Employability and job search behavior: A six-wave longitudinal study of Chinese university graduates

Introduction

A considerable amount of research attention has been devoted to the concept of employability (Clarke and Patrickson, 2008; Rothwell et al., 2008; Kang et al., 2012) revealing its multi-facetedness (Forrier and Sels, 2003). Rothwell et al. (2008) defined graduate employability as ‘the perceived ability to attain sustainable employment appropriate to one’s qualification level’. Being studied from different angles employability is perceived as a component of higher productivity (Fugate et al., 2004). It has impact on health and wellbeing of employees (De Cuyper et al., 2009). Employees are encouraged to take responsibility for how to respond to challenges with regard to work, their employment and organizations (Hiltrop, 1995; Clarke and Patrickson, 2008).

In the higher education context policy makers and managers have to face a paradox: making the higher education system available for the masses and ensuring the employability of the graduates and the efficiency of the system (Chillas, 2010; Kulkarni and Nithyanand, 2013). In recent decades, there has been a trend of shifting from an elite to a mass higher education system across developed countries and emerging countries such as China (Shen and Darby, 2006; Li et al., 2008; Scurry and Blenkinsopp, 2011). China presents a prime example of a country shifting to mass higher education (Zhiwen and Van Den Heijden, 2008; Li and Zhang, 2010). In 1999
the Chinese government expanded the higher education sector in response to the trend of international trade and the shortage of highly qualified manpower (Bai, 2006). The number of graduates with a bachelor degree from higher education institutions was 5,754,245 in 2010, 6,081,565 in 2011, 6,247,338 in 2012 and 6,387,210 in 2013 (National Bureau of Statistics of China, 2014). According to Yang (2014), employment rates for recent graduates were 67.1% in 2009, 72.2% in 2011, and 71.9% in 2013. University graduates are meeting tremendous difficulties in securing jobs that matched their qualification (Li et al., 2008; Wang and Moffatt, 2008; Li et al., 2010; Wang et al., 2012), hence there have even been concerns about their ‘over education’, ‘over qualification’ and ‘underutilization’ (Scurry and Blenkinsopp, 2011).

Graduate employability has become a major concern for all higher education stakeholders including universities, governments, employers and the graduates themselves. Cai (2013) pointed to the potential imbalance between the supply of labor and the skills required by the labor market. Concerns are raised about how seriously stakeholders address the over-education. Seen by Li et al. (2008) and later by Li et al. (2010) as an evolving trend since the middle of the 1990s in China, the over education in the country is arguably of a temporary nature as the percentage of highly educated workers in China has not reached the corresponding figure of the international average. Despite being portrayed as a contemporary phenomenon and shared optimisms regarding over education of the graduates in China (Li et al., 2008), researchers including the authors of this paper believe that measures need to be taken to address the potential threats imposed by over education. The potential
consequences include devaluation of education (Dolton and Vignoles, 2000), decrease in productivity of individuals (Tsang, 1987) and may lead to a wage penalty in the short to medium term (Diem and Wolter, 2014).

For these reasons, graduate unemployment is now considered by many researchers to be a serious socio-economic issue (Jin et al., 2009; Moorman, 2011), which has an impact on the experience of student learning and their confidence in finding a job after graduation.

Graduate employment has been a critical benchmark for measuring performance at an institutional level seen through the prism of institutional constraint (such as hukou for instance) (Wang and Moffatt, 2008), yet examination of how individual students get employment has received less attention (Harvey, 2001). Due to the vast changes taking place in the labor market, including job deterioration, employability has become the central concern for prospective graduates (Berntson et al., 2008; Kang et al., 2012) and universities have been criticized for not sufficiently preparing their graduates for employment. It is therefore important to understand how graduates’ perception of their own employability impacts on their job search process, so as to develop relevant support strategies for their chances of success after university education.

In the human resources development and vocational study literature, most studies have focused only on the effects of employability on reemployment, salary, job satisfaction, and job performance (Clarke and Patrickson, 2008; De Cuyper et al., 2009), with little attention to the effects of perceived employability as a motivational
Moreover, the antecedents of job search behavior have been extensively analyzed by a number of experts using theory of planned behavior (Kanfer et al., 2001; Saks et al., 2005), yet limited research has examined the role of graduate perceived employability on the process.

Furthermore as acknowledged by Wang and Moffatt (2008) studying graduate job search in China involves a range of constraints mainly due to difficulties in obtaining the data and the nature of the job search phenomenon, which is still not that widespread. Yue et al. (2004) revealed the importance of academic performance and that the information support from the university positively influenced a graduate’s ability to find a job with no noticeable effect on job search intensity and specific search skill trainings. Zhou (2003) also identified that university support has a positive impact on the probability of getting the job. In a more recent study Wang and Moffatt (2008) provided evidence of the positive relationship between efforts made by the graduates and job search outcome; the role of the university was also acknowledged due to the ability of the latter to assists in the university-labor market transition. In their article focused on postgraduate Chinese students Li et al. (2010) called for maximization of the utilization of job search related information channels, thus reducing information asymmetry between the graduates and the job market. In a recent study by Li et al. (2015) conducted in 14 higher education institutions from four cities in China, evidence was provided to show that those graduates who search for jobs more frequently have more chance of being successful in finding a job with a higher starting salary, whereas higher job search associated expenditures do not lead
to a greater probability of being successful in finding a job.

