

Antecedents of perceived graduate employability: A study of student volunteers in a community-based organisation



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Dates:

Received: 21 Sept. 2015
Accepted: 11 Dec. 2015
Published: 17 May 2016

How to cite this article:

Goodman, S. & Tredway, G. (2016). Antecedents of perceived graduate employability: A study of student volunteers in a community-based organisation. *SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde*, 42(1), a1315. <http://dx.doi.org/10.4102/sajip.v42i1.1315>

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Orientation: There is growing interest in understanding the factors that contribute to graduates' employability, but limited local knowledge. International research has pointed at volunteering as one avenue for enhancing employability, and this study presents results that looked at volunteering in the context of employability in a South African sample.

Research purpose: This study aimed at investigating motivations to volunteer, perceived graduate competencies, extent of participating in volunteering, along with gender and faculty of registration, as antecedents of perceived graduate employability among student volunteers and to compare the relative contributions of these antecedences in predicting perceived employability.

Research approach, design and method: A cross-sectional research design and a quantitative data collection method were used. The relative weights analysis was conducted to answer the research question.

Main findings: Overall, the results demonstrated, firstly, that different sets of predictors statistically significantly predict Perceived External Employability and Perceived Internal Employability, respectively. In the case of Perceived External Employability, a biographical predictor (faculty of registration) is the strongest predictor, whereas in the case of Internal Employability, a questionnaire measurement (of Social Motivation) comes out on top.

Practical implications/managerial implications: The social motivation factor as a predictor of perceived internal employability suggests that the more students valued the social interactions brought about by their volunteering activities, the better they saw themselves equipped for employment. This gives some weight to the argument that engaging in volunteer activities can help equip students with competencies that make them more prepared for the world of work.

Contribution/value-add: The study provided support for the construct validity of the scale for the measurement of perceived employability and evidence that different sets of predictors contribute to perceived internal and external employability.

Introduction

The phenomenon of unemployed graduates, who are without the abilities to self-employ and self-determine, after spending three to four years of post-secondary education is an indication to all of us of the challenge in our education at a tertiary level. (Mlambo-Ngcuka, 2006, p. 3)

Research purpose and objectives

This study aims to investigate motivations to volunteer, perceived graduate competencies, extent of participating in volunteering, along with gender and faculty of registration as antecedents of perceived graduate employability among student volunteers and to compare the relative contributions of these antecedences in predicting perceived employability.

In the process, the researchers hope to generate data to support the discourse around graduate employability through providing empirical evidence about what graduate employability is and an avenue in which it is developed, thereby providing students with information to assist them in the development of their graduate employability and moreover, to assist higher education institutions that offer opportunities for volunteerism with information to support and potentially improve this offering.

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There is a small body of research suggesting volunteerism is one of the possible avenues for students to develop graduate competencies (Handy *et al.* 2010; Holdsworth, 2010; Holdsworth & Quinn, 2010; Hustinx, Cnaan & Handy, 2010). However, there is insufficient international or local evidence to show that volunteering positively impacts employability (Holdsworth & Quinn, 2010).

Literature review

Graduate employability

Recent research on the changing nature of work shows that graduates entering the world of work today are encountering a workplace with organisational structures that differ greatly from previous generations (Andrews & Higson, 2008; Brevis-Landsberg, 2012; Chetty, 2012). Modern economies in the 21st century are rapidly evolving, and this leads to a corresponding change, and increase, in the demand for highly qualified, highly skilled employees. The new employee needs to be equipped to deal with the nature, scope and skill requirements vital for this fast-paced, dynamic and demanding labour market (Brown & Lauder, 1992; Chetty, 2012; Gracia, 2009). Educational qualifications are no longer sufficient to guarantee success within the workplace (Chetty, 2012; Cranmer, 2006; Hesketh, 2000; Mason, Williams & Cranmer, 2006). The focus of graduates needs to shift to what former Prime Minister of the United Kingdom, Gordon Brown, calls employability for life (Moreau & Leathwood, 2006). Embedding employability which lasts a lifetime hinges on the ability to develop skills and attributes needed within industry and much of this is formed during university years (Yorke, 2004, 2006). However, the perspective of many employers is that graduates are not leaving higher education with the necessary skills to impress within the workplace (Cranmer, 2006; Green, Hammer & Star, 2009; Griesel & Parker, 2009; Hesketh, 2000; Tate & Thompson, 1994). Globally, there is a concern that there is a divide between the teaching in higher education institutions and organisational demands needed to obtain a competitive advantage (Andrews & Higson, 2008; Gracia, 2009; Green *et al.* 2009; National Committee of Inquiry into Higher Education, 1997).

