

Programme Recruitment & Evaluation: The effect of an employability enhancement programme on the general self-efficacy levels of unemployed graduates.

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Abstract

This paper reports research that engaged in the evaluation of an intervention programme designed to enhance the employability of a group of unemployed graduates. The evaluation adopted a quasi-experimental intervention research method employing a general self-efficacy scale, which had been validated in prior research. Results revealed that participants displayed higher levels of GSE after engagement in the programme. Results also revealed the effect of 'behavioural plasticity' on the intervention experiences of unemployed graduate participants. The findings of this study are discussed in relation to programme design, recruitment and evaluation.

Introduction

The Higher Education Policy Institute (Thompson, 2010) reported high levels of graduate unemployment in the UK, which it attributed to a combination of record numbers of graduates entering the job market following the post-1992 expansion of higher education and the effects of the recent recession. Data published by the ONS (2012) for the fourth quarter of 2011 showed that graduate unemployment levels had reached 18.9%, significantly higher than the national unemployment rate of 8.4%. Additionally, of those graduates that had secured employment only 64.1% were in graduate level jobs, compared to a rate of 73.3% in 2001 (ONS, 2012). This situation has resulted in the availability of funding opportunities for the provision of training programmes designed to enable unemployed graduates to enhance their 'employability' in an effort to assist their chances of securing suitable employment. A work-integration organisation in the East Midlands region of the UK, secured funding from the 'Higher Education Funding Council for England' (HEFCE) to deliver a programme designed to enhance the employability of unemployed graduates. This programme provided the unemployed graduates with an opportunity to undertake a programme of post-graduate study, coupled with a work placement experience.

This funded project required evaluation as part of the funding criteria and researchers were appointed to conduct the programme evaluation. The research reported in this paper provides an overview of this evaluation in relation to prior research based upon the ‘Multi-Goal, Theory Driven Approach to Evaluation’ (Chen and Rossi, 1980) and the ‘Understanding, Skills, Efficacy, Meta-cognition’ (USEM) model of employability (Yorke and Knight, 2004). In doing so it proposes a new approach to the design and evaluation of employment enhancement programmes (EEPs), which is based upon consulting prior social science theory in the design and evaluation process. Furthermore, it offers a revision to the USEM model of employability that is centred upon augmenting general self-efficacy as the primary means of increasing employability. Finally, the paper also argues for the use of general self-efficacy as a measure of the effectiveness of an EEP.

Prior Research

Programme Evaluation

The evaluation of programmes designed to enhance employability can be both simple and complex depending upon whether the focus of the evaluation is on *output*, *outcome* or *impact* (McLoughlin *et al.*, 2009). *Output* relates to the more easily measured outputs of an intervention. For instance, it can be defined as the relationship between the number of unemployed graduates accessing the programme or the number who subsequently gain employment. Considering *output* as a method of evaluation is useful for tracking the success of a programme from this particular perspective, but on its own can provide limited data on this success. Indeed, if *output* is employed as a singular measure, the evaluation will not include important longer-term participant benefits,

i.e. *outcome*. An *outcome* represents positive changes to an *individual* participant's psychological state of mind. For instance, this could relate to increases in confidence or motivation, which may enhance their future employability. *Impact* is an even longer-term benefit and is the *impact* on society resulting from the combination of *output* and *outcome* benefits produced by the programme. These *societal* impacts may include the reduction of graduate unemployment in a geographic area, which would produce *impact* in relation to reduced unemployment benefits and higher income tax receipts. Such *impact* benefits are however, difficult to measure and are often beyond the scope of individual programme evaluation projects.

The adoption of a theoretical approach to evaluating an 'employability enhancement programme' (EEP) is crucial if the evaluation is to provide meaningful data on the success of the EEP. This is why theoretical approaches such as the SIMPLE methodology outlined above are so important in designing rigorous evaluation projects. Indeed, securing robust, valid and reliable tools for the evaluation of EEPs presents a range of problems. One major problem is that programme providers often base the content of their programmes around conventional, common sense understandings of social problems and their treatments, without considering the appropriate social science theory (Chen and Rossi, 1980). This approach to programme design does not facilitate the application of robust, valid and reliable evaluation procedures and can lead to the application of less rigorous forms of programme evaluation. Chen and Rossi (1980) propose the 'Multi-Goal, Theory Driven Approach to Evaluation', which advocates that programme providers should collaborate with evaluators to agree the performance indicators to be evaluated. These indicators should be based on 'official goals', determined by the providers (i.e. *output*) and 'others', derived from social science knowledge and theory pertaining to the social problem in question (i.e. *outcome*), in this case graduate employability.

The importance of adopting a ‘Multi-Goal, Theory Driven Approach to Evaluation’ (Chen and Rossi, 1980), in which a theoretical understanding of evaluation methodologies and how they relate to the societal problem in question, is crucial to the efficacy of both EEP design and operation. The research reported in this paper therefore sought to evaluate the EEP described above by combining Chen and Rossi’s (1980) and McLoughlin *et al.*’s (2009) approaches to programme design and evaluation. The current research therefore focused on the *output* and *outcome* benefits experienced by the unemployed graduates who engaged in the EEP. *Output* was recorded by the programme providers and will be discussed in conjunction with the *outcome* measures reported in the results section of this paper. As the evaluation was based at a theoretical level on a combination of the ‘Multi-Goal, Theory Driven Approach to Evaluation’ and the SIMPLE methodology, the research team needed to engage with academic literature in the area of employability. Therefore, robust, valid and reliable measures of *outcome* based upon prior social science theory were sought by examining prior research that investigated the psychological constructs associated with employability.