The aim of this study is thus to fill the gaps in the literature by drawing upon Higgins’ (1997) regulatory focus theory to study the role of graduate perceived employability in their job search behavior. Using a strong research design with repeated measures by collecting six-wave longitudinal data with a sample of university students in China, we attempt to find out: a) how perceived employability affects the trends of job search self-efficacy and intensity, and b) how job search self-efficacy, subjective norms, intention and intensity change over time.

The study is unique in its ability to integrate the construct of perceived employability and the theory of planned behavior as a more holistic approach to explain the job search behavior of university graduates. Our study extends the theory of planned behavior in studying graduate job search behavior, and provides evidence to support the prediction regarding perceived employability based on regulatory focus theory, hence helping to generate a better understanding of the motivational variables in relation to graduate job search behavior.

Theory and hypotheses

The theory of planned behavior

The theory of planned behavior has been widely cited in the job search literature and is considered to be a solid model to study the job search mechanisms (Fugate et al., 2004; Song et al., 2006; Mcardle et al., 2007; Zikic and Saks, 2009). The model
was developed to explain how goals and plans determine behavior. According to this theory, the best predictor of behavior is the intention to perform the actions. Job search intention can act as the most immediate predictor of job search behavior (Song et al., 2006) and intention is directly predicted by subjective norms, attitudes toward the actions, and perceived behavioral control (Ajzen, 1991).

Subjective norms are individual’s perceived social pressure to perform or not to perform the behavior (Ajzen, 1991). In the literature, subjective norms are formed by beliefs of unemployed individuals on the basis of expectations of others to exert effort toward finding a job (Wanberg et al., 2005). The central role is played by the pressure to conform to the behavior of the influencing group of people (Asch, 1951). The individual may face approval or sanctions from the people, especially the ones who are closest to the job seeker, for example, family, relatives and friends (Vinokur and Caplan, 1987).

In the process of job search, the intention is formed on the basis of the magnitude of effort put into the process by the individual. Attitude toward the behavior is reflected by an unemployed individual’s cognitive or affective evaluation of the effort. Thus one individual may think that the process of finding a job is routine and even futile, whereas another individual believes that hard work is needed in order to find a job. As intentions capture the motivational factors that determine behavior, there is a positive influence of stronger intention on the performance and as a result on greater intensity (Wanberg et al., 2005).
Perceived behavioral control, which refers to the expected difficulty, has been operationalized as job search self-efficacy, an individual’s confidence in performing job search behavior well (Song et al., 2006; Zikic and Saks, 2009).

Many studies analyzing job search behavior took into consideration job search intensity, seen by some contributors as the frequency of actions which are undertaken by the job seeker (Van Hooft et al., 2004; Saks et al., 2005) or as the amount of time that a job seeker spends searching for jobs (Wanberg et al., 2010), whereas others believe that job search intensity is reflected in the degree of efforts performed by job seekers (Blau, 1993, Sun et al., 2013).

The current study follows the approach used by Song et al. (2006) and Kanfer et al. (2001), in which they measure job search intensity as frequency of an individual’s job search behaviors, for instance sending out resumes and having interviews. In contrast to the approach used by Wanberg et al. (2010) which assess the intensity in a short period of time, our study considers the long-term job search dynamics.

Recently a number of studies have applied the theory of planned behavior to test the relationships among the variables of job search attitude, subjective norm, self-efficacy, intention, and intensity (Van Hooft et al., 2004; Wanberg et al., 2005; Song et al., 2006, Zikic and Saks, 2009). Following this strand of studies we posit the following:

**Hypothesis 1.** (a) Job search self-efficacy, (b) attitude and (c) subjective norm are positively related to job search intention.
Hypothesis 2. (a) Job search intention and (b) self-efficacy are positively related to job search intensity.

Hypothesis 3. Job-search intention mediates the relationship between: (a) job search self-efficacy, (b) attitude, (c) subjective norm and job search intensity.