Although there is still much debate as to the definition of graduate employability, a comprehensive review of the literature indicated that there may be more similarities in defining the concept than previously thought and two predominant schools of thought emerged. The first is based on the ground-breaking work of Hillage and Pollard (1998), who defined employability as 'having the capability to gain initial employment, maintain employment and obtain new employment if required' (p. 1). The definition included four main elements: (1) employability assets, which takes into account knowledge, skills and attitudes; (2) deployment, which refers to career management skills; (3) presentation, which is explained as the ability to present oneself in order to find employment; and finally, (4) personal circumstances and external factors, which take into account individual situational impacts as well as the level of opportunities that are currently found in the labour market (Hillage & Pollard, 1998). Similarly, Yorke (2004) defines graduate employability as:

a set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy. (p. 8)

A possible reason for the popularity of this definition is that employability is more than gaining a job, but is also the possession of the skills, personal motivation and business reasoning that lead graduates to make an immediate contribution to productivity and organisational objectives (Mason *et al.* 2006).

The second school of thought which holds a slightly divergent viewpoint to the first is that graduateness and employability are not a single concept but are separate in nature and therefore definition (Coetzee, 2012; Glover, Law & Youngman, 2002). Glover *et al.* (2002) viewed them as separate concepts that have an impactful relationship with each other. They maintain that graduateness is the effect that completing a higher education qualification has on an individuals' skills, knowledge and attitudes. Employability is different from this and is viewed as the enhanced capacity to secure employment (Glover *et al.* 2002). Therefore, in their view, graduate employability is the acquisition of general transferable skills, which, once gathered, requires assimilation into national and international employment (Glover *et al.* 2002). This is similar to the stance taken by Coetzee (2012), who maintains that the meta-skills and personal attributes underlying a students' graduateness facilitate the transition to employability but are not the same concept. Rather, graduateness is seen as:

the inherent characteristics (transferable meta-skills and personal attributes) of graduates ... that differentiate them as responsible, accountable, relevant, ethical (RARE) and enterprising citizens, and employees of choice in the workplace (Coetzee, 2012, p. 121).

Employability as career-related attributes that promote adaptive cognition, behaviour and affect and enhance a graduate's suitability for sustained employment (Coetzee, 2012). Therefore, it stands to reason that graduates need to obtain competencies that increase their likelihood of obtaining employment. These concepts are distinct yet related.

Extent of volunteering experience and graduate attributes

Research indicates that there are a number of different activities that could assist in increasing graduates' employability (Valentine, Cooper, Bettencourt & Du Bois, 2011). One of these is volunteering. Volunteering allows students to interact with people from diverse groups, to place themselves in unfamiliar situations and to be instrumental in the organisation of projects (Planty, Bozick & Regnier, 2006). These situations and functions have been shown to assist in the creation of core personal and academic skills (Handy *et al.* 2010; Holdsworth, 2010; Holdsworth & Quinn, 2010). In fact, research has shown that engagement in community activities may well be a more robust learning environment for educational and personal development and that volunteering founded on mutual reciprocity is beneficial for student attributes (Mason O'Connor, Lynch & Owen, 2011).

Volunteering was traditionally an activity done to add value to society or from a religious sense to 'do something good' (MacDuff, 2005; Smith *et al.* 2010). As students acknowledge the pressure of a competitive graduate labour market, there is a move to bolster one's CV through engagement in volunteer work (Handy *et al.* 2010; Holdsworth, 2010). The seminal work conducted by Astin, Sax and Avalos (1999) was aimed at understanding the lasting impact of volunteering on students. From a sample of 279 985 students from 546 university across the United States, they found that students who have volunteered during their tertiary education developed important life skills, which included leadership, self-confidence, critical thinking and increased academic development (Astin *et al.* 1999). They also found that volunteering better prepared students for work. In other words, they became more economically employable (Freeman, 1997). Furthermore, there is research which suggests that employers value volunteer experience when assessing a student for a position within their organisation (Hinchliffe & Jolly, 2011). Some authors raise a concern, though, that volunteering may be seen as a line item on a CV and not necessarily contributing to the advancement of the students' core skills and personal characteristics identified by students and employers alike (Gronlund *et al.* 2011; Holdsworth & Quinn, 2010).

There appears to be a move from the traditional regular forms of volunteering to that which is more episodic in nature allowing for flexibility and control in a world which demands this (Cnaan & Handy, 2005; Hustinx & Lammertyn, 2003). The move to measure volunteerism along a time continuum is becoming a reality for a society, which has volunteer involvement as just one of the many elements of life (Cnaan & Handy, 2005; MacDuff, 2005). The question that researchers are beginning to ask is whether the frequency of time spent is related to the perceived employability.

Smith *et al.* (2010) asked 4081 students from across five countries (United States, United Kingdom, Canada, Australia and New Zealand) about their motivations to volunteer, the apparent benefits as well as the structural elements associated with their involvement. Students who had a higher involvement in volunteering perceived themselves to have obtained more personal benefit and development. Regular involvement was critical to the growth of professional attributes and academic engagement and was defined as volunteering on a continuous basis, measured weekly and monthly in hours.

