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DOI
10.1016/j.jvb.2014.11.007
Publication date
2015
Document Version
Final published version
Published in
Journal of Vocational Behavior
License
Article 25fa Dutch Copyright Act

Link to publication

Citation for published version (APA):
Saks, A. M., Zikic, J., & Koen, J. (2015). Job search self-efficacy: reconceptualizing the construct and its measurement. *Journal of Vocational Behavior*, *86*, 104-114. https://doi.org/10.1016/j.jvb.2014.11.007

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Download date:25 Jan 2022

Journal of Vocational Behavior 86 (2015) 104–114

Contents lists available at ScienceDirect

Journal of Vocational Behavior

journal homepage: www.elsevier.com/locate/jvb

Job search self-efficacy: Reconceptualizing the construct and its measurement

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ARTICLE INFO

Article history:
Received 6 November 2014
Available online 26 November 2014

Keywords:
Job search
Job search self-efficacy
Job-seekers
Job search behavior
Job search outcomes

ABSTRACT

Job search self-efficacy (JSSE) is one of the most studied variables in the job search literature and an important component of the theory of planned behavior and self-regulation theory which have both been used to explain the job search process. However, even though JSSE has been a part of job search research for thirty years, the measurement of JSSE has varied from study to study. This questions both the validity of the measures used and the findings from each study that used a different measure. In this paper, we propose and test a two dimensional measure of JSSE that corresponds to job search behavior (JSSE-B) and job search outcomes (JSSE-O). The results of a longitudinal study of employed and unemployed job seekers support a two-factor model corresponding to the two dimensions of JSSE. We also found differential relationships between each dimension of JSSE and several antecedents and consequences. Among the antecedents, environmental exploration and self-exploration were stronger predictors of JSSE-B while career planning was a stronger predictor of JSSE-O. In terms of consequences, JSSE-B was a stronger predictor of job search intention and behavior while JSSE-O was a stronger predictor of the number of job offers received. These findings provide support for two dimensions of JSSE and have important implications for job search research and practice.

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1. Introduction

Job search has become increasingly common as individuals are expected to seek employment more often during their career than ever before (Saks, 2005; Wanberg, Zhang, & Diehn, 2010). The instability of contemporary careers often brings about multiple periods of unemployment and can produce serious negative effects on physical and psychological health and well-being (Wanberg, 2012). Consequently, there has been a dramatic rise in research on job search.

One of the most important factors linked to job search behavior and finding (re-)employment is job search self-efficacy (JSSE) (Brown, Cober, Kane, Levy, & Shalhoop, 2006). Most studies on job search include JSSE as a predictor of job search behavior (for example, the intensity with which people search for jobs) and/or of job search outcomes (for example, the number of job offers that people receive during their search). Furthermore, JSSE is an important component of the theory of planned behavior (TPB) and self-regulation theory which have both been used to explain the job search process. However, the measurement of JSSE has varied from study to study. In fact, there is no generally accepted scale to assess JSSE. This makes it difficult to compare the results across studies and to know if differences between studies are true differences or differences due to the instrument used to measure JSSE.

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http://dx.doi.org/10.1016/j.jvb.2014.11.007
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The main objective of the present study was to propose and test a reconceptualization of the measurement of JSSE. In particular, we constructed a measure of JSSE using existing scales but separate items that focus on job search behavior (JSSE-B) from items that focus on job search outcomes (JSSE-O). In the following sections, we discuss previous research on JSSE and its measurement after which we present a two dimensional measure of JSSE.

1.1. Job search self-efficacy research

Job search self-efficacy (JSSE) refers to the belief that one can successfully perform specific job search behaviors and obtain employment (Saks & Ashforth, 1999). For three decades, self-efficacy has played a prominent role in job search research as a predictor of job search intention, behavior, and outcomes and as a key variable in job search interventions.

1.1.1. JSSE as a predictor of job search intention, behavior, and outcomes

In one of the first studies on job search and JSSE, Kanfer and Hulin (1985) reported that in a sample of individuals who had been laid-off from a private hospital, individuals with higher self-efficacy engaged in a greater number of job search behaviors (.51, $p < .01$) and were more likely to find employment. The correlation between self-efficacy at the time of job loss and reemployment status one month later was .86 ($p < .01$).