**Perceived employability and self-efficacy**

A considerable amount of research attention has been devoted to the conceptualization of employability revealing its multi-facetedness (Forrier and Sels, 2003). The concept gradually developed over the last century, reflecting the labor market demand (Froehlich *et al*., 2014). In the early stages, employability was characterized largely by the view from an economic perspective to meet the needs of achieving full employment. Therefore the focus of employability was on attitudes towards work and self-image. Later the development of employability concept presents the existence of a diverse range of views on what determines employability and its role. Moreover, employability is also seen as a form of adaptability of individuals which has been studied extensively from an organizational change perspective (Fugate *et al*., 2004; De Cuyper *et al*., 2008; Van Emmerik *et al*., 2012). Rothwell *et al*., (2008) examine employability from the perspective of individuals, i.e. what they believe their chances of successfully getting a particular type of work are. Specifically, they define the term as: ‘the perceived ability to attain sustainable employment appropriate to one’s qualification level’. We adopt this definition in the
current study because it fits in with our research context and central concern. Perceived employability is conceptually related to self-efficacy, which is defined as the ‘beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments’ (Bandura, 1982). But the two are distinct constructs. Berntson et al. (2008) empirically verified that the measures of employability and self-efficacy were distinct from one another and that perceived employability has positive effects on self efficacy. Thus,

**Hypothesis 4.** Perceived employability is positively related to job search self-efficacy.

**Perceived employability and job search behavior**

Perceived employability is a self-concept which is an important contributor to global evaluations of the self (Marsh, 1986), and self-evaluation is an important source of intrinsic motivation (Shamir et al., 1993). According to Higgins’ (1997) regulatory focus theory, the motivational principle that underlies self-regulation behavior, such as approaching pleasure and avoiding pain, is regulatory focus. There are two types of regulatory foci: promotion and prevention. The promotion focus is concerned with positive outcomes and the individual is eager to pursue potential success, in contrast, the prevention focus is concerned with security or avoiding failure and the individual tends to use vigilant strategies guarding against mistakes in order to ensure safety and maintain a satisfactory state (Higgins, 1997). Scholer et al. (2014) show that more positive self-evaluations support the promotion focus, whereas less positive self-evaluations support prevention focus. As they put it, ‘the ways in
which individuals think and feel about themselves play a significant role in guiding behavior across many domains in life’ (Scholer et al., 2014), such as search for a job after graduating from university. Following theory of planned behavior, this includes variables such as job search attitude, intention and intensity.

Thus, we posit that:

**Hypothesis 5.** *Perceived employability is positively related to job search attitude.*

**Hypothesis 6.** *Perceived employability is positively related to job search intention.*

**Hypothesis 7.** *Perceived employability is positively related to job search intensity.*

The unique framework of the research is represented in Figure 1.
Method

Procedure and participants

A 6-wave anonymous questionnaire survey was conducted on a stratified sample of Chinese university graduating students who were not preparing for further study. In the beginning of the first wave, 709 participants from 16 provinces (five in East China, two in South China, two in North China, three in Central China, one in Northeast China, two in Northwest China, one in Southwest China) and 52 universities (11 ‘Project 985’ universities, 9 ‘Project 211’ universities, 32 other universities) attended the survey. Of these participants, 346 (48.8%) were men, 362 (51.1%) were women; 281 (39.6%) were from urban areas, 408 (57.5%) were from rural areas; 301 (42.5%) were students of liberal arts, 130 (18.3%) were students of science, 262 (37.0%) were students of engineering; the average age is 22.86, while the standard deviation is 0.98.

All the participants were asked to participate through disseminated email invitations and classroom announcements. As there are two teaching semesters in China (autumn and spring), the authors of the study expected that the main job searching activities of 2013/2014 graduates took place from October 2012 to January 2013 and from March 2013 to May 2013 respectively. During these two periods the six-wave survey was carried out on a monthly basis. The survey was divided into two parts (A and B) in Wave 1, in which Part A included stable demographic characteristics (i.e. control variables) and employability, whereas Part B measured job search self-efficacy, job search attitude, subjective norm, and job search intention.
The four variables in part B of Wave 1 and job search intensity were found to be unstable over time in the job search process. This is also confirmed by Wanberg et al. (2005), Wanberg et al. (2010) and Sun et al. (2013), therefore they are measured repeatedly from Wave 2 to Wave 5. Wave 6 only contained the measure of job search intensity. The dates for data collection are as follows:

Wave 1 survey

(A): 15th October 2012 – 22nd October 2012;

(B): 25th October 2012 – 1st November 2012;

Wave 2 survey: 26th November 2012 – 3rd December 2012;

Wave 3 survey: 4th January 2013 – 11th January 2013;