These findings were substantiated by research conducted across 12 countries by Handy *et al.* (2010), who found that the frequency of time spent volunteering had a direct impact on the experience gained from the activity and the perception of benefits obtained. Of the 9482 students who responded, they maintained that the number of hours of volunteer work per year as well as the occurrence of volunteering had a direct impact on the achievement of desired benefits (Handy *et al.* 2010).

Psychosocial motivators of volunteering

Students volunteer for a number of different reasons (Gronlund *et al.* 2011; Handy *et al.* 2010; Holdsworth, 2010; Smith *et al.* 2010), and as the generations have changed and the demand for employability skills has become a relevant topic, some researchers believed that students would be motivated to volunteer in order to progress their careers (Handy *et al.* 2010; Smith *et al.* 2010). The premise is that they would be able to add this to their CV and therefore enjoy the benefit of increased employer acceptance. Handy *et al.* (2010) investigated whether student volunteering was primarily driven by resume building and hypothesised that if it was driven by CV building that students would be less motivated to invest significant amounts of time into volunteer work and would therefore have limited benefit from the experience. Not only was their hypothesis not supported by the data but it was found that altruistic motivations significantly drove students to volunteer (Handy *et al.* 2010). The students, who volunteered based on altruistic drivers, viewed CV building as a personal benefit achieved through the experience but it was not their primary motivator (Handy *et al.* 2010). This is in line with research that has found that the majority of students are not necessarily volunteering based on career drivers, but have more of an altruistic impetus to volunteer (Clary *et al.* 1998; Hwang, Grabb & Curtis, 2005). Correspondingly, they have found that students who volunteer in order to add value to society perceive an increase in beneficial outcomes from the experience (Handy *et al.* 2010; Smith *et al.* 2010).

Holdsworth (2010) found that 3083 students from six universities throughout England were motivated to volunteer based on the drive to increase their employability. Although there was a bias towards career motivation, there was also a high-level agreement across a number of motivators with students suggesting that the act of volunteering was viewed as a positive tool to aid them in the transition to adulthood (Holdsworth, 2010). They also saw volunteering contributing to the development of their self-confidence, ability to interact with others and capacity to circumnavigate difficult situations (Holdsworth, 2010). Students who were driven by the desire to give back experienced these benefits more than the career-focused students. Correspondingly, Smith *et al.* (2010) found that students were motivated to volunteer by a combination of career, social and altruistic drivers.

Social or ego-protective motivation also has been investigated as possible antecedents as people are increasingly driven by self-oriented reasons (Hwang, *et al.* 2005). Handy *et al.* (2010) combined social and ego into a single concept and found that if people volunteered based on a social imperative they were as likely to engage in volunteering as the career and altruistic motivations but that they would experience less beneficial outcomes. In addition, Smith *et al.* (2010) combined this concept but measured it in items that focused on social and ego separately. The desire to make friends accounted for 53% of the reason for volunteering, with the need to protect ones' ego being reported at 28.5% of the motivational reason. However, they found that students volunteering based on

these reasons reported marginally less beneficial outcomes through their volunteer activity. This is substantiated by Holdsworth (2010), who found that students who volunteered for social reasons did not report benefits as readily as those with other motivations.

Research design

Research approach

A cross-sectional research design and a quantitative data collection method were used. This took the form of an online, self-report questionnaire to allow for the data to be statistically analysed and for associations to be made between variables.

Research method

Research participants

The research objective called for a sample of people who are or were involved in volunteer activities. In order to access this group of participants, a relationship was formed with the Students' Health and Welfare Centres Organisation (SHAWCO). This is a volunteer organisation associated with a university in the Western Cape Province and is focused on improving the lives of previously disadvantage communities within the Cape Town metropolitan area. It has more than 5000 student volunteers recorded on its database over the last 5 years and is currently the largest student organisation in the university.

A non-probability sampling approach was used, as the sample was selected based on accessibility as well as the needs of the research. Because of the integrity of the data within the SHAWCO database as well as the electronic tracing of emails as spam, only 3639 surveys were successfully distributed via email. Of the 3969 participants, 327 responded, with 273 of the surveys being completed. In order to overcome these limitations and increase the response rate, the survey was personally distributed by hand before the start of daily volunteer activities, with completed copies being placed in sealed boxes to ensure anonymity. This increased the sample by 17 participants, which was less than expected. The survey link was emailed to both current and past SHAWCO volunteers; therefore, the participants were more diverse than just those currently studying. Initially, 242 participants had been involved, but after omission of those who failed to complete both criterion measures, only 151 remained.

Measuring instruments

Perceived graduate employability: Rothwell and Arnold (2007), who are based in England, developed a measure for self-perceived employability based on the findings of Hillage and Pollard (1998) and Knight and Yorke (2004). They hypothesised that employability was related to an individuals' discernment of their skills and abilities and how they perceived an organisation would react to them as individuals with varying characteristics and attributes. They concluded that self-perceived employability could be a unitary construct or one with two components (Rothwell & Arnold, 2007).