Since the Kanfer and Hulin (1985) study, many other studies have found that JSSE predicts job search behavior and job search outcomes (e.g., Brown et al., 2006; Côté, Saks, & Zikic, 2006; Saks, 2006; Saks & Ashforth, 1999, 2000; Wanberg, Glomb, Song, & Sorenson, 2005). In their meta-analysis, Kanfer, Wanberg, and Kantrowitz (2001) obtained an effect size of .27 between job search self-efficacy and job search behavior (i.e., the intensity with which people search for a job). They also reported that job seekers with higher JSSE received more job offers, were more likely to obtain employment, and were unemployed for a shorter period of time. In fact, JSSE was one of the few variables significantly related to all three employment outcomes.

Research on job search and the theory of planned behavior (TPB) also predicts that JSSE is related to job search intention. According to the TPB, an individual's intention to engage in a behavior is the main predictor of the behavior in question, and one's intention to engage in a specific behavior is a function of one's attitude toward the behavior (the extent to which a person has a positive or negative evaluation of the behavior), subjective norm (perceived social pressure to perform or not to perform the behavior), and perceived behavioral control which is usually operationalized as self-efficacy or one's confidence to perform the behavior (Ajzen, 1991).

Many studies have found support for the applicability of the TPB for predicting job search behavior (Song, Wanberg, Niu, & Xie, 2006; Van Hooft, Born, Taris, & Van Der Flier, 2004, 2005; Van Hooft, Born, Taris, Van Der Flier, & Blonk, 2004; Van Hooft & De Jong, 2009; Van Ryn & Vinokur, 1992; Vinokur & Caplan, 1987; Wanberg et al., 2005; Zikic & Saks, 2009). Job search attitude, subjective norm, and JSSE have been reported to predict job search intention, and job search intention is the main determinant of job search behavior. However, the results for JSSE and job search intention have been inconsistent. Some studies have reported a significant relationship with job search intention (e.g., Van Hoye, Saks, Lievens, & Weijters, in press; Zikic & Saks, 2009) whereas other studies have not (e.g., Song et al., 2006; Van Hooft, Born, Taris, & Van Der Flier, 2004). Van Hooft, Born, Taris, and Van Der Flier (2004) did not find a significant relationship between JSSE and either job search intention or behavior. A possible explanation for this inconsistency might be the different ways in which JSSE has been measured (Van Hoye et al., in press). We will discuss this in more detail in the section on the measurement of JSSE.

1.1.2. Job search interventions

Another stream of JSSE research has investigated the effects of job search interventions. For example, research on the JOBS intervention has concluded that job search training has a positive effect on JSSE of recently unemployed adults (Caplan, Vinokur, Price, & van Ryn, 1989) and that it functions as a mediating variable for the effects of JOBS on reemployment, financial strain, and a reduction in depressive symptoms (Vinokur & Schul, 1997). Van Ryn and Vinokur (1992) reported that a JOBS intervention had a positive effect on the JSSE of unemployed job seekers and JSSE mediated the effect of the intervention on job search behavior. A meta-analysis on the effectiveness of job search interventions concluded that they are more effective in helping job seekers find employment when they boost self-efficacy, and job search self-efficacy partially mediates the effect of job search interventions on employment status (Liu, Huang, & Wang, 2014a).

1.2. The measurement of job search self-efficacy

Although JSSE is frequently included in a job search research, there appears to be little consensus or consistency regarding how to measure it. In fact, few studies have used the same scale. While some of the items used across scales closely correspond to actual job search behaviors (e.g., use friends or other contacts to discover promising job openings), others do not directly correspond to search behavior (e.g., make the best impression and get points across in an interview) or are aimed at the outcomes of job search (e.g. job offers, reemployment status).