To reduce attrition due to non-response, we tracked participants unless they stopped searching for another job. In total, 709 university graduating students took part in the Wave 1 survey (A). We provided the questionnaire survey to 709 graduating students in the Wave 1 survey (B), 694 effective questionnaires had been obtained (of which 159 people had found jobs). We provided the questionnaire survey to 550 graduating students in Wave 2, 344 effective questionnaires had been collected (of which 56 people had found jobs). We provided the questionnaire survey to 494
graduating students in Wave 3, 245 effective questionnaires had been obtained (of which 57 people had found jobs). We provided the questionnaire survey to 437 graduating students in Wave 4, 181 effective questionnaires had been received (of which 35 people had found jobs). We provided the questionnaire survey to 402 graduating students in Wave 5, 113 effective questionnaires had been received (of which 46 people had found jobs). We provided the questionnaire survey to 356 graduating students in Wave 6, 67 effective questionnaires had been received. Each wave of the samples lost some participants mainly because they were not willing to continue to participate in the survey or were not able to complete the distributed questionnaires within a required timeslot. To conduct lagged analysis, we matched each individual’s job search self-efficacy, subjective norm, attitude, intention at Wave \( t \) with that person’s job search intensity at Wave \( t+1 \). One advantage of using the repeated measures in our graduate sample is to help to minimize the impact of potential endogeneity, an issue of explanatory variables being correlated with the error term which might cause incorrect estimates.

**Measures**

**Perceived employability.** The questionnaire used in this study was based on the work of Rothwell *et al.* (2008). A 16-item scale was used to assess perceived employability (e.g. ‘I achieve high grades in relation to my studies’). Items were scored on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Reliability (coefficient alpha) is 0.86.

**Job search self-efficacy.** The researchers adapted items from Song *et al.* (2006)
and the participants were asked to indicate how confident they were of being able to
do those eight activities related to job search self-efficacy. Items included, for
example, ‘Making the best impression and getting the point across in an interview’.
The responses ranged from 1 (not at all) to 5 (a great deal). Reliability (coefficient
alpha) across the five waves is 0.83.

*Job search attitude.* This scale consists of instrumental (three items) and
affective (four items) job search attitude measurements. The instrumental job search
attitude measurement developed by Song *et al.* (2006) was employed by the
researchers. An example of the instrumental item is ‘How useful is it for you to spend
enough effort in the next month to find a job’ (from ‘1=very useless’ to ‘5=very
useful’). Affective job search attitude was adapted from Van Hooft *et al.* (2004) and
the participants were asked to indicate whether the job search for them is interesting,
enjoyable, pleasant or boring (reverse scored). The responses ranged from 1 (strongly
disagree) to 5 (strongly agree). Reliability (coefficient alpha) across the five waves is
0.78.

*Subjective norm.* Two items were adapted from Song *et al.* (2006) to measure
the subjective norm, an example being ‘In the next month, how much effort does your
spouse or the person closest to you think you should spend to get a job?’. The
responses were on a 5-point scale with anchors 1 (no effort) to 5 (a lot of effort).
Reliability (coefficient alpha) across the five waves is 0.84.

*Job search intention.* Job search intention was measured with two items (Song
*et al.,* 2006). For instance: ‘In the next month, how hard do you intend to look for a
job?’. Items were scored on a 5-point scale, ranging from 1 (no effort) to 5 (a lot of effort). Reliability (coefficient alpha) across the five waves is 0.87.

**Job search intensity.** The questionnaire consists of 19 items, 16 of which were adapted from Blau (1993). Some amendments to the original set of items were needed as a number of them were specifically designed for company employees. An example item is ‘Read the help wanted/classified advertisement in a newspaper, journal, or professional association’. In order to be more relevant to the Chinese context, three additional items based on the actual situation in China were incorporated. The researchers asked the participants to respond on a 5-point scale (from ‘1=strongly disagree’ to ‘5=strongly agree’). Reliability (coefficient alpha) across the five waves is 0.92.

**Control variables**

Due to the potential influence of the demographic characteristics of the graduates (gender, age, and origin of the participants (i.e. native place)), the researchers introduced these variables to control their impact on job search behavior.

**Analyses**

Data were analyzed by means of SPSS19.0, Mplus 7.0 and HLM6.08. Given that the data of this study are hierarchically nested within individuals, the researchers conducted two levels of analysis: within-person (Level 1) and between-person (Level 2). Job search efficacy, job search attitude, subjective norm, job search intention, and time dimension were formed into Level 1 variables, due to multiple within-person
observations. Level 2 analysis consists of control variables and perceived employability measures. All the variables from Level 1 and Level 2 analysis were group-mean centered as a way to avoid multicollinearity of the interaction terms with their corresponding main effects. The adapted centering methods are consistent with the results.

Results

Descriptive statistics and confirmatory factor analyses

Descriptive statistics are provided in Table 1, which shows the means, standard deviations, reliability coefficients, intra-class correlations (ICCs) of the key variables, and inter-correlations at both between-person and within-person analysis levels.

[Table 1 here]

The ICCs of variables in various waves indicated that there is a significant amount of within-person variation across months, and therefore within-person level analysis was legitimate in this study. The results indicated that the correlation between perceived employability, job search self-efficacy, attitude, subjective norm, intention and intensity were significant, except the relationship between perceived employability and subjective norm.