Employability

In the last thirty years the expansion of the UK HE system has transformed the graduate labour market from being relatively small in scale and homogenous (generally involving large company graduate schemes and the public sector); to large in size and diverse in occupational opportunities (Wilton, 2011). This has led to a graduate labour market in which subject-specific skills are no longer enough to secure employment, and where personal attributes are directly related to the employability of individual graduates (Harvey and Howard, 1999). This increasingly

heterogeneous nature of the modern graduate labour market and the increasing involvement of SMEs in recruitment, has increased the need for graduates to have employability and to ‘hit the ground running’ (Yorke and Harvey, 2005). Such an approach is concerned with viewing employability as consisting of a selection of personal characteristics inherent within the individual and so is concerned with exploring employability utilising a psycho-social approach (Fugate *et al.*, 2004). Prior research that explored the psycho-social elements of employability has identified several key psycho-social indicators related to re-employment opportunity. These include adaptability, career identity, human capital, self-esteem and internal locus of control (McArdle *et al.*, 2007); to self-efficacy and specifically general self-efficacy (McArdle *et al.*, 2007; Fugate *et al.*, 2004). Further, the research identified that it was possible to bolster these constructs (and hence improve employability) through education (McArdle *et al.*, 2007) and the delivery of programmes designed to assist such psychological capabilities as they boosted job-search activity (Gowan, 2012). Research by Price and Fang (2002) has also shown that educational achievement may also mediate the negative effects of unemployment by helping to reduce anxiety.

Nevertheless, it would be misleading to argue that personal attributes related to employability are the sole determinants of a graduate’s employment opportunities. Indeed, as Brown and Hesketh (2004) articulate, being *employable* does not always equate to being *employed*. Hillage and Pollard (1998) state that even when an individual can be classed as being employable, their ability to get a job will be heavily dependent upon external factors such as the current availability of jobs in the labour market. This approach views an individual’s employability as being socially constructed, in which employability is dependent upon systemic expectations and pressures within the labour-market. These systemic pressures on the labour-market can be created by

cyclical changes in the *natural* unemployment rate (see Krugman, 1994); by government intervention and regulation; by taxation and regulation costs (see Krugman, 1994); and by unemployment insurance in the form of welfare payments to the unemployed (see Korpi, 2002). Prior research has also demonstrated the impact that skill levels have upon unemployment rates, with the less skilled being more likely to be made redundant and hence lower-skilled populations tend to have higher unemployment rates (Krugman, 1994; Korpi, 2002). Demographic background (i.e. class, ethnicity, gender) could also shape socially constructed employability, although prior research exploring undergraduate perceptions of employability found no link with demographic variables (Rothwell, 2008). Research has also identified the importance of social networks in boosting employability, as access to the right networks and assistance helps to boost employability (McKee-Ryan *et al.*, 2005). However, whilst the systemic pressures outlined above can affect the *natural* unemployment rate of an economy, this only serves to increase the competition for jobs. This competition means that psycho-social employability skills can be even more important to unemployed individuals, as they can help to differentiate a candidate from his/her competition.

Psycho-Social Employability and Unemployed Graduates

In order to identify a suitable psychological construct with which to measure the intervention's performance, the programme aims (enhanced employability) had to be clearly understood and aligned with social science theory. Arthur and Rousseau (1996: 4) define employability as the '...marketability of cumulative personal skills...'. The growing importance of employability in the labour-market is being viewed as directly related to the decreasing likelihood of an individual having a job for life with one organisation (Brown and Hesketh, 2004). In relation to graduate

employability, Yorke and Knight's (2004) 'USEM' model remains the most widely used and accepted model (see Figure 1). The model identifies four key areas to employability: Subject 'understanding' relating to the subject-specific knowledge learned by the graduate whilst at university; the 'skills' developed by the graduate in assessing and critically evaluating situations based in different contexts; the graduate's 'efficacy' beliefs' about their self in relation to capability and the ability to develop through experiences; and 'metacognition' involving the graduate's learning capabilities and self-regulative control and behaviour .

[Insert Figure 1 here]

In relation to the psychological aspects of employability outlined in the previous section of this paper, it is the third element of the USEM model (efficacy) that is of particular salience. Indeed, a weakness of the USEM model relates to its undervaluing of the impact that the 'understanding', 'skills' and 'meta-cognition' elements have upon the efficacy beliefs of an individual and hence on their employability. Indeed, the efficacy beliefs of an individual are shaped by their mastery and vicarious experiences (Bandura, 1997). This interaction is a two-way process, in which efficacy beliefs shape engagement in experiences (educational or practical), but in which such experiences then re-shape efficacy beliefs. This mutual bolstering of skills and efficacy beliefs leads to increased employability and hence increases an individual's likelihood of gainfully

seeking employment. This is why EEPs can be such effective means of increasing employability and why programmes that combine knowledge development and educational/work-based experiences can be so effective at bolstering self-efficacy and hence employability.

Self-Efficacy

Research in the social sciences has established the negative effects that unemployment has upon an individual's psychological state and well-being. Such negative effects consist of elevated levels of depression (Feather and O'Brien, 1986), greater psychological distress (Henwood and Miles, 1987), lower self-esteem and confidence (Wanberg, Watt and Rumsey, 1996; Goldsmith, Veum, and Darity William, 1997) and poorer psychological well-being (McKee-Ryan, Song, Wanberg, Kinicki, 2005). Kaufman (1982), Feather and Bond (1983) and Cassidy and Wright (2008) have shown that unemployed graduates are equally susceptible to such negative impacts. However, whilst the link between such constructs and unemployment is well documented, this does not validate them as suitable measures of employability or intervention performance. Indeed, psychological traits such as self-esteem are indicators of well-being, rather than being predictors of behaviour. Therefore, a different approach is required to allow researchers to capture general improvement trends and reveal relationships between the *outcome* construct measured and any potential *output*.