The first published scale to measure JSSE was designed by Ellis and Taylor (1983) in a study on the role of self-esteem in the job search process. Although they called their scale task-specific self-esteem, it was similar to JSSE scales as it asks respondents about their confidence in the job search context. The 10-item scale includes items on one's confidence in general search ability and in specific job search knowledge and skills. Most of the items refer to one's knowledge of the job search process (e.g., I know a lot more than most students about how to use a wider range of job opportunity sources) and one's job search ability (e.g., I am confident of my ability to make a good impression in job interviews) rather than actual job search behaviors.

Kanfer and Hulin (1985) developed a four-item scale that asks participants about their confidence to successfully perform job search behaviors such as finding out where job openings exist, filling out applications, deciding which type of jobs to apply for, and investigating job leads promptly. Van Ryn and Vinokur (1992) developed a scale that consists of six items that asks respondents to indicate their confidence about being able to do various job search behaviors successfully (e.g., complete a good job-application or resume).

Most subsequent JSSE scales have used items from the three scales described above and often contain a mix of behavior and outcome items. For example, Saks and Ashforth (1999) designed a 10-item scale based on Ellis and Taylor (1983) and Kanfer and Hulin (1985) that included items that refer to job search behaviors (e.g., use social networks to obtain job leads) as well as job search outcomes (e.g., Obtain more than one good job offer). Van Hooft, Born, Taris, Van Der Flier, and Blonk (2004) developed an 8-item scale based on Ellis and Taylor's (1983) and Van Ryn and Vinokur's (1992) scales that includes items that refer to confidence in one's ability to do job search behaviors (e.g., I am confident of my ability to write a good application letter) as well as one's belief about how good they are at job search (e.g., Overall I think I am not very good at job search). More recently, Wanberg, Zhu, and Van Hooft (2010) developed a five item JSSE scale they called reemployment efficacy that contains items about one's confidence that they can find an acceptable job. Other scales have used items that do not focus on either behaviors or outcomes (e.g., "My qualifications for employment are better than most people;" Brown et al., 2006), and some studies have used general measures of self-efficacy (e.g., Eden & Aviram, 1993; Zikic & Klehe, 2006).

Besides differences in the type of items used in JSSE scales, JSSE scales also differ in the number of scale items which has varied from single item measures (Song et al., 2006) up to ten items (Saks & Ashforth, 1999; Van Hooft & De Jong, 2009; Wanberg et al., 2005). Lee and Bobko (1994) showed that single item self-efficacy measures were less valid than composite measures and recommended against the use of single-items measures. JSSE scales also differ in their reliability which has varied from a low of .68 (Van Hooft, Born, Taris, & Van Der Flier, 2004) to as high as .93 (Wanberg, Zhu, & Van Hooft, 2010). Other differences include the number of scale anchors (usually 5 or 10) as well as the verbal anchors (usually agree-disagree or no confidence to total confidence).

In summary, research on JSSE has used a variety of scales which have varied in terms of item content, the number of items, and scale reliability. Perhaps most disconcerting is that the scales differ with respect to the nature of the items (e.g., one's knowledge of job search, confidence in one's job search abilities, confidence in performing job search behaviors, and confidence in obtaining job search outcomes) and some scales contain a combination of items pertaining to knowledge, job search abilities, job search behaviors, and/or job search outcomes. As a result, JSSE scales are not pure in terms of what it is about job search that is being measured and have at times confounded job search self-efficacy behavior with job search self-efficacy outcomes (Liu, Wang, Liao, & Shi, 2014b). In fact, Wanberg, Zhu, and Van Hooft (2010) suggested that the failure to find a significant relationship between JSSE and job search effort in their study might be due to their operationalization of self-efficacy as confidence in the ability to find an acceptable job (e.g., outcomes). Indeed, the only study to measure both JSSE for behaviors and JSSE for outcomes (i.e., employment self-efficacy) found that JSSE for behaviors was positively related to job search behavior while JSSE for outcomes was negatively related to job search behavior (Liu et al., 2014b). In other words, the relationship between job search self-efficacy and job search behavior depended on the measure or type of job search self-efficacy.

Thus, it is difficult to compare results across studies and any differences in the relationship between JSSE and job search behavior and outcomes between studies might be due to differences in the measurement of JSSE. Given the important role that JSSE plays in the job search process and the fact that most job search studies include JSSE, there is a need for greater consistency in the measurement of JSSE across studies and more attention paid to item content as well as scale reliability and validity. In the next section, we discuss the need to distinguish between job search behavior and outcomes when measuring JSSE.