Before testing the hypotheses, we first conducted a set of confirmatory factor analyses (CFAs) to evaluate the measurement models for the constructs (i.e. employability, job search self-efficacy, subjective norm, attitude, intention, and job search intensity). According to Bagozzi and Yi (1988) and Hooper et al. (2008), the
generally accepted cutoff criteria are: ratio of $\chi^2$ statistics to the degree of freedom (df) not larger than 2 is a good fit; comparative fit index (CFI) larger than 0.90 indicates satisfactory fit (larger than 0.95 is a good fit); a non-normed fit index (NNFI) or the Tucker-Lewis index (TLI) larger than 0.90 is a satisfactory fit (larger than 0.95 is a good fit); a root mean square error of approximation (RMSEA) smaller than 0.07 is a good fit, and a standardized root mean square residual (SRMR) smaller than 0.08 is a good fit. The results of the CFAs in Table 2 show that the indices of CFI and TLI were satisfactory and the remaining indices are a good fit.

[Table 2 here]

Tests of hypotheses

To test Hypotheses 1 – 3, we followed the procedures suggested by Baron and Kenny (1986) and the results are presented in Table 3. Firstly, we regressed the dependent variable (job search intensity) on the control variables (gender, age, and origin) and the independent variables (job search self-efficacy, attitude and subjective norm). The coefficients indicate job search self-efficacy, attitude and subjective norm are positively associated with job search intensity, while gender is negatively associated with it. Secondly, we regressed the mediating variable (job search intention) on the control variables (gender, age, and origin) and the independent variables (job search self-efficacy, attitude and subjective norm). The coefficients indicate that job search attitude, subjective norm (with the exception of job search self-efficacy) are positively associated with job search intention, while gender is negatively associated with it. Finally, we regressed the dependent variable (job search intensity) on the
control variables (gender, age, and origin), the independent variables (job search self-efficacy, attitude and subjective norm), and the mediating variable (job search intention). The coefficients indicate that job search self-efficacy, attitude, subjective norm and job search intention are positively associated with job search intensity, while gender is negatively associated with it. Based on the above evidence we can conclude that Hypothesis 2 was supported, while Hypotheses 1 and 3 were partially supported. In particular, job search efficacy did not predict job search intention significantly, and thus job search intention did not mediate the relationship between job search efficacy and job search intensity.

[Table 3 here]

To test Hypotheses 4 – 7, we estimated four multilevel models with between-person main effects and the results are presented in Table 4. As expected, individuals with higher perceived employability significantly predicted a higher mean level of job search self-efficacy, job search attitude, job search intention and job search intensity over time, thus Hypotheses 4 – 7 were supported.

[Table 4 here]

**Supplementary analysis**

Given the longitudinal nature of our data, we further used a set of unconditional HLM models to examine within-individual change over time for each repeated measure (job search self-efficacy, attitude, subjective norm and job search intensity) before we tested our hypotheses, and the results are presented in Table 5. We found all
the variables (except job search attitude) decreased over time. It was found in the literature that workers who are less likely to get jobs become discouraged and eventually reduce their search intensity. An individual may change the level of job-search intensity (i.e. fewer job applications sent) over time for reasons including a personal tendency to get discouraged or increased uncertainty about what to do next in the job search (Wanberg et. al., 2005). It is rather interesting to note that job search attitude does not show significant decrease over time.

[Table 5 here]

As shown in Table 5, the slope coefficients for job search self-efficacy, intention, and intensity (with the exception of job search attitude) reflected a significantly negative linear trend over time. To test whether perceived employability plays a moderating role on the time trend of job search self-efficacy, intention and intensity, we established a set of multilevel models, and the results are presented in Table 6. The intercept terms (perceived employability for time slope) on both job search self-efficacy and intensity were positively significant, while the intercept term on job search intention was statistically insignificant. It indicates the individuals who had not yet found a job and with higher perceived employability suffered much faster decreases on both job search self-efficacy and intensity during graduate job hunting.

[Table 6 here]
Discussion and conclusion

The main purpose of this study was to explore the role of graduate perceived employability on the job search process by extending the theory of planned behavior. The results of this study have both theoretical and practical implications.

Theoretical implications

The present research has three major contributions to theory. First, the major finding is that graduate perceived employability has a positive significant effect on job search self-efficacy, attitude, intention and intensity. This finding suggests that graduates who perceived a higher level of employability (this can be obtained through higher education) are more confident of being able to perform the job search process well, have a positive attitude and intense intentions of looking for a job as well as putting much effort into the job search. These findings represent an important extension of job search research, which has often been neglected it as one of the key factors influencing job search behavior (Zikic and Saks, 2009).