The Bandurian concept of self-efficacy relates to an individual's belief in their ability to complete a task and the strength with which this belief is held (Bandura, 1977; 1997). Individual expectations of perceived self-efficacy determine the nature of activities that people take part in, how much effort they expend in them and how long they will persevere in these activities when

faced with setbacks and adversity (Tipton and Worthington, 1984). Self-efficacy has its origins in ‘Social Cognitive Theory’, which states that social and institutional factors operate through psychological mechanisms of the self-esteem to produce behavioural effects. In influencing human choice and motivation, beliefs of personal efficacy are an important factor in the acquisition of knowledge upon which skills are founded (Bandura, 1997). It influences forethought such as adaptability; human action such as task execution and motivational features such as aspirations. Prior research has identified that individual conditions such as wealth, social status, educational ability and family structure, affect behaviour largely through their impact on an individual’s aspirations, sense of efficacy, personal standards and other self-regulatory influences (Baldwin *et al.*, 1989; Bandura, 1993; Bandura *et al.*, 1996a, 2001; Elder and Ardel, 1992). Despite a tendency towards the employment of specific self-efficacy scales (SSE) in prior organisational psychology research (Bandura, 1986; Locke and Latham, 1990; Caplan, Vinokur, Price and van Ryn, 1989; Gist, Schwoerer, and Rosen, 1989), personality psychologists view self-efficacy as a generalised trait that influences an individual’s expectation of mastery in new situations (Eden, 1988; Eden and Kinnar, 1991; Sherer *et al.*, 1982).

Prior research provides evidence of predictive relationships between increased self-efficacy, job searching and job procurement (Eden and Aviram, 1993; Wenzel, 1993; Creed, Bloxsome and Johnson, 2001; Meyers and Houssemand, 2010). Eden and Aviram (1993) examined the impact of training, specifically designed to boost general self-efficacy (GSE), on unemployed participants’ job search activities and subsequent reemployment. Their research identified that participants reporting higher levels of GSE, occurring naturally or resulting from the intervention, were more likely to become reemployed, highlighting the potential importance of GSE in boosting re-employment opportunity and predicting job-search behaviour. Furthermore, Creed,

Bloxsome and Johnson (2001) conducted research with unemployed individuals who engaged with a 'community-based occupational skills/personal development training courses'. The results of their research indicated that participants experienced long term increases in 'well-being' and 'confidence', as well as increases in 'self-esteem' and 'job-search self-efficacy'. These research findings highlighted not only the importance of self-efficacy, self-esteem, well-being and confidence (all psychological constructs) in reemployment opportunity, but also that interventions with unemployed individuals could positively affect an individual's levels of each construct. This research suggests that the longer an individual remains unemployed, the less effort they will expend in job-search activities, and hence the less likely they are to gainfully seek employment. As a result of their research, Eden and Aviram (1993) proposed that an intervention designed to boost self-efficacy could result in intensification of job search activities and subsequent reemployment.

Meyers and Houssemand (2010) and Wenzel (1993) also reported a relationship between higher levels of self-efficacy and job-procurement. Meyers and Houssemand (2010) stated that psychological dimensions, such as GSE, can predict successful job-seeking outcomes but only for people who have difficulty finding employment. They speculated that higher GSE was more advantageous to those applicants who reached the interview stage than those at the beginning of the application process and that greater levels of persistence in job-seeking were displayed by participants with higher levels of GSE. Their research highlighted that whilst psychological traits such as GSE can be beneficial to unemployed individuals seeking reemployment; this benefit is not universal across different re-employment stages. Wenzel (1993) stressed the importance of 'locus of control', suggesting that individuals who believe outcomes are not under personal

control may not engage in activities designed to improve self-efficacy. This means that perceived personal control may be an antecedent to the development of self-efficacy (Wenzel, 1993). This suggests that if the development of self-efficacy is reliant on an individual having an internalised locus of control, then the development of self-efficacy and hence positive job-seeking behaviour may be hindered by socially-constructed pressures such as the availability of jobs and the level of competition for employment.

The findings of this body of research on self-efficacy offers support to the prior research centred on psycho-social employability reported above that identified locus of control and self-efficacy as key determinants of psycho-social employability (McArdle *et al.*, 2007; Fugate *et al.*, 2004; Gowan, 2012). Indeed, as self-efficacy underpins an individual's perceived ability to engage with learning, skills development and employability, it provides a strong theoretical underpinning for the 'efficacy' element of the USEM model. Additionally, as low self-efficacy has been linked to the time an individual spends unemployed and their subsequent job-search behaviour, it also offers a strong predictor of behaviour for unemployed individuals (and in this case graduates). For instance, consider an unemployed graduate seeking employment in a highly competitive market. Repeated failures to secure employment may lead the graduate to believe that their efforts are in vain and so they gradually decrease their job-seeking behaviour in a reinforcing cyclical process.