Rothwell, Herbert and Rothwell (2008) expanded the theoretical concept to relate specifically to students and their perception of their ability to find employment after completion of their studies. In a study assessing 344 students from three universities in England, it was found to be a consistent measure ($\alpha = 0.75$) of the construct of graduate employability and similarly assessed the perception of skill sets within the marketplace (Rothwell *et al.* 2008). While there is limited evidence to demonstrate whether this measure has been used in other contexts, an objective of this research is to examine its reliability and validity within the context of this study and South Africa. The original measure had 16 items, but because of an increase in the reliability coefficients, three items were removed. Internal reliability reporting for this measure is high ($\alpha = 0.75$). Items were rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Graduate competencies: The 16-item scale developed by Lichtenstein, Thorne, Cutforth and Tombari (2011) was used in this study as it aligned with the literature review findings in terms of the required competencies. In addition to this, it was developed within a volunteering context. Community-Based Research (CBR) is a form of service learning and is a response to the shortfall in universities to address the demand for development of graduate competencies. Universities embracing this concept postulate that volunteerism is an effective way of developing graduate competencies and therefore embed volunteering into the core curriculum (Lichtenstein *et al.* 2011). It differs from traditional volunteerism in that it is discipline focused and requires reflection on the learning gained from participation. The measure involved was developed to test the outcomes of CBR through a survey which was completed by 166 students from those universities that had implemented CBR in the United States. The outcomes identified included the following: (1) academic skills ($\alpha = 0.91$); (2) educational experience ($\alpha = 0.87$); (3) civic engagement ($\alpha = 0.86$), (4) personal growth ($\alpha = 0.94$) and (5) professional skills ($\alpha = 0.91$) (Lichtenstein *et al.* 2011). Civic engagement was not used as a subscale as there is little evidence which relates this as a necessary skill for employability; therefore, this measure has four subscales. Items were rated on a 5-point Likert scale from 1 (not at all) to 5 (extensively). Cronbach alpha reliabilities reported by Lichtenstein *et al.* (2011) were high for the following components: academic skills ($\alpha = 0.80$), educational experience ($\alpha = 0.87$), professional skills ($\alpha = 0.91$) and personal growth ($\alpha = 0.94$). The overall Cronbach alpha reported by Lichtenstein was $\alpha = 0.95$.

Motivation for volunteering: The 30-item scale called the Volunteer Functions Inventory developed by Clary *et al.* (1998) was used. The scale has six subscales measuring values, understanding, social, career, protective and enhancement. Items were rated on a 5-point Likert scale ranging from 1 (not at all important) to 5 (extremely important). Cronbach alpha reliabilities reported by Clary *et al.* (1998) were high for each

component: values ($\alpha = 0.80$), understanding ($\alpha = 0.81$), social ($\alpha = 0.83$), career ($\alpha = 0.89$), protective ($\alpha = 0.81$) and enhancement ($\alpha = 0.84$). Four of the original six subscales were used.

Involvement in volunteering: As the work of Handy *et al.* (2010) has been replicated in other studies, the two items they used to get information on the level of involvement in volunteering was used. It focused on the intensity of volunteering, which was measured by the frequency of volunteer work (1), occasionally (2), weekly (3), monthly (4) other (5) and the years of past involvement.

Demographic variables: Separate single items were used to obtain information regarding gender, age and faculty of study. Gender was coded (1) for female students and (2) for male students. Faculty of study was coded (1) for commerce, (2) for engineering, (3) for humanities, (4) for legal, (5) for medical and (6) for science. Other was originally coded as (7); however, because of the combination of faculties in which participants had studied, other was removed and (7) became a combination of more than one faculty of study. Highest level of degree was coded (1) for undergraduate, (2) for honours, (3) for masters, (4) for doctorate and (5) for other.

Research procedure and ethical considerations

After ethics permission for the study was obtained from the necessary authorities, a pilot study was conducted with six participants who were currently involved in volunteer work or had been so in the past. It also included participants from various volunteer roles. The number of people within the pilot study was intentionally limited so as not to impact the response rate while still gaining sufficient feedback in order to meet the pilot study objectives. Based on the pilot study, changes were made in the grammatical structure of certain items. This was to account for the people who were currently participating in volunteer work and those who had previously volunteered but were not currently involved. The same items were used; however, the tenses were changed in order to cater for this. Furthermore, amendments were made to the instructions of the graduate employability scales as well as the outcomes scales to increase their clarity. Concerns around the length of the questionnaire were outweighed by the necessity to gather all relevant information outweighed these concerns; therefore, all items were included.

