjustment in career choice among those with lower levels of perceived employability (see Creed and Gagliardi, 2014). In accordance, McIlveen, Burton and Beccaria (2013) indicated that students who were less satisfied with their career choices reported lower levels of perceived employability. Testing whether perceived employability is positively associated with CCS is critical for stakeholders to identify ways to encourage more informed decisions. This is particularly important amid global economic uncertainty where work readiness among those entering the labour market may be perceived as relatively weak.

H2: Perceived employability will positively predict CCS.

Study and demographic characteristics

Developing our understanding of the influence of individualities on CCS may better inform career management provision and enable student educators and career development professionals to better target their interventions. In relation to study characteristics, degree study stage was explored

by Daniels et al. (2011) under the premise that first year students may experience elevated career indecision and anxiety. This was not, however, supported by the findings. Despite this, conventional wisdom would predict that stage of study would be positively associated with CCS. Daniels and colleagues found that affiliation with a Faculty per se and membership of a certain Faculty, which may be broadly interpreted as discipline, influenced career indecision and anxiety levels. Arcidiacono, Hotz and Kang (2010) also found the major subject in a degree programme to determine career choice. This leads to the broad research questions:

RQ1: To what extent is study major related to CCS among undergraduates?

RQ2: To what extent is stage of study related to CCS among undergraduates?

Gender is widely considered to influence career choice and females are reported to experience higher levels of career satisfaction (Ballou and Huguenard, 2008). Gati et al. (2012), however, found females experienced higher levels of emotional and personality-related career decision-making difficulties and some believe they have higher levels of career choice anxiety (Daniels et al., 2011). Interestingly, females assign less importance to both careers (Humlum et al., 2014) and wealth (Ng, Burke and Fiksenbaum, 2008). Although Daniels et al. (2011) found age did not influence career anxiety, its influence on CCS is important given the rising number of mature-age students in certain educational markets (Durkin, Filbey and McCartan-Quinn, 2014; Mallman, 2014). In light of divergent results in previous studies, the following broad research questions, rather than directional hypotheses, are addressed:

RQ3: To what extent is gender related to CCS among undergraduates?

RQ4: To what extent is age related to CCS among undergraduates?

Method

Participants

There is currently an 'abundance' of business graduates seeking employment (AUIDF, 2013). This (possible) oversupply emphasises a growing need for those studying in this field to engage with effective career decision-making early in their studies. Students participated from two different

universities, one based in West Australia (*N*=286) and the other in the UK (*N*=84). Both universities are classified as 'new' in their respective sectors and have a vocational focus with initiatives for enhancing employability and strategic networking among undergraduates through engagement and collaborative partnerships with industry. The background characteristics of both samples are summarised in Table 1. The criteria for student participation were having undertaken Work-Integrated Learning (WIL) during their studies and/or some form of paid or unpaid employment in the previous 12 months (i.e. those who had been exposed to the workplace). There are a proportionately higher number of mature-age students in the Australian sample, reflecting the array of different entry pathways into the university. There are also more females in the Australian sample. The imbalance in sample size may be due to the work experience prerequisite for completing the survey, perhaps problematic for the younger UK cohort. There were more students specialising in Marketing, Publication Relations and Advertising; Human Resource Management and Finance and Accounting in the Australian sample while Management and 'Other' specialisations – comprising Economics, International Business, Management Information Systems and Project Management – were more popular in the UK sample.

[Insert Table 1]

Procedures

A quantitative survey was deployed to business undergraduates in both universities between May and September 2014. An invitation to participate was circulated to all undergraduates studying business at both universities, equating to approximately 1500 students in Australia and 1750 in the UK. Invitations were extended via a posting on each university's learning management system and a 'bulk' direct email. No biases were considered to have derived from these procedures.

Measures

Predictor variables

Survey participants initially reported on their age, gender, major and stage of study. The latter was classified on the basis of the number of credit points achieved. The DOTS model's four

dimensions were measured using 21 items which participants were asked to rate on a five-point scale, ranging from 'very poor' to 'very good'. Six items related to self-awareness, three to opportunity awareness, six to decision-making learning and six to transition learning (see McIlveen et al. (2011) for a summary of these items). Other empirical studies have utilised the DOTS framework to measure career management among undergraduates (see, for example, Dacre-Pool et al., 2014; Reddan and Rauchle, 2012) and it is considered to underpin career management provision in HE (Evans, 2008).