The prior research outlined above not only validates this practical example at a theoretical and empirical level, but also supports the use of general self-efficacy as a means of assessing job-search behaviour and hence employability. As this paper reports research that sought to explore the impact of an employment enhancement programme (EEP) on the psycho-social employability

of unemployed graduates, then the utilisation of a GSE measure to explore the *outcome* performance of an EEP is both suitable and relevant.

Behavioural Plasticity

‘Behavioural plasticity’ (Brockner, 1988) can be defined as ‘...the tendency of individuals who display relatively low levels of the concept being measured prior to an intervention, scoring significantly higher levels of the same concept after the intervention, when compared to individuals who displayed high levels of the concept to begin with’. In relation to this paper and its focus upon self-efficacy, behavioural plasticity would involve those individuals with low-self-efficacy who enter on to an intervention programme designed to boost self-efficacy, benefitting more from the intervention programme than those individuals who already had higher levels of self-efficacy to begin with. The effects of behavioural plasticity were found in two of the prior research studies outlined above (Eden and Aviram, 1993; Creed *et al.*, 2001). Eden and Aviram (1993) found that participants with low initial levels of GSE had statistically significant increases in GSE after training when compared with participants with high initial levels. Creed, *et al.* (2001) also found that participants with lower initial self-esteem and job-search self-efficacy benefited more from the intervention training than their higher initial level counterparts. Behavioural plasticity is an important consideration for EEP design as it suggests that some individuals will benefit less than others from engaging in programmes designed to increase self-efficacy. This may lead to both negative consequences for the individual, as well as providing misleading data about the effectiveness of the EEP.

Therefore, when conducting an analysis of the *outcome* benefits of an EEP, the effects of behavioural plasticity should be tested for in the analysis to make sure that misleading results and conclusions are not reported..

Summary

Employers now want graduates to be flexible, willing to learn and adapt, as well as being capable in new situations (Yorke and Harvey, 2005). This kind of flexibility would require graduates to be efficacious across a variety of new situations. This therefore suggests that a psychological construct such as general self-efficacy may be useful in predicting graduate employability and hence as a measure to evaluate programmes designed to enhance graduate employability. Indeed, when exploring what constitutes employability Yorke and Harvey (2005) cite efficacy beliefs as a key component in graduates becoming employable. Based upon the research reviewed above, we propose that any evaluation of *outcome* of a programme designed to enhance unemployed graduates' employability, through post-graduate study combined with a work placement, can be based on a measure of general self-efficacy.

The Current Research and Hypotheses

The current research sought to evaluate a training programme designed to enhance unemployed graduate employability within a quasi-experimental intervention study employing a questionnaire designed to measure general self-efficacy (GSE). Questionnaires were administered at two points in time, immediately before commencing the intervention programme (Time 1) and immediately

after (Time 2) completing the intervention training programme. The research tested the following hypotheses, which are based in the research reviewed above:

Hypothesis 1: Participants will display a statistically significant increase in their levels of GSE from Time 1 to Time 2.

Hypothesis 2: Participant levels of GSE at Time 2 will be positively related to employment success following the intervention.

Hypothesis 3: Participants with lower than sample-median initial levels of GSE will display greater behavioural plasticity than participants with above sample-median initial GSE.

Method

Intervention

The intervention consisted of participation in an MBA module entitled the ‘Effective Manager’, which was delivered by a UK university. The overall aim of the module was to boost employability and self-efficacy through a combination of educational learning, experiential learning through a work-placement; and reflection on the experience at the end of the module and placement. The core aims of the module were to improve key personality traits for the workplace, including: self-awareness; evaluative self-development; effective communication; time management; planning skills and persuasion. The specific learning outcomes of the module are listed below.

1. Analyse their current job role and identify personal and professional development needs and opportunities (i.e. what skills do they need to develop in order to bolster their employability?).
2. Apply and evaluate processes for effective personal development (i.e. what strategies should they adopt in order to develop these?).
3. Evaluate the impact of reflective learning on personal development (i.e. how can the graduate use their experiences and knowledge gained to further their employability?).

The module was completed alongside a four-week work placement with an external company that allowed the participants to build their confidence in the work-place and to put the skills learned on the module into practice. All of the one-to-one module material was delivered by two university lecturers over the initial induction day in both lecture and seminar formats. Additional reading and further learning was then conducted by the graduates away from the university and during their work-placement, with distance learning support being provided by a mentor (the module teaching team). The module material and assignments were then completed at home by the participants during and after completion of the work-placement, in order for them to reflect and learn from their experience. Final completion of the intervention programme occurred following the submission of a 2,500 word assignment that allowed the participant to reflect upon their experience. The programme also provided the opportunity for participants to develop social networks (fellow programme participants) and formal networks (employer contacts), which have also been shown to be important in raising employability and increasing re-employment opportunity (McKee-Ryan *et al.*, 2005).

The module design incorporated knowledge and skills development through the educational elements (knowledge and analytical skills) and the work-placement (practical mastery experience and analytical skills). It also provided individuals with the opportunity to reflect on their experience through the completion of the written assignment (meta-cognition). The module design therefore not only aligned itself with the USEM model of employability, but also provided participants with the opportunity to engage in mastery experiences (the work-placement and assignment), to gain vicarious experience (engagement with peers) and to receive verbal persuasion (engagement with mentor and peers). These three types of experience have been identified in prior research as being crucial to the formation of efficacy beliefs (Bandura, 1977; 1997). The module was therefore *designed* to boost employability and self-efficacy and the research was undertaken in order to understand whether or not the latter occurred.