The electronic questionnaire was created on Survey Monkey, with the link being distributed via email. Survey Monkey, a privately owned company, allows for flexibility in construction of surveys as well as coding and extraction of data. One of the benefits of this survey package is that the data can be directly transferred into Statistical Package for Social Sciences (SPSS). Survey Monkey was used based on these benefits as well as the ability to reach the proportion of people who had completed their higher education and therefore were no longer actively participating at SHAWCO. In addition to this, authorisation by the researcher's employer to use their premium contract was given and therefore ensured that access was obtained to the full functionality.

The survey was made up of 85 items for students. The initial item in the questionnaire asked whether the participant was volunteering, had volunteered in the past or had no volunteer experience. If the participant had not engaged with volunteer work, they were unable to continue with the questionnaire. On the email and cover letter, an explanation of the objectives was provided as well as information relating to the anonymous nature of the research. In addition, it required that people acknowledge informed consent to participate in the survey. The questionnaire took between 15 and 20 minutes to complete.

Data analysis

Data preparation included cleaning, coding and capturing the data from the paper-based questionnaires. SPSS (version 20) was used for analysing the data. The sets of items designed to measure perceived employability (13 items), motivation for volunteering (20 items) and graduate competencies (16 items) were examined separately by the Kaiser-Meyer-Olkin (KMO) test and the Bartlett's test of sphericity before these sets of items were subjected to principal axes-factor analysis followed by an oblimin rotation. Kaiser's criterion was used to decide the number of factors that should be retained. The resulting scales found for the motivation items, the competencies items and the employability items as well as student's gender, faculty of study, hours spent volunteering and frequency were then inter-correlated and standard multiple regressions were performed to predict employability on the basis of these variables. Finally, a relative weight analysis was performed in terms of the RWA Web-based system (Tonidandel & LeBreton, 2014) to determine their relative contributions in explaining perceived employability variance. The 5% level of significance was used throughout.

Each of the factor analyses was performed on at least 242 participants. However, after the omission of those students for whom data on some of the predictor variables and particularly the dependent variable were missing, the data for only the remaining 151 participants were used in the subsequent analyses.

As can be seen from Table 1, the participants were predominantly (66%) female students. They came from a variety of faculties with women proportionally over-represented in the Humanities – 44% of the women were registered in the Humanities faculty as opposed to 24% of

TABLE 1: Cross-tabulation of faculty and gender.

Faculty	Gender		Total
	Male	Female	
Commerce	15	23	38
Engineering	13	5	18
Humanities	12	44	56
Legal	0	6	6
Medical	4	12	16
Science	7	10	17
Total	51	100	151

the men. Their age ranged from 18–55 ($M = 22.59$), with the age distribution between 19 and 25 accounting for 81% of the participants. The majority of the students (75.5%) volunteered on a weekly basis, whereas the remainder volunteered either only occasionally or monthly.

Results

Factor analysis results

Motivation to volunteer scale

Principal axis extraction with oblimin rotation of the Clary *et al.* (1998) items showed four significant factors that were determined with Kaiser normalisation. Both the KMO and the Bartlett's test of sphericity produced criteria that supported the application of factor analysis (KMO = 0.88; Bartlett's test of sphericity – $\chi^2 (190) = 2113.118, p = 0.00$). However, as protective motivation, item 3, had a factor loading of only 0.32, it was removed. The remaining 19 items loaded onto four factors with eigenvalues greater than 1.0, accounting for 62.68% of the cumulative variance. Table 2 reports the factor matrix of the four factors. Coefficient alpha varied between 0.79 (for career) and 0.83 (for both values and social). The highest correlation (0.39) between the factors was between career and values and the lowest (0.31) was between social and protective.

The five career items loaded onto Factor 1 with factor loadings ranging from 0.53 to 0.80 and defined Career Motivation. The five Values items loaded onto Factor 2 (Factor loadings from 0.58 to 0.80) and this factor was renamed Altruism. The five Social items loaded onto Factor 3, labelled Social Motivation, ranging from 0.65 to 0.76. Finally, the four protective items had factor loadings that varied between –0.61 and –0.77 and was defined as Protective Motivation.

TABLE 2: Factors for motivation items.

Variable	Factor			
	1	2	3	4
Motivation - Career 1	0.698	-	-	-
Motivation - Career 2	0.802	-	-	-
Motivation - Career 3	0.532	-	-	-
Motivation - Career 4	0.560	-	-	-
Motivation - Career 5	0.603	-	-	-
Motivation - Social 1	-	-	0.693	-
Motivation - Social 2	-	-	0.649	-
Motivation - Social 3	-	-	0.755	-
Motivation - Social 4	-	-	0.715	-
Motivation - Social 5	-	-	0.694	-
Motivation - Values 1	-	0.790	-	-
Motivation - Values 2	-	0.581	-	-
Motivation - Values 3	-	0.790	-	-
Motivation - Values 4	-	0.805	-	-
Motivation - Values 5	-	0.592	-	-
Motivation - Protective 1	-	-	-	-0.772
Motivation - Protective 2	-	-	-	-0.608
Motivation - Protective 4	-	-	-	-0.690
Motivation - Protective 5	-	-	-	-0.755

Note: Factor 1, Career Motivation; Factor 2, Altruism; Factor 3, Social Motivation; Factor 4, Protective Motivation.