Perceived employability was measured using a five-item scale developed by Berntson and Marklund's (2007) whereby participants rate their level of agreement on a five-point scale with 'strongly disagree' and 'strongly agree' as anchor points. Items are: 'my competence is sought after in the labour market'; 'I have a contact network that I can use to get a new (equivalent or better) job'; 'I know of other organizations/companies where I could get work'; 'my personal qualities make it easy for me to get a new (equivalent or better) job in a different company/organization' and 'my experience is in demand on the labour market'. Previous studies have used Berntson and Marklund's items for self-perceptions of employability (see, for example, Dacre Pool and Qualter, 2013; van Emmerik et al., 2012) and very similar measures have subsequently been developed (Kinnunen et al., 2011; Mäkikangas et al., 2013). Their popularity may be attributed to undergraduates being able to engage with the items, despite potentially limited exposure to the professional environment.

[Insert Table 2]

Career choice status

Student satisfaction with their career choices was measured using the Career Choice Status Inventory (CCSI) (Savickas, 1993). The original measure comprises six items; for this study the two items relating to choice of academic major were removed given many of the students had already neared the completion of their selected specialisation (academic major). Participants were introduced to the sub-section of the survey with a statement 'Please consider how satisfied you are with your career choices'. Participants were then asked to provide a satisfaction rating, on a six-point Likert-type scale, for the following four items: 'I have a general idea of the occupational field I want to

enter'; 'I have decided upon the occupational field I want to enter'; 'I have a specific occupation in mind' and 'I have chosen the occupation that I want to enter'. The negative anchor point was 'I have not done this yet' (1), followed by 'very dissatisfied and intend to change' (2) with a positive anchor point of 'well satisfied with choice' (6). To aid understanding, participants were given examples of an occupational field (Marketing, Human Resource Management) and occupation (Market Researcher, Marketing Consultant, Human Resource Manager). The inventory has been used to measure satisfaction with career choice in previous studies (see, for example, McIlveen et al., 2013) and is considered a valid and reliable measure (Lewis and Savickas, 1995). Again, items were deemed easy to interpret by undergraduates although providing example definitions of occupation and occupational field was considered important.

Analysis

To ensure the measures operated comparably across both the UK and Australian samples with no systematic differences, measurement and structural invariance was computed for both. Factor structures confirmed those of extant literature for both samples separately, and as one combined sample, and the item-factor loadings demonstrated similar patterns with loadings ranging from .63 to .93 across all measured variables. Further, Cronbach alpha scores were above .70 in the UK and Australian samples for all measured variables. Invariance was therefore demonstrated and the samples combined. An overarching measure for career management competencies was computed as an average of all 21 items across the four dimensions. A descriptive analysis of the measured variables, along with bivariate correlations, was conducted. This was followed by hierarchical regression to measure the influence of predictor variables on CCS in the combined sample. Hierarchical regression involves entering the predictor values in 'sets' over a number of steps. Here, the 'sets' (demographics, career management competencies, perceived employability) are defined by the hypotheses. Hierarchical regression is also useful when the predictor variables are correlated with each other (Lewis, 2007). In step 1, the control variables of age, gender, specialisation, stage of study and institution were entered. In step 2, the four DOTS dimensions were added to examine the main

effect on CCS. In step 3, the second main effect of perceived employability was added. Three models were therefore generated. All analysis was conducted using SPSS 22.0.

Results

Career choice status

Dummy variables were created for gender, institution, degree specialisation and stage of study. The base variable is indicated in Table 1 using '(0)'. The Australian university was assigned the base variable for institution. The mean, standard deviation, Cronbach alpha and bivariate correlations for measured variables, including dummy coded, are provided in Table 2. Significant correlations are indicated at $\alpha=.05$ level. There were significant correlations recorded for age and CCS, along with institution and decision-making learning with CCS. Significant correlations were also reported for certain degree specialisations. HRM was correlated with the four dimensions of career management competencies and CCS; Finance with CCS; Management and opportunity awareness and the 'Other' grouping with decision-making learning, transition learning and CCS. As one might expect, the four DOTS dimensions were all significantly correlated. Other than the DOTS elements, none of the significant correlations among predictor constructs exceeded the problematic threshold of .6 (Grewal, Cote and Baumgartner, 2004).