Design and Procedure

The research utilised a quasi-experimental, longitudinal approach employing an intervention methodology to examine the relationship between the psychological effects of joblessness on unemployed graduates and the impact of their involvement in the above EEP. Upon arrival at the intensive induction day (Time 1) the participants were seated in a university lecture theatre where they completed the questionnaire. Researchers withdrew from the induction process after having collected the completed questionnaires in order to minimise any disruption to the staff delivering the module and to negate any potential researcher effect. Upon completion of the module and work-placement (Time 2) the participants were sent a web-link by email to an online version of the questionnaire, so that their Time 2 data could be collected.

Measures

Participants completed a questionnaire at Time 1 and Time 2. The questionnaires employed at Time 1 and Time 2 were identical (except for biographical details which were elicited at Time 1 only) and were designed to measure GSE. General self-efficacy was measured using Schwarzer and Jerusalem's (1995) GSE scale. Prior research has shown this to be a reliable measure of GSE with reported Cronbach's α of between .75 and .91 (Scherbaum, 2006). Additionally, the scale has been used in research involving thousands of participants across 23 different countries (Schwarzer, 2011).

Analysis

All questionnaire data was inputted into SPSS version 20.0 and all analyses were conducted using this software. The data was checked for normality utilising histograms and P-P plots and found to be normally distributed. The relationships between demographic data (age, gender, time spent unemployed etc.) and GSE were explored using descriptive statistics and one-way ANOVAs. Changes in participant self-efficacy between Time 1 and Time 2 were analysed using paired-sample t-tests.

Sample and Demographic Data Analysis

Demographic data was captured from the entire sample at Time 1. The demographics collected included age, gender, period of time spent unemployed and highest educational qualification. There were 213 unemployed graduates aged 20-46 years (\bar{x} = 24.68, SD = 4.40) involved in the

intervention programme at Time 1. The sample consisted of 127 males and 86 females (m = 59.62%, f = 40.38%) and of these 148 held a university Bachelor degree as their highest qualification and 64 held a Master's degree (d = 69.48%, m = 30.05%). One participant did not specify highest degree qualification. Of the 213 participants 50 (23.47%) had spent less than 1 month unemployed, 77 (36.62%) had spent 1-6 months unemployed, 41 (19.25%) had spent 6-12 months unemployed and 44 (20.66%) had been unemployed for over 1 year. One participant did not state the length of time they had been unemployed.

Of the above sample of 213 participants, 110 individuals completed the questionnaire at Time 2, giving the research a retention rate of 51.17%. Of these 110 participants, seven outliers were identified and removed from the dataset and two Time 2 questionnaires were incomplete. This left a total of 101 participants at Time 1 and Time 2. The age range for these 101 participants was 20-45 years ($\bar{x} = 24.16$, $SD = 3.75$), with 76 holding Bachelor degrees and 25 having a Master's degree (d = 75.25%, m = 24.75%). The sample consisted of 55 males and 46 females (m = 54.46%, f = 45.54%). No significant demographic differences were found between the sample at Time 1 and Time 2 respondents, suggesting that bias in the two samples would not skew the results. Additionally, no statistically significant differences were found between the initial GSE scores of the participants who completed questionnaires at Time 1 only and the participants who completed questionnaires at both Time 1 and Time 2.

Analysis of the demographic data in relation to GSE demonstrated that there was no statistically significant relationship between age and gender and GSE at Time 1, or for changes between Time 1 and Time 2. The relationship between GSE and length of unemployment proved inconclusive. Those participants who had spent longer periods unemployed had lower mean GSE scores at

Time 1, although these differences were not statistically significant. The GSE score increased at the 6-12 months unemployed period, before declining again at the 12 + month period. Nevertheless, at Time 1 mean GSE scores were at their lowest for participants that had been unemployed for over a year. Table 1 illustrate these results.

[Insert Table 1 here]

In order to further explore differences in the demographic data, an analysis of the relationship between past educational achievements on GSE levels at Time 1 was also conducted. Results of this analysis revealed that participants who held a Master's degree scored significantly higher in GSE ($p < .01$) than those with a Bachelor degree at Time 1. Table 2 outlines these results. These differences between participant levels of GSE at Time 1 related to their prior qualification, revealed that participants with a Bachelor degree as their highest qualification displayed greater improvements in GSE (+ 2.38%) than those participants who had a Master's degree (GSE + 0.29%). However, these differences in changes between both groups over the intervention were not statistically significant.

[Insert Table 2 here]

The exploration of the effect of the demographic variables on changes in participant GSE between T1 and T2 was conducted through the use of one-way ANOVAs. The results of this analysis are displayed below in Table 3. The results highlight that gender had no statistically significant effect on the change in participant GSE experienced during the intervention, despite females experiencing over twice the average increase in GSE compared to their male counterparts. Additionally, both age and the length of time spent unemployed had no statistically

significant effect on changes in participant GSE between T1 and T2, although the older participants (25 years and over) did experience over twice the GSE increase as those aged under 25 years.

[Insert Table 3 here]

In addition to this, *output* data on participant employment status was collected by the programme providers post-intervention. Of the 101 participants who completed questionnaire data at both Time 1 and Time 2, only 94 provided post-intervention employment status information. This data revealed that 50 participants had gained full-time employment, 4 had entered into post-graduate education and 40 remained unemployed. Due to the extremely small sub-sample sizes for those participants who had entered into post-graduate education, analysis was only conducted on the employed and unemployed sub-samples. This analysis of the relationship between the demographic data and participant post-intervention employment outcomes were explored using cross-tabulation Chi² tests. The results of this analysis are presented below in Table 4. The results show that age, gender, highest educational qualification and time spent unemployed prior to the intervention had no impact upon a participant's change in GSE between Time 1 and Time 2.