Second, this study shows that all the repeated measuring variables (except job search attitude) decreased over time. Upon completion of their studies, the longer the graduates stay unemployed, the less effort they put into the job search process. After four years of studying at the university, job search will give them higher perceived employability, so they engage in promotion-focused regulatory behavior, i.e. they are eager to look for a job, and try their best to find a job. As time passes, those being rejected several times adjust their self-perception of employability to a lower level and focus on prevention regulatory behavior to avoid more job search failure
Unsuccessful job searchers experience a decline in self-efficacy (confidence loss), intention and intensity, therefore a negative trend for those variables was observed over time in the present study. Furthermore, the findings of the study indicate that job search self-efficacy and intensity declined less for individuals with higher levels of perceived employability. The results add further evidence to the regulatory focus theory (Higgins, 1997; Scholer et al., 2014) as applied in the job search context. However, we also find that the subjective norm decreased over time. This contradicts the conclusions made in Wanberg et al. (2005).

It is possible that after Chinese university graduates fail in their job search, parents will help their children to find a job through their social network due to the Chinese cultural concept: guanxi. We found that the slope for job search attitude was not statistically significant. This is also in contrast to the finding of Wanberg et al. (2005) that job search attitude shows a negative trend over time. This difference may be attributed to the different samples, their study examined unemployed individuals who have already been in the labor market for some time.

Third, the theory of planned behavior within the Chinese context was examined. The results partially supported the theory of planned behavior in predicting job search behavior in the Chinese context. Job search attitude and subjective norm were positively related to intention. Job search intention and self-efficacy were significant predictors of intensity. Job search intention partially mediated the effects of attitude and subjective norm on intensity. Job search self-efficacy, however, did not predict intention. Accordingly, job search intention mediated the effects of attitude and
subjective norm on intensity. Previous research on the relationship between job search self-efficacy and intention brought mixed results (Van Hooft et al., 2004).

Self-efficacy does not have an effect on job search intention. Some research implies that self-efficacy doesn't have a significant effect on job search intention (Van Hooft et al., 2004; Song et al., 2006), while other research shows that self-efficacy has a weak effect on job search intention (Van Hooft et al., 2004; Zikic and Saks, 2009). The lack of consensus may be due to the following two reasons: firstly, on one hand job search intention was enhanced as a result of enhancement in self-efficacy, when job seekers become more confident in searching for a job, they will have strong job search intention (Ajzen, 1991); on the other hand, it is also conceivable that when their job search efficacy is high, they may have low job search intention because the job search process becomes less challenging (Sun et al., 2013). Secondly, the strong effect that job search attitude had on job search intention in this study may weaken the influence that job search self-efficacy had on job search intention (Van Hooft et al., 2004). In the same vein Song et al. (2006) reached a similar conclusion in the Chinese context. However, our results were a little different from the results in Song et al. (2006) and shed light on the existing literature in a sense that subjective norm and job search attitude have positive effects on intention, while self-efficacy does not have an effect on intention.

**Practical implications**

The results of the present research have two major implications for practice. First, our findings show that high self-efficacy and intention motivates job search;
improving graduates’ confidence in the job market is essential. Accordingly, to build confidence in the job market, universities can contribute, for example, by providing workshops to students for job searching skills, CV improvement and interview skills (Van Hooft et al., 2004; Wanberg et al., 2005). Additionally, friends and families’ support and encouragement can also enhance graduates’ confidence. In this research, four components are structured to produce the overall measure of university graduates’ perceived employability: self belief (confidence in one’s own skills and abilities), my university (the strength of the university’s brand), my field of study (the status and credibility of the field of study) and the state of the external labor market (perceptions of the external labor market) (Rothwell et al., 2008). Graduates’ perceived employability can be enhanced through strengthening these four components so that their self-efficacy and intention are enhanced.

Therefore, it is suggested that universities adjust their support accordingly. For example, perceived employability enhancement can be achieved as a result of transformations in university curriculum design, development of new modules and programs focusing on the actual needs of employers in light of recent advancements in information technologies and cross national higher education initiatives (Wilton, 2008). Therefore upon the completion of the degree, the graduates are more self-confident and have positive attitudes towards job search initiatives, which reflect in their skills, abilities, ambition, and their awareness about job opportunities. Thus the student’s and consequently parents’ dilemma of considering the degree for their children as an opportunistic investment is resolved in a way that reinforces the need to
enhance perceived employability through higher education. Additionally, building a strong university brand, reputation and enhancing the corporation with recruiters would also provide more potential job opportunities for graduates (Zikic and Saks, 2009).