[Insert Table 2]

Table 3 presents the mean, standard deviation, frequency and percentage ratings for the four CCS items and demonstrate reasonably high ratings across the four items. Students across both cohorts, in general, appear satisfied with their choices with mean ratings lying between 'satisfied but have a few doubts' and 'well satisfied with choice'. There appears to be more certainty and satisfaction with choices relating to the broader occupation field, as opposed to the specific occupation they wish to enter. This pattern was retained for the Australian sample whose distribution of ratings largely reflected that of the combined sample. The mean rating for each of the four items was, however, marginally higher which suggests elevated confidence in career choices for both the broad occupation field and specific occupation. The UK students achieved lower mean ratings and

there were proportionately fewer selecting the 'well satisfied' option than among their Australian counterparts for all four items. Further, there was a far greater percentage that did not have a general idea of or had not decided on the occupational field or specific occupation they wished to enter.

[Insert Table 3]

Determinants of career choice status

Table 4 presents the results of the hierarchical regression analysis on CCS. There was no evidence of multicollinearity with Variance Inflation Factor ranging between 1.03 and 1.19, therefore within the recommended threshold of 10 (Hair et al., 2010), and collinearity tolerance greater than .84. Further, the regression coefficients appear stable and there is no evidence of inflation in the standard errors. The Durbin–Watson test statistic is $d = 1.974$, close to the critical value of two to indicate there is no first order linear auto-correlation in the data (Norusis, 2012). This suggests the estimated βs are well established in the regression model.

[Insert Table 4]

Background characteristics, career management competencies and perceived employability were significant sets of predictor variables for CCS. In step 1, with only the control variables included, the model explained 18% of the variation in CCS and produced a significant change in R^2, $F(11, 358)=7.202$; $p=.000$. Standardised regression coefficients indicate the significant ($p<.05$) predictor variables are age ($\beta=.102$, $t=1.988$, $p=.048$), institution ($\beta=-.269$, $t=-4.713$, $p=.000$) and year three of study ($\beta=.256$, $t=3.947$, $p=.000$). Further, the year two variable approached significance ($\beta=.125$, $t=1.955$, $p=.051$). The positive age effect suggests mature-age undergraduates are more inclined to higher levels of CCS. As indicated in Table 3, students attending the UK university recorded, on average, lower ratings of CCS and a significant difference between samples was reported ($p=.000$). Results also suggest those students approaching the latter stages of their degree demonstrate more certainty and satisfaction with their career choices. There was no evidence of a gender effect.

Once career management competencies were added in step 2, an additional 2% of variation in CCS is explained, giving a total of 20.4% explained variation, and a significant change in R^2, $F(15, 354)=6.050$; $p=.000$. Hypothesis 1 is therefore supported. It is noteworthy that the individual predictors within the career management competencies set - the four DOTS dimensions – are not significant. This may be attributed to the high correlations among the four sub-scales that produces a significant group effect and suppressing significant individual coefficients. This was verified by inserting the 'combined' career management competencies into step 2, instead of the four individual dimension measures, and a positive and significant ($\beta=.152$, $t=3.159$, $p=.002$) association being recorded. Of note, age approaches significance in the second step ($\beta=.100$, $t=1.944$, $p=.053$). The significant contribution to variance in CCS for institution and stage of study remains consistent for all three models. Adding perceived employability in step 3 added an incremental and significant 3% of the variance in CCS, $F(16, 353)=6.543$; $p=.000$, above and beyond career management competencies and the control variables. Hypothesis 2 is therefore supported. The standardised coefficient for perceived employability produces a significant, although modest, positive effect on CCS ($\beta=.338$, $t=3.360$, $p=.001$).

Discussion and implications

Overall, students demonstrated reasonably high levels of CCS. Rating appears to improve as students' progress through their studies, commensurate with the expectation that career intentions will become more refined as they acquire a better understanding of the technical knowledge and non-technical skills relating to their profession. Extant literature indicates length of time served in a particular profession positively relates to career choice satisfaction, although this was not detected in Ballou and Huguenard's (2008) study of professionals in the field of information systems. This may suggest that lower levels of career choice satisfaction among early stage undergraduates may be explained simply by their earlier career stage relative to those nearing completion. Given the competitiveness of the contemporary graduate labour market, however, such 'late stage' career decision-making among undergraduates could be problematic for both initial and subsequent labour market achievement. Negotiating graduate recruitment and selection processes often require early

connection with employers (Wilton, 2014) who are themselves engaged in a 'war on talent' to identify and recruit the highest calibre students among the vast numbers graduating each year (Thunnissen, Boselie and Fruytier, 2013). To enhance the likelihood of positive resourcing outcomes, employers are increasingly commencing the selection process and targeting students at all stages through initiatives such as vacation schemes, cadetships, development days and internships. To better prepare undergraduates for these 'try before you buy' tactics, students should be encouraged to engage with career self-management much earlier (Bridgstock, 2009) than proposed by the traditional model of counselling final year students. Career management providers should therefore aim to compel students to be tactical and start planning their careers as they enter university.