[Insert Table 4 here]

Results and Discussion

Instrument Reliability

Cronbach's α for the GSE scale used in the research were run both at Time 1 and Time 2. Table 5 below outlines the results for this test.

[Insert Table 5 here]

The GSE scale achieved a Cronbach's α of just below the recommended level of .80 at Time 1 and Time 2 (Henson, 2001). This does not present the research with any reliability concerns as the GSE scale has been used extensively in prior research (Schwarzer, 2011) and whilst it has not achieved over the recommended value of .80, it is above the minimum value of .70 required for research utilising psychological constructs (Kline, 1999). Additionally, Cronbach's α were run on all items within the GSE scale, and no individual items were found to have affected the overall reliability score disproportionately.

GSE, USEM and Employability

Results from the paired-sample t-tests conducted on the data (see Table 6) revealed that there was a statistically significant increase in the mean GSE scores between Time 1 and Time 2 for the sample of graduates that completed the employability enhancement intervention programme (*Hypothesis 1 confirmed*).

[Insert Table 6 here]

The researchers contend that this is directly linked to the personal development aims of the intervention programme, as well as to the mastery experience opportunities provided to the participants through the four-week work-placement (Bandura, 1977; 1997). The dual design of the programme blended theory-based knowledge creation (the intensive learning day and module materials) with the practical ‘mastery experiences’ (the work-placement) that Bandura (1977; 1997) states are crucial to the development of self-efficacy. This not only allowed the participants to understand academic theories related to their personal development and employability; but to then practically utilise this to develop their employability through the *direct experience* of employment.

Bandura states that self-efficacy is bolstered through mastery experiences, vicarious experience and verbal persuasion (Bandura, 1977; 1997). The intensive learning day and the networking opportunities that this provided for the graduates, along with the module materials and mentoring that they received, provided the graduates with the ‘vicarious experience’ and the ‘verbal persuasion’ that they needed to bolster their general self-efficacy. This was then augmented by the ‘mastery experiences’ gained through the employment experience (Bandura, 1977; 1997). This meant that theoretical learning, self-evaluation and practical mastery experiences were combined to bolster self-efficacy (Bandura, 1977; 1997) and hence employability. As argued in the literature review, prior research suggests a reciprocal relationship between enhanced self-efficacy and employability (Eden and Aviram, 1993). Additionally, the USEM model also asserts that a combination of subject understanding, meta-cognition, skills development and efficacy combine to produce enhanced employability (Yorke and Knight, 2004). We suggest that these two models of development are not distinct, but instead inter-dependent. Indeed, the USEM

model does not acknowledge that ‘efficacy’ can be moderated by the other elements of the model (‘understanding’; ‘skills’; and ‘meta-cognition’). The authors of this paper propose that ‘understanding’ can be developed through academic learning; ‘skills’ can be developed through work-placements and that these two elements can combine through personal development evaluation (meta-cognition) to bolster ‘efficacy’. It is this increase in ‘efficacy’ that provides the enhanced employability to the individual. Furthermore, the results presented in this paper suggest that GSE can provide a valid and reliable measure of the ‘efficacy’ element of the USEM model (Yorke and Knight, 2004), as well as of the performance of EEPs that seek to bolster self-efficacy. Figure 2 below outlines this revision to the USEM model of employability.

[Insert Figure 2 here]

Evaluation of the EEP: Output and Outcome

In order to explore the relationship between GSE levels at Time 2 and employment outcomes for participants post-intervention one-way ANOVAs were conducted. Table 7 outlines these results. Analysis revealed that there was no statistically significant relationship between the participants’ GSE scores at Time 2 and their employment status following the intervention. *Hypothesis two not confirmed*. Indeed, participants that remained unemployed following the intervention had a slightly higher mean GSE score than their employed counterparts.

[Insert Table 7 here]

The use of the GSE scale in the evaluation and the increase in participant GSE that this demonstrates, suggests that the intervention programme employed in our research study can be deemed successful in terms of *outcome* benefits for this group of unemployed students. It also offers support to prior research that showed that EEPs can have a positive impact upon the psycho-social employability of unemployed individuals (and in this case graduates) (Gowan, 2012).

However, whilst prior research suggests that a high level of GSE is related to increased job searching and job procurement (Creed *et al.*, 2001; Eden and Aviram, 1993; Meyers and Houssemand, 2010; Wenzel, 1993), the results of the current study do not support the findings of this prior research. The *output* data for the intervention showed broadly positive results, particularly when considering that the intervention took place during a recession with high levels of competition for very few job vacancies, in which systemic pressures may have reduced the importance of psycho-social employability traits (Hillage and Pollard, 1998). Out of the 101 participants, 50 gained employment and 4 went into post-graduate education, whilst only 40 remained unemployed and 7 are unknown. The relationship between GSE scores at Time 2 and employment *output* following the intervention revealed no significant relationship and surprisingly revealed slightly reduced levels of GSE amongst participants who had subsequently gained employment. Interpretation of this result is problematic but may offer support to the research conducted by Eden and Aviram (1993), which suggested that GSE was linked to job-search intensity rather than directly to employment *output*. However, this current research design did not capture job-search patterns before and after the intervention and so this interpretation could not be directly tested. Additionally, such results may be attributed to the current economic climate and a lack of supply of jobs (Hillage and Pollard, 1998; Brown and Hesketh, 2004). GSE

has been linked to success in job-procurement but the authors of the current study do not suggest that improved GSE is a guarantee of employment. Indeed, other factors such as the current economic climate will have significant bearings upon an individual's success in the job market. GSE merely augments an individual's employment chances. Meyers and Houssemand (2010) reported that GSE was most advantageous to those job applicants at the interview stage. In the current economic climate, getting to the interview stage is more difficult than ever due to the increased competition for jobs and therefore increased GSE may not have an opportunity to assist employment integration opportunity. However, such assertions are only conjecture and further research is required to test such hypotheses.