Second, our findings show that self-efficacy, intention and intensity gradually decline over time as a result of a number of unsuccessful job search attempts. This suggests that for unsuccessful job seekers, more support and help from the university to enhance its graduates’ self-efficacy, intention and intensity are needed. Therefore in addition to setting employment goals, university careers advisors can develop or (te Wierik et al., 2014). The engagement in various activities organized by the university, such as development of the database of potential employers, participation in on-campus job fairs or attending workshops on how to develop effective resumes, may help to guide students not just along the path of goal clarification, but along the job search process. Mentoring programs can focus on expansion of employment information including how to use alumni resources and networks. As a result the graduates know that the job search activities eventually lead towards finding an appropriate job and thus individuals with low intentions will gain confidence in dealing with difficult situations which require handling the consequences of being unsuccessful in the process of job search. Thus instead, for instance, of individuals with high subjective norm relying heavily on support from their parents (through guanxi), the substantial resources of the alumni group can be used in supporting graduates’ job search (Marmaros and Sacerdote, 2002).
Limitations and future studies

This study has several limitations that provide avenues for further research. First, the participant attrition rate is high in this study, a typical issue in all studies using a repeated measure design (Sun et al., 2013). Future research should take some measures to reduce participant attrition, and to increase the statistical power of the model.

Second, this study only focused on the job search dynamic process (whether an individual is able to find a job or not), future research should take into account the outcomes of job search (i.e. employment status, starting salary and job satisfaction), as well as other factors such as salary increment, job security and promotion in the future.

Third, between-person and within-person variables were only included on the basis of the theory of planned behavior; external variables of industrial globalization, educational globalization, and continual education/economic reform may have a mediating effect on the job search process (Wanberg et al., 2005). Repeated measures of external factors (for instance unemployment rate and consumer sentiment index) should be adopted in future research and integrated into job-search behavior, thus enhancing the model through minimizing the omitted variable bias. Finally, it would provide additional insights if further research includes the data of actually finding a job into this study’s research model.
**Conclusion**

Graduate employability is a key concern for all stakeholders, particularly at a time when the higher education system is increasingly available for the masses. Despite the growing research interest in graduate employability (Cai, 2013) and job search (Berntson *et al*., 2008; Zikic and Saks, 2009), few studies have attempted to integrate graduate perceived employability and the theory of planned behavior into one framework. In this study, we integrated employability and the theory of planned behavior into one framework to analyze the process of Chinese university graduates’ job search behavior. Our findings reveal that perceived employability has a positive and significant effect on job search self-efficacy, attitude, intention and intensity. Thus the study advances our knowledge of graduate employability and its relationship with job search behavior.

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Figure 1 Employability and the theory of planned behavior

Employability

Job search self-efficacy

Job search attitude

Subjective norm

Job search intention

Job search intensity
Table 1 Descriptive Statistics and Between-Person and Within-Person Correlations

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>ICC</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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<th>9</th>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>3</td>
<td>Origin</td>
<td>709</td>
<td>.59</td>
<td>.49</td>
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<td>.09*</td>
<td>-</td>
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<td>-.18**</td>
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<td>.051</td>
<td>.12**</td>
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<td>.326</td>
<td>-.10*</td>
<td>.01</td>
<td>.01</td>
<td>.24**</td>
<td>.39**</td>
<td>.78</td>
<td>.47**</td>
<td>.55**</td>
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<td>.03</td>
<td>.07</td>
<td>.18**</td>
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<td>.84</td>
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<td>.25**</td>
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<td>.49</td>
<td>.403</td>
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<td>.07</td>
<td>-.04</td>
<td>.16**</td>
<td>.33**</td>
<td>.43**</td>
<td>.24**</td>
<td>.36**</td>
</tr>
</tbody>
</table>

Note. Numbers in the lower diagonal of the correlation matrix are between-person level correlations. Numbers in the upper diagonal of the correlation matrix are within-person level correlations. Reliability coefficients are in the diagonal.

*p < .10, **p < .05; For gender: 0-male, 1-female; For origin: 0-urban, 1-rural.
### Table 2 CFA Results for the Measurement Models

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>SRMR</th>
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<td>1301</td>
<td>1.387</td>
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<td>0.051</td>
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<td>Baseline: employability, 1st wave: job search self-efficacy, subjective norm, attitude, intention 2nd wave: job search intensity</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Model 2:</td>
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<td>0.906</td>
<td>0.897</td>
<td>0.033</td>
<td>0.058</td>
</tr>
<tr>
<td>Baseline: employability, 2nd wave: job search self-efficacy, subjective norm, attitude, intention 3rd wave: job search intensity</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Model 3:</td>
<td>1761.740</td>
<td>1312</td>
<td>1.343</td>
<td>0.898</td>
<td>0.889</td>
<td>0.035</td>
<td>0.063</td>
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<tr>
<td>Baseline: employability, 3rd wave: job search self-efficacy, subjective norm, attitude, intention 4th wave: job search intensity</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Model 4:</td>
<td>1688.837</td>
<td>1322</td>
<td>1.277</td>
<td>0.909</td>
<td>0.902</td>
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<td>0.058</td>
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<td>Baseline: employability, 4th wave: job search self-efficacy, subjective norm, attitude, intention 5th wave: job search intensity</td>
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<td></td>
<td></td>
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<tr>
<td>Model 5:</td>
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<td>1291</td>
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<td>0.906</td>
<td>0.033</td>
<td>0.066</td>
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<tr>
<td>Baseline: employability, 5th wave: job search self-efficacy, subjective norm, attitude, intention 6th wave: job search intensity</td>
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Table 3 Predicting Job Search Intensity with TPB Variables