According to recent conceptualisations of graduate employability, undergraduates should be encouraged to engage in a broad range of extracurricular activities (Bourner and Millican, 2011); gain relevant work experience (Australian Association of Graduate Employers [AAGE], 2014) through, for example, WIL (Wilton, 2012) or part-time employment (Greenbank, Hepworth and Mercer, 2009); develop labour market awareness (Bridgstock, 2009), resilience, cultural fit (AAGE, 2014) and global citizenship (Barrie, 2004) to be competitive in the labour market. These achievements will not only assist students in gaining the skills and confidence necessary to secure graduate employment but help them to make informed decisions regarding their intended occupational field and specific occupation. Successfully identifying and responding to industry needs to enhance one's position in the labour market does, however, require effective career self-management competencies which universities – in collaboration with other stakeholders in HE - are responsible for cultivating.

Despite the effective development of career management competencies, there may be barriers that prevent some undergraduates from meeting employers' ever rising benchmarks for successful graduate recruitment. Family pressures, including the need to gain immediate employment to support the family and meet caring responsibilities, may impact on career decisions and subsequent satisfaction with one's choices. Other barriers may include cultural values and expectations, socio-economic status and ethnicity. Career management provision needs, therefore, to introduce students to

ways of effectively managing these barriers through, for example, counselling on different pathways and outlining the availability of assistance from local bodies or the government. Heightened provision during periods of economic downturn and soft graduate labour market is particularly critical.

Findings indicate age is positively associated with CCS although this effect is 'washed out' when perceived employability is included in the analysis. For institutions with a more traditional student profile of school leavers and younger students, career development learning is particularly important given students cohorts are likely to have less work and life experience to inform their career decisions. Further, younger students are less likely to be exposed to a peer network of experienced professionals who are able to give advice on the nature and expectations of particular roles and pathways suitable for reaching them. Of importance, there is a lower take-up of career management provision among mature-age students (Dfee, 2001). Wilton (2011) asserts that younger graduates may benefit more from employability interventions at university, such as skill development, supported by Jackson's (2014) analysis of over 28,000 Australian graduates. The design, content and structure of career management provision within universities, therefore, should be particularly mindful of the needs and preferences of its younger students.

Findings indicate there is relatively higher career choice certainty and satisfaction among the Australian graduates. This may be explained by the vocational entry pathways common to the Australian university. These students, even if they are the same age as those articulating through the more traditional school pathway, will already have some exposure to working which may help inform their career decisions. This may only amount to helping them decide what they don't want to do but may also provide valuable input in the decision-making process and certainty with their choices. It is less likely to be the case that the decision to enter HE was driven by desire to gain entry to an occupational field, rather than simply to improve employment prospects more generally. Further, economic and labour market conditions over the past six years in the UK, particularly the unpredictable demand for graduate labour (UKCES, 2015), may explain weaker confidence and satisfaction in career choices among the UK students. In comparison, Western Australia's economy

has been relatively buoyant with little sign of economic recession during and following the global financial crisis.

In contrast to previous studies, a gender effect was not detected. This may be particular to the sample yet the data suggest career management provision should be equally targeting males and females in its efforts to enhance CCS among the student population. The lack of variation in CCS across different specialisations is interesting and may reflect the generic nature of career development learning for students within the business and management disciplinary field. The impact of career management competencies, defined by the DOTS framework, highlights the underlying importance not only of quality career management provision in university but also a model that encourages students to engage with career self-management. Providing an efficient careers service will not, it appears, suffice as many students fail to engage with the vast array of provision that includes workshops, seminars and individual counselling sessions. Embedding career development learning into the curriculum and/or operating under a combined central and Faculty-based model may enhance student engagement with provision and, ultimately, their competencies in this area. Certainly, the institution effect in this particular study attests to the importance of career management provision with the Australian university implementing a core unit on career self-management for all Business students. This was introduced approximately six years prior and may partly explain the elevated CCS ratings among the Australian sample. In contrast, at the UK university, career management activities are subsumed within disciplinary modules or provided via a centralised function, engagement with which is optional.