When evaluating the *outcome* benefits of EEPs the GSE scale could also provide a more valid measure of *outcome* performance than *ad hoc* measures created by programme providers, which are often not grounded in any social scientific theory. Whilst it cannot be claimed that the GSE scale utilised in this research provided a complete overview of the performance of the intervention programme (i.e. the 'Effective Manager' module and work-placement), it did provide a robust measure of *outcome* performance that was aligned with both the programme aims and prior social science theory surrounding the psycho-social elements of employability (McArdle *et al.*, 2007; Fugate *et al.*, 2004). The lack of applied social scientific knowledge in the design of and evaluation of many EEPs leads to potentially inaccurate evaluations, which fail to accurately measure the *outcome* benefits (Chen and Rossi, 1980). This provides a significant problem for the evaluation of EEPs as not only are the variables explored in research studies not aligned with the programme itself, but often the designers of the intervention are unaware of the academic evidence surrounding employability and the factors that are linked to re-employment success.

The collaboration of practitioners and academics at the design, delivery and evaluation phases of an intervention programme, whilst practically difficult and financially expensive, could provide greater benefits for programme beneficiaries over and above re-employment. Indeed, whilst the results of this research show that there was no link between GSE and re-employment, the programme participants still benefited psychologically from their engagement and work-placement. This benefit is tangible as increased GSE has been linked to greater re-employment success (Eden and Aviram, 1993), increased job-search activity (Creed *et al.*, 2001) and greater employability (Fugate *et al.* 2004). Indeed, the design of EEPs that incorporates social science theory may provide more effective interventions. Indeed, this paper suggests that an EEP that accounts for theories of employability (i.e. the USEM model) at the programme design phase, and that utilises evaluation measures that have been validated in prior research to assess programme performance (i.e. GSE) has a greater chance of increasing an individual's employability than a programme that does not.

Behavioural Plasticity

In order to test for plasticity, initial GSE scores at T1 were dichotomised into two groups on the basis of a median split, as this was the method adopted in previous examinations of behavioural plasticity (Eden and Aviram, 1993; Creed *et al.*, 2001). The median GSE value for the sample at T1 was calculated and found to be 80.00%. The sample was divided into two complements based upon this value, with the lower complement (n = 37) consisting of those participants with a T1 GSE score of lower than 80.00%. The upper complement (n = 64) consisted of participants with a T1 GSE score that was equal to or greater than 80.00%. A paired-sample t-test was then

performed on each complement independently, in order to examine the effect of plasticity on the intervention's impact. Results revealed statistically significant increases in GSE levels between T1 and T2 for participants from the lower complement ($p < .001$). These results are presented in Tables 8 and 9.

[Insert Tables 8 and 9 here]

Results of the analysis based on the median split, which dichotomised the cohort into an upper and a lower complement based on their increased GSE scores at Time 2, revealed that the lower complement displayed statistically significant increases in GSE after the intervention programme, whilst the higher complements' increases failed to reach statistical significance. *Hypothesis 3 confirmed*. This result demonstrates that the lower complement benefited more from the intervention programme than the higher complement, based upon their having greater behavioural plasticity (Eden and Aviram, 1993). This finding provides support for prior research that reported similar findings (Brockner, 1988; Eden and Aviram, 1993; Creed *et al.*, 2001). Based on the current study's finding for behavioural plasticity, it could be argued that future applicants for work integration programmes designed to boost self-efficacy or associated psychological traits should be tested prior to engaging in these programmes. This screening process would facilitate the selection of programme participants who have low prior levels of GSE, which would ensure the maximum *outcome* benefits resulting from work integration programmes. Additionally, programme designers could use a pre-programme evaluation such as the GSE scale, to target users to the most suitable programme for their needs. For instance, it would be a waste of resources and of participant's time, to send an individual with high GSE on to an employability programme designed to raise self-efficacy or related psychological

constructs. The results of this study relating to behavioural plasticity suggest that a more nuanced approach to programme design is required that moves away from a ‘one-size-fits-all’ approach.

Demographics and GSE

Results for the whole cohort at Time 1 revealed that overall, there was a relationship between longer periods of time unemployed and lower levels of GSE. This finding supported the findings of prior research conducted by Meyers and Houssemand (2010) who reported that self-efficacy levels decreased the longer a person remained unemployed. This result suggests that, given the results for plasticity in the current study, the benefits of employment enhancement programmes may be better suited to the longer-term unemployed. This may be due to the effect upon a graduates ‘employability efficacy’ of prolonged unemployment and the effect that this experience has upon shaping their beliefs around their self (Yorke and Knight, 2004). Whilst increased educational achievement has been shown to be linked to increased resistance to the negative effects of unemployment (Price and Fang, 2002), this may indicate that there is a finite amount of time within which such a panacea works. Additionally, it provides further evidence for the need to target interventions at specific populations (i.e. long-term unemployed graduates) as opposed to generalised populations as a whole (i.e. all unemployed graduates). However, some caution should be noted with this particular finding as there was an anomaly in the current study’s results in relation to an unexpected rise in levels of GSE for the period 6-12 months. The authors offer no explanation for this anomaly as it is counter-intuitive and more research would be required to investigate this further.