1.3. Job search self-efficacy behavior and outcomes

As indicated earlier, measures of JSSE often contain a mix of items that pertain to job search knowledge, behaviors, and outcomes. In other cases, JSSE scales that focus on behavior have been used to predict outcomes and scales that focus on outcomes have been used to predict job search effort and behavior (e.g., Wanberg, Zhu, & Van Hooft, 2010). This conflicts with the TPB as well as self-efficacy theory. For example, according to Ajzen (1991) the accurate prediction of behavior requires that the measures of intention and of perceived behavioral control (i.e., self-efficacy) correspond to the behavior that is being predicted. Self-efficacy measures that do not correspond to the performance domain being predicted can result in what Bandura (1997) refers to as a mismatch. According to Bandura (1997):

> The structure of the relationship between efficacy belief and action requires that both tap similar capabilities. To the extent that the capabilities measured in perceived efficacy differ in significant ways from those that govern performance, one would not expect efficacy beliefs and performance to be highly related.
>
> [p. 62]

With respect to JSSE, a mismatch occurs when a JSSE measure that focuses on behavior is used to predict job search outcomes and vice versa. Mismatches will also result when a JSSE measure includes a variety of items (e.g., behaviors, outcomes, knowledge, and abilities) and is then used to predict behavior and/or outcomes. To avoid mismatches, self-efficacy scales usually consist of items that tap efficacy beliefs for executing particular behaviors (e.g., Gaudine & Saks, 2004; Saks, 1995) or for attaining outcomes such as levels of productivity or market share (e.g., Bandura & Wood, 1989; Seijts, Latham, Tasa, & Latham, 2004).

The distinction between behavior and outcomes in the measurement of job search self-efficacy and the notion that job seekers might have different types of self-efficacy beliefs during job search has recently been noted by several authors. For example, during the development of their "Getting Ready for Your Next Job" inventory for unemployed job seekers, Wanberg, Zhang, and Diehn (2010) developed separate scales to measure job-search confidence which refers to specific aspects of job search (i.e., behaviors) and reemployment confidence which has to do with being able to find a suitable job (i.e., outcomes). Wanberg, Zhu, and Van Hooft (2010) suggested that their failure to find a significant relationship between self-efficacy and search effort might be due to their operationalization of job search self-efficacy as an outcome (finding an acceptable job) rather than in terms of job search tasks. And in the only study to measure job search behavior self-efficacy and employment self-efficacy, Liu et al. (2014b) reported that they had opposite relationships with job search behavior.

Therefore, based on the above we suggest that job search self-efficacy scales should distinguish between behavior and outcomes as they represent two dimensions of job search self-efficacy. Along these lines we separated job search self-efficacy items used in previous studies into two dimensions that correspond to job search behavior (the belief or confidence that one can successfully perform specific job search behaviors) and job search outcomes (the belief or confidence that one can successfully obtain job search outcomes) and formed two 10-item scales for job search self-efficacy behavior (JSSE-B, e.g., Plan and organize a weekly job search schedule) and job search self-efficacy outcomes (JSSE-O, e.g., Obtain more than one good job offer). To test the validity of these two dimensions, we examined their relationships with several antecedents and consequences of JSSE. If the two dimensions are valid measures of JSSE, they should be differentially related to antecedents and consequences of job search self-efficacy in theoretically meaningful ways.

1.3.1. Consequences of job search self-efficacy

In most research on job search, the primary objective is to predict job seeker's job search behavior and/or job search outcomes. Furthermore, research on the TPB regards job seekers' intention to search as an important outcome of their job search self-efficacy as well. Therefore, we tested the relationship between JSSE and job search intention, behavior, and outcomes. Given that JSSE-B focuses on job seekers' confidence in performing job search behaviors, we expected that JSSE-B would be more strongly related to job search intention and job search behavior than JSSE-O.