Clearly how a student perceives their chances of gaining employment influences their satisfaction and certainty with career choices. Those students who believed their experience, personal qualities and skills are desired in the labour market, as well as having access to a network which can open up new work opportunities for them, demonstrated greater career choice satisfaction. It is important, therefore, that universities not only nurture the disciplinary expertise and non-technical skills which are desired by industry but also communicate these clearly to undergraduates and

empower them with the ability to articulate their abilities to potential employers. Evidence suggests that even the most capable graduates may not perform well in recruitment and selection processes as they are unaware of the skills and qualities which industry is targeting and/or they cannot adequately demonstrate they have acquired them during their studies (Wilton, 2014). The use of e-portfolios and assessment instruments in classrooms that emulate current selection practices (such as assessment centres, video pitches, tele-interviews) are designed to assist with this. A further responsibility of universities and industry is to help students to access professional networks to both enhance confidence and provide relevant job opportunities. This can be achieved in a number of ways with WIL (both placement and non-placement), collaborative partnerships with professional associations, industry mentoring schemes, alumni events and part-time employment being key examples. Although social class indicators were not included in this study, previous studies suggest those students of a lower socio-economic status may need more assistance in this area due to their lack of exposure to professional networks (Macmillan, Tylor and Vignoles, 2013).

Conclusion

Findings suggest that students often make career decisions prior to completion of their studies and are reasonable satisfied with their choices regarding occupational field and specific occupation type. Satisfaction levels are relatively higher for choices relating to the broad occupation field that suggests many have a broad idea of the field they wish to pursue but not perhaps the specific role. CCS differs across the two universities with the UK cohort demonstrating, on average, lower satisfaction levels across all four items and a higher incidence of individuals not making any kind of career decisions. This may be attributed to the nature of the institution with the Australian university having a high incidence of mature-age students and articulation encouraged via vocational pathways with these students likely to have increased exposure to the work environment and therefore a clearer idea of where they are heading. Student capabilities in career self-management, defined by the DOTS framework as self-awareness, opportunity awareness, decision-making learning and transition learning, also impacted on CCS. This emphasises the importance of a quality career development learning model in universities which encourages students to actively engage with the different aspects

of effective career management. Unlike the UK institution, the Australian university incorporates a core academic unit that is dedicated to career self-management into Business undergraduate programmes. The unit addresses many elements of the DOTS framework and may also explain the elevated career choice ratings among the Australian sample.

Findings indicate that stage of study is pertinent, with those in the latter stages having a higher inclination towards satisfaction with career choices. This supports the wide opinion that strategies for promoting career self-management among undergraduates should be starting earlier than the more traditional model of final year activity. Perceived employability is also important with student opinion of their chances of gaining employment influencing their satisfaction and certainty with career choices. This relates to confidence in their personal qualities and skills, as well as the ease with which they can access opportunities through established networks. This underlines the benefit of universities developing students equipped with the necessary skills and expertise required by industry and providing opportunities that expose them to industry and generate networking and employment opportunities in their intended field.

The study was limited to exploring the influence of only certain demographic and background characteristics on career choice with no consideration of other factors such as religion, social needs, life circumstances and family background. Duffy and Dik (2011) argue the influence of external factors is under-researched, particularly for those who are employed and balancing family, work and other life circumstances and where external influences are most salient. Despite classing undergraduates as less susceptible to what Duffy and Dik term as 'pervasive' external influences, the growth in mature-age students and those working significant hours to support their studies renders further research in this area important. The sample comprised students from two institutions, which do vary in characteristics, and concentrates on one field of study. It may be beneficial to broaden the study of CCS beyond the field of Business, given the influential role of Faculty affiliation on career indecision and anxiety (Daniels et al., 2011). Further, the study utilises one survey instrument at one point in time and which relies on self-reported data for CCS, career management competencies and

perceived employability. This raises documented concerns with accuracy (Sitzmann et al., 2010) and common method variance (Podsakoff et al., 2003). Finally, the sample comprises undergraduates who have participated in WIL during their studies or gained work experience within the previous 12 months. This may upwardly skew CCS, given their exposure to the work setting and insight into what their work preferences may or may not be. Given, however, the very high incidence of students working during their studies (Purcell et al. 2013), this bias may not be problematic.

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