Results from the analysis that explored the relationship between past educational achievement and GSE scores revealed that participants with Masters Degrees benefited less from the intervention programme than those who had Bachelor Degrees. It seems reasonable to conjecture that participants entering the programme with a Master's Degree are likely to feel more efficacious than those with Bachelor Degrees and as a result, would display less behavioural plasticity. This lends further support to prior research that reported the effects of plasticity (Brockner, 1988; Eden and Aviram, 1993; Creed *et al.*, 2001). Analysis of the other demographic variables captured during the research showed no statistically significant links with either GSE or employment success. This suggests that amongst graduates, education may act as a mediator of the impact of demographic variables upon employability. The finding does offer further support to prior research by Rothwell (2008) that found no significant relationship between demographic variables and employability. However, further research is required in this area that utilises a more wide-ranging sample of unemployed participants so that the effect of education can be robustly explored within the data.

'Multi-theory' intervention programme design and evaluation

The findings of this research study raise important ethical questions surrounding the design and development of work-integration programmes. If as Chen and Rossi (1980) articulate, social science theory and evidence should be used to design an intervention programme and potential participants tested for suitability prior to engagement, then some individuals could be excluded who still require support. Indeed, we propose it would be unethical to deny unemployed graduate and post-graduate students access to enhanced employability programmes based on the results of a GSE screening test, even though this screening process might be one way of targeting those

students who could potentially benefit more from the programme. We propose a more beneficial use of such a screening process would be to facilitate the directing of students to the most appropriate programme for their specific requirements. For example, if two courses were designed, one that took into account the need for some students to raise their levels of GSE and another that recognises that students require alternative course content, prior screening for GSE could help to direct the students to the more appropriate course. Furthermore, if programme evaluation tools are developed that can inform future programme content in a cyclical development based upon the ‘Multi-Goal, Theory Drive Approach to Evaluation’ (Chen and Rossi, 1980) then this could benefit all stakeholders in the process. We offer the following model that illustrates our proposal (see Figure 3).

[Insert Figure 3 here]

In our proposed model all funders, evaluators, practitioners and any other stakeholders involved, collaborate at the programme ‘Design Phase’ in order to create a multi-intervention programme. At the ‘Implementation Phase’, during first contact, the participant’s needs are evaluated and based on this evaluation process are allocated to the intervention most appropriate to their individual needs. During the ‘Evaluation Phase’, evaluation procedures that target the specific areas of *output*, *outcome* and *impact* would be employed to provide a comprehensive evaluation process that can then inform the on-going programme redesign phase. As was outlined earlier in the paper, there are financial, practical and ethical risks inherent to such an approach. However, such an approach would potentially yield better results for beneficiaries in the long-term. Indeed, let us consider the following practical example of an EEP design process based upon the ‘Multi-

Goal, Theory Drive Approach to Evaluation' (Chen and Rossi, 1980). This provides an overview of what an EEP may look like if the processes proposed in this paper were adhered to.

Scenario: A number of stakeholders engage in the design of an EEP in their local area for unemployed graduates. The design of the EEP is conducted by *all* stakeholders from the outset in reference to relevant social science theory around unemployment and employability. The USEM model of employability is selected as the EEP's underpinning theory and a programme is designed that seeks to bolster knowledge and understanding (through learning); skills (through work-place training); and meta-cognition (through mentoring and self-reflective evaluation). These are designed in order to boost individual self-efficacy, as the programme providers have identified that this is directly related to employability. Such a process provides an EEP that has been designed from a theoretical base, through which a rigorous evaluation can be carried out using tools that are aligned with the *precise* aims of the EEP. This allows for a cyclical process of re-design and improvement that provides a continuously improving service for the graduates. Furthermore, this service not only provides them with work-experience, but also qualifications and greater understanding of employment. The benefits of an increase in self-efficacy could be directly measured through an individual's level of job-search activity. This increase in job-seeking activity, aligned with the recent work experience and qualifications gained, would make the individual more employable and increase their chances of gainfully seeking employment.

Summary

Given the current state of graduate unemployment, it seems likely that EEPs, targeted at unemployed graduates, will continue to be required at least for the short-term future. A diverse range of programme providers will receive public funding to fulfil this requirement. These programme providers have a responsibility to provide robust, valid and reliable evidence of the *output*, *outcome* and *impact* benefits of their programmes. We believe that the current research provides empirical evidence that the GSE scale provides programme deliverers with a robust evaluation tool that provides an effective measure of the *outcome* benefits of their programmes. It can be argued that GSE provides a measure of the ‘efficacy’ element of the USEM model. As it can be argued that it is the ‘efficacy’ element that underpins all of the other elements of the model (‘understanding’, ‘skills’ and ‘metacognition’) then GSE may provide a ‘proxy’ measure for employability that is more reliable than other measures such as ‘confidence’, ‘self-esteem’, ‘motivation’ and ‘locus of control’ (Judge *et al.*, 1997). Additionally, as prior research has identified a direct causal link between GSE and job-search intensity then GSE may provide a reliable indicator for measuring a graduate’s belief in their ability to gain employment and hence provide a predictor for the intensity of an individual’s job-search behaviour. Finally, we call for future collaboration between funders, evaluators, practitioners and additional stakeholders in order to facilitate the cyclical development of intervention programme design and evaluation illustrated in our proposed model.

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