TABLE 3: Factor matrix for graduate competencies.

Variable	Factor		
	1	2	3
Outcomes - Academic Skills 1	0.377	-	-
Outcomes - Academic Skills 2	0.724	-	-
Outcomes - Academic Skills 3	0.719	-	-
Outcomes - Academic Skills 4	0.498	-	-
Outcomes - Professional Skills 2	0.540	-	-
Outcomes - Professional Skills 3	0.573	-	-
Outcomes - Education Exp 1	-	-	0.625
Outcomes - Education Exp 2	-	-	0.837
Outcomes - Education Exp 3	-	-	0.575
Outcomes - Education Exp 4	-	-	0.686
Outcomes - Professional Skills 1	-	0.538	-
Outcomes - Professional Skills 4	-	0.835	-
Outcomes - Professional Skills 5	-	0.687	-
Outcomes - Personal Growth 1	-	0.659	-
Outcomes - Personal Growth 2	-	0.689	-
Outcomes - Personal Growth 3	-	0.585	-

Note: Factor 1, Perceived Academic Skills Development; Factor 2, Perceived Interpersonal Skills; Factor 3, Perceived Career Fitness.

Graduate competencies scale

Extraction using principal axis-factoring with direct oblimin rotation and Kaiser normalisation indicated three significant factors with eigenvalues greater than 1.0, accounting for 43.51, 12.32 and 8.02% of the total variance. The KMO and Bartlett's test produced criteria that supported the application of principal axis-factoring (KMO = 0.863; Bartlett's test of sphericity: $\chi^2 (120) = 2302.836, p = 0.00$). The factor loadings onto the three factors are represented in Table 3.

The first factor was defined by the four Academic Skills items together with the second and third Professional Skills items and was labelled Perceived Academic Skills Development. The second factor was formed by the first, fourth and fifth Professional Skills items and the three Personal Growth items. This factor was identified as a Perceived Interpersonal Skills factor. The third factor was made up exclusively of Education items (nos. 1–4) and was labelled Perceived Career Fitness. Coefficient alpha for the three factors were 0.86, 0.85 and 0.85 respectively. The highest correlation (0.64) was between factor 1 Perceived Academic Skills Development and factor 2 Perceived Interpersonal Skills and the lowest (0.48) was between Perceived Interpersonal Skills and Perceived Career Fitness.

Graduate employability scale

After items 1, 2 and 7 had been eliminated because of an initial factor analysis, principal-axis extraction with oblimin rotation lead to two factors with eigenvalues of 3.9 and 1.6 accounting for 40 and 16% of the variance. Both the KMO and the Bartlett's test of sphericity produced criteria that supported the factor analysis (KMO = 0.78; Bartlett's test of sphericity – $\chi^2 (45) = 787.81, p = 0.00$) (Table 4).

Factor 1 was made up of six items which all related to the perceived usefulness (for employers) of the respondents' formal qualifications, whereas the items defining Factor 2

TABLE 4: Factor matrix for graduate employability items.

Variable	Factor	
	1	2
GradE3	-	0.750
GradE4	-	0.776
GradE12	-	0.456
GradE13	-	0.487
GradE5	0.441	-
GradE6	0.402	-
GradE8	0.801	-
GradE9	0.762	-
GradE10	0.875	-
GradE11	0.519	-

Note: Factor 1, External employability; Factor 2, Internal employability.

were dealing with respondents' personal views of their suitability for employment. These factors were identified as External and Internal Employability, respectively. Coefficient alpha was 0.83 and 0.72 for the two factors, respectively, and they correlated at 0.42.

The left-hand side of Table 5 shows the results for the standard multiple regression and the relative weights analysis for the External Employability as dependent variable and the right-hand side lists the corresponding results for Internal Employability as dependent variable. Gender was coded as Female = 1, Male = 0. As there were relatively small numbers of students in the faculties of Engineering, Law, Medicine and Science, the students in these faculties were grouped together and faculty registration was coded as the following two dummy variables: Commerce 1, and All the rest = 0; Humanities = 1 and All the rest = 0.

Results for the prediction of Perceived External Employability

As shown in Table 5, the 13 predictors explained 49.0% of the criterion variance in the case of External Employability, which translated into a Cohen's (1992) f^2 effect size index of $0.49/(1 - 0.49) = 0.96$. In terms of the standard multiple

regression, there were two statistically significant (5% level) predictors. These are (with their beta coefficients given in brackets) Membership of the Humanities faculty (-0.85), and the Perceived Interpersonal Skills factor (0.13) of the Competencies scale. However, the relative weights analysis yielded a single significant predictor, namely, Membership of the Humanities faculty, which showed a relative weight of 0.27, representing 56.91% of explained External Employability variance.