<table>
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<tr>
<th>Variables</th>
<th>Job search intention</th>
<th>Job search intensity</th>
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<tr>
<td>Intercept</td>
<td>3.161**</td>
<td>2.941**</td>
</tr>
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<td>Control variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.129*</td>
<td>-.117*</td>
</tr>
<tr>
<td>Age</td>
<td>-.007</td>
<td>.029</td>
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<tr>
<td>Origin</td>
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<td>-.059</td>
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<tr>
<td>Main effects</td>
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<td></td>
</tr>
<tr>
<td>Job search self-efficacy</td>
<td>.005</td>
<td>.215**</td>
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<tr>
<td>Subjective norm</td>
<td>.391**</td>
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<td>Job search attitude</td>
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<td>.267**</td>
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<tr>
<td>Job search intention</td>
<td></td>
<td>.104**</td>
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<tr>
<td>Model fit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deviance</td>
<td>2715</td>
<td>1409</td>
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†: p<.10, *: p<.05, **: p<.01; For gender: 0-male, 1-female; For origin: 0-urban, 1-rural.
Table 4 Hierarchical Linear Modeling Model with Controls and Employability Used to Predict TPB Variables and Job Search Intensity over Time

<table>
<thead>
<tr>
<th>Variables</th>
<th>Job search self-efficacy</th>
<th>Job search attitude</th>
<th>Job search intention</th>
<th>Job search intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.227**</td>
<td>3.108**</td>
<td>3.153**</td>
<td>2.955**</td>
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<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.015</td>
<td>-.075†</td>
<td>-.119†</td>
<td>-.141**</td>
</tr>
<tr>
<td>Age</td>
<td>.001</td>
<td>.005</td>
<td>-.002</td>
<td>.026</td>
</tr>
<tr>
<td>Origin</td>
<td>-.081*</td>
<td>.001</td>
<td>.079</td>
<td>-.073</td>
</tr>
<tr>
<td>Main effects</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employability</td>
<td>.250**</td>
<td>.185**</td>
<td>.116*</td>
<td>.120*</td>
</tr>
<tr>
<td>Model fit</td>
<td></td>
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</tr>
<tr>
<td>Deviance</td>
<td>2656</td>
<td>2017</td>
<td>3061</td>
<td>1628</td>
</tr>
</tbody>
</table>

†: p<.10, *: p<.05, **: p<.01; For gender: 0-male, 1-female; For origin: 0-urban, 1-rural.
Table 5 Hierarchical Linear Modeling Descriptive Examination of Intercept and Slope of Repeated Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intercept Coefficient</th>
<th>Intercept Variance</th>
<th>Slope Coefficient</th>
<th>Slope Variance</th>
</tr>
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<tr>
<td>Job search self-efficacy</td>
<td>3.3076**</td>
<td>.2710**</td>
<td>-.0432**</td>
<td>.0269**</td>
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<td>Subjective norm</td>
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<td>.5000**</td>
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<td>.0349**</td>
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<td>Job search attitude</td>
<td>3.1219**</td>
<td>.2827**</td>
<td>-.0179</td>
<td>.0190**</td>
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<td>Job search intention</td>
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<td>-.0771**</td>
<td>.0546**</td>
</tr>
<tr>
<td>Job search intensity</td>
<td>3.0905**</td>
<td>.2940**</td>
<td>-.0773**</td>
<td>.0156**</td>
</tr>
</tbody>
</table>

*: p<.10, **: p<.05, ***: p<.01.

Table 6 Hierarchical Linear Modeling Model with Controls and Employability Used to Predict Slope of Repeated Measures

<table>
<thead>
<tr>
<th>Variables</th>
<th>Job search self-efficacy</th>
<th>Job search intention</th>
<th>Job search intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>For intercept</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>3.303**</td>
<td>3.282**</td>
<td>3.107**</td>
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<tr>
<td>Control variables</td>
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<td>-.151**</td>
</tr>
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<td>.027</td>
</tr>
<tr>
<td>Origin</td>
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<td>.079</td>
<td>-.078</td>
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<tr>
<td>For time slope</td>
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<td></td>
</tr>
<tr>
<td>Intercept</td>
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</tr>
<tr>
<td>Employability</td>
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<td>.034</td>
<td>.033†</td>
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<tr>
<td>Model fit</td>
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</tr>
<tr>
<td>Deviance</td>
<td>2632</td>
<td>3017</td>
<td>1595</td>
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</tbody>
</table>

*: p<.10, †: p<.05, **: p<.01; For gender: 0-male, 1-female; For origin: 0-urban, 1-rural.