Results for the prediction of Perceived Internal Employability

As shown in Table 5, the 13 predictors explained 31.8% of Internal Employability criterion variance, which corresponded to a Cohen's (1992) f^2 effect size index of $0.318/(1 - 0.318) = 0.46$. The standard multiple regression returned three statistically significant predictors, namely, the Social Factor of the Motivation Scale (beta = 0.24), gender (0.22) and the Perceived Career Fitness factor of the Competencies scales. (0.15). However, when it comes to the relative weights analysis, the relative weight of only the Social Motivation Factor was statistically significant. The relative weight of this predictor was 0.10 and it explained 31.15% of Internal Employability variance.

Discussion

Outline of the results

The lack of a perfect agreement between the multiple regression and the relative weights analysis results is to be expected because these two procedures approach the partitioning of the explained criterion variance of correlated predictors, as in the present case, differently. Although greater importance probably should be attached to the relative weights analysis results than to the standard multiple regression results, results that are the same for both procedures should probably be afforded even a greater priority.

TABLE 5: Multiple Regression and Relative Weights Analysis Results for External and Internal Employability.

Variable	External Employability				Internal Employability			
	Beta	<i>p</i>	RW	<i>R</i> (%)	Beta	<i>p</i>	RW	<i>R</i> (%)
Intercept	-	2.21	0.00	-	-	1.55	0.00	-
Commerce	0.12	0.37	0.04	8.44	0.11	0.34	0.01	3.23
Humanities	-0.85*	0.00	0.27*	56.91	-0.16	0.13	0.02	7.35
Gender	0.21	0.07	0.03	5.80	0.22*	0.02	0.03	9.40
Age	0.00	0.94	0.00	0.07	0.02	0.27	0.00	1.53
Hours	0.00	0.82	0.00	0.44	0.01	0.20	0.01	4.74
Frequency	0.16	0.056	0.02	4.16	0.11	0.10	0.02	7.85
Motiv.1	0.13	0.07	0.03	6.26	0.06	0.32	0.01	4.75
Motiv.2	0.12	0.08	0.03	6.25	0.00	0.99	0.00	0.98
Motiv.3	0.08	0.30	0.01	2.45	0.24*	0.00	0.10*	-31.15
Motiv.4	-0.05	0.39	0.00	0.68	-0.06	0.24	0.01	1.64
Comp.1	-0.10	0.19	0.01	1.40	-0.06	0.34	0.01	4.49
Comp.2	0.13*	0.04	0.02	5.25	0.08	0.12	0.03	10.41
Comp.3	0.05	0.56	0.00	0.94	0.15*	0.05	0.04	11.55

External employability: $R^2 = 0.490$ (Adjusted $R^2 = 0.425$); Internal employability, $R^2 = 0.318$ (Adjusted $R^2 = 0.247$).

RW, relative weight (sums to R^2); Relative percentage (sums to 100).

*, $p < 0.05$.

In terms of the multiple regression, the same 13 predictors predicted almost twice as much variance of Perceived External Employability than they explained of Perceived Internal Employability (49.0% as opposed to 31.8%). In both cases, the corresponding effect size indices are regarded as large in terms of Cohen's (1992) scheme of effect sizes: (0.02 = small; 0.15 = medium; 0.35 = large). (As a matter of fact, as Cohen takes 0.35 as indicative of a large effect size, particularly the effect size of 0.96 for the prediction of External Employability possibly should qualify as extremely large.)

Both the conventional regression analysis and the relative weights analysis suggest that registration in the Humanities faculty was by far the best predictor of External Employability. In terms of the relative weights analysis, this predictor explains more than half (56.91%) of the variance of External Employability with all the other predictors combined explaining only 43.09%. Given the way in which this non-metric predictor was coded, the negative sign of the beta coefficient for this predictor means that students in the Commerce, Engineering, Legal, Medical and Sciences faculties felt that employers would view them as better qualified for employment than did students in the Humanities faculty. Perhaps, it is no surprise that students registered in the latter applied sciences viewed themselves as better qualified for obtaining employment than did those in the relatively more theoretical disciplines taught in the Humanities faculty.

Although *frequency of volunteering* did not return a significant result in terms of the regular two-tailed tests for the regression coefficients in multiple regression, its *p* value of 0.056 needs comment. A one-tailed test of the zero-order correlation involved would have been significant, suggesting that the more frequently students volunteered, the greater their expectation that potential employers would view their employability positively.

The prominence of the Social Motivation Factor as a predictor of Perceived Internal Employability suggests that the more students valued the social interactions brought about by their volunteering activities, the better they saw themselves equipped for employment. The positive sign of Gender and the way in which this variable was coded (Women: 1; Men: 0) suggests that, in terms of their personality, women, rather than men, saw themselves as more attractive to prospective employers. This result may relate to South Africa's current employment equity legislation and the reality that in many industries women remain under-represented relative to men.

Overall, the results demonstrate, firstly, that different sets of predictors statistically significantly predict Perceived External Employability and Perceived Internal Employability, respectively. In the case of Perceived External Employability, a biographical predictor (faculty of registration) is the clear winner, whereas in the case of Internal Employability a questionnaire measurement (of Social Motivation) comes out on top. Different predictors also come into play when one considers the less potent

predictors of the two kinds of Employability, particularly those that show significance in terms of the conventional regression analysis but not in terms of the relative weights analysis: a questionnaire measure (the Perceived Interpersonal Skills factor of the Competencies scale) and a biographical measure (frequency of volunteering) in the case of Perceived External Employability as opposed to a biographical variable (gender) and a different questionnaire measurement (the Career Fitness factor of the Competencies scale) for Perceived Internal Employability.

Secondly, the results support the construct validity of the scale for the measurement of Perceived Employability. Not only are different sets of predictors optional in predicting the two dimensions of this construct but also the nature of these predictors are commensurate with the conceptualisation of these dimensions. The large percentage of variance of Perceived External Employability explained by Faculty of registration ties in with the conceptualisation of this sub-construct: It makes sense that students who had registered in faculties that included components of practical training in areas of scarce human resources would perceive themselves as potentially more employable than do students registered in the more social science disciplines. That women regarded themselves as being viewed as personally more attractive to prospective employers than did men is also in line with the definition of the construct of Perceived Internal Employability. That both these predictors are unobtrusive measures rather than self-report measures additionally strengthens the construct validity of the subscales of the Perceived Employability scale.

The finding that the Altruism (Motivation) factor did not significantly predict either Perceived External or Perceived Internal Employability does not support prior research that this is a key driver for many students engaging in volunteer activities.

Practical implications and conclusion

Graduate employability is a topic that is gaining momentum worldwide, and South Africa is no exception (Coetzee, 2012; Cranmer, 2006; Griesel & Parker, 2009; Hesketh, 2000; Mason *et al.* 2006; Yorke & Knight, 2004). There is an increasing demand for students to enter the world of work with skills which make them not only employable but also able to function competitively within the workplace (Chetty, 2012; Coetzee, 2012; Fallows & Stevens, 2000; Gracia, 2009). Having a qualification is no longer sufficient to ensure employability as the current economic situation requires that employees, at all levels, contribute to the prosperity and development of organisations (Chetty, 2012; Mason *et al.* 2006). Employers are, consequently, demanding students who are able to contribute immediately upon commencement of employment (Hinchliffe & Jolly, 2011). This is achieved through firstly having a deep understanding of academic content and educational expertise. Secondly, and most importantly, possessing the necessary professional skills and ability for personal growth to becoming immediately acclimatised into organisations (Andrews & Higson, 2008; Coetzee, 2012; Fallows & Stevens, 2000; Griesel & Parker, 2009; Yorke & Knight, 2004).

Employers' expectation is that these skills and abilities will be developed during a student's higher education process at university and that they would be equipped with the necessary interpersonal and academic abilities on completion of their studies (Griesel & Parker, 2009; Hinchliffe & Jolly, 2011). It appears, however, that higher education may not be able to immediately meet the labour markets' demands as they grapple with the ability to develop the graduate skills required for the growth of the economy (Bernstein & Osman, 2012; Cranmer, 2006; Hesketh, 2000; Mason *et al.* 2006; Rae, 2007). While some universities elsewhere are attempting to bridge this divide with programmes such as Community-Based Research (Lichtenstein *et al.* 2011), Service Learning (Astin & Sax, 1998a, 1998b) and embedding graduateness into course curriculum (Bernstein & Osman, 2012; Chetty, 2012), the focus on this is relatively new within South African universities and has only recently begun to gain attention (Coetzee, 2012; Favish & McMillan, 2009; Favish *et al.* 2012). Students, therefore, have limited options to address their employability necessity. They are consequently forced to take greater responsibility for their own employability through seeking opportunities that develop the skills and abilities necessary to be effective in a work environment (De La Harpe, Radloff & Wyber's, 2000; Holmes, 2001). These opportunities usually take the form of extra-curricular activities as is the case of charities or community organisations that rely on the input of volunteers. The results of this study hopefully contribute some empirically based data on some of the perceived antecedents of employment with a particular focus on the role of voluntarism.

The research area of employability remains a critical one as the economy shrinks and competition of graduate jobs heightens. Much more research is needed to establish the kinds of co- and extra-curricular interventions that are likely to make significant contributions to the development of graduates' preparedness for work. In the resource-constrained environment of higher education, we are required to focus our attentions on those interventions with the potential to produce maximum yield for the majority of students.

Acknowledgements

The author thanks Prof Gert Huysamen for his invaluable input as Mellon-funded Retired Research Mentor.

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

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