Among the employment outcomes included in the Kanfer et al. (2001) meta-analysis, JSSE was most strongly related to the number of job offers received. Furthermore, among all of the antecedents in the meta-analysis, JSSE was the most strongly related to job offers. Given that JSSE-O focuses on job seekers' confidence to obtain job search outcomes such as job offers, we expected it to be more strongly related to the number of job offers received than JSSE-B.

Therefore, based on the above we tested the following hypotheses:

Hypothesis 1. JSSE-B and JSSE-O relates positively to a) job search intention and b) job search behavior and these relationships will be stronger for JSSE-B.

Hypothesis 2. JSSE-B and JSSE-O relates positively to the number of job offers received and the relationship will be stronger for JSSE-O.

Hypothesis 3a. JSSE-B relates more strongly to job search intention and job search behavior than to the number of job offers received.

Hypothesis 3b. JSSE-O relates more strongly to the number of job offers received than to job search intention and job search behavior.

1.3.2. Antecedents of job search self-efficacy

To further test the validity of the two dimensions of JSSE we examined several variables that are expected to precede and predict JSSE. First, we examined career exploration, which involves gathering information relevant to the progress of one's career and is an important initial step that prepares job seekers for a successful job search (Blustein, 1997; Jordaan, 1963; Stumpf, Colarelli, & Hartman, 1983; Werbel, 2000). Career exploration is a lifelong process that is triggered especially during transitions (Blustein, 1997; Savickas, 1997). Career exploration involves both the exploration of the environment (i.e., environmental exploration) as well as exploration of oneself (i.e., self-exploration).

Environmental exploration involves the investigation of career options by collecting information on jobs, organizations, occupations or industries that allow more informed career decisions. Self-exploration involves exploring one's interests, values, and experiences in order to gain a deeper understanding of oneself. We expect that as job seekers learn more about their career options and themselves, their JSSE will be strengthened, especially their JSSE-B given that career exploration involves preparatory job search activities. Thus, job seekers will become more confident about searching for employment after they have identified a suitable job and career for themselves. In fact, Zikic and Klehe (2006) as well as Koen, Klehe, Van Vianen, Zikic, and Nauta (2010) found a positive relationship between career exploration and the self-efficacy of unemployed job seekers.

In addition to career exploration, we also examined career planning. The focus of career planning is setting career goals and formulating strategies for realizing those goals. It involves having plans, strategies, and objectives for one's career and is believed to facilitate the achievement of career goals (Saks & Ashforth, 2002; Zikic & Klehe, 2006). Gould (1979) found that career planning was positively related to distal career outcomes such as salary and level in the organization. Career planning has also been found to be positively related to the number of job offers and to employment quality (Koen et al., 2010; Saks & Ashforth, 2002; Zikic & Klehe, 2006) and like other goals, should also predict JSSE (Noordzij, Van Hooft, Van Mierlo, Van Dam, & Born, 2013). Therefore, we expect career planning to be positively related to JSSE. However, because career planning focuses on outcomes rather than behaviors, it should be more strongly related to JSSE-O than JSSE-B.

In summary, we expect three types of career-related behaviors to be positively related to JSSE and to be differentially related to JSSE-B and JSSE-O. Accordingly, we test the following hypotheses:

Hypothesis 4. Career exploration [(a) environmental exploration and (b) self-exploration] relates positively to JSSE-B and JSSE-O but relates more strongly to JSSE-B than to JSSE-O.

Hypothesis 5. Career planning relates positively to JSSE-B and JSSE-O but relates more strongly to JSSE-O than to JSSE-B.

Hypothesis 6a. Career exploration [(a) environmental exploration and (b) self-exploration] relates more strongly to JSSE-B than career planning.

Hypothesis 6b. Career planning relates more strongly to JSSE-O than career exploration.

2. Method

2.1. Sample and procedure

Data were collected from job seekers at Time 1 and 8 months later (Time 2) using a self-report web questionnaire. After obtaining institutional approval from Human Resources Development of Canada (HRDC), the survey was administered online using a link from HRDC's job search/career web site. The HRDC is a recognized government sponsored site that many Canadians visit during their job search. This site is visited by both employed and unemployed job seekers and offers job search and career assistance/resources, and job postings offered for free to the general public.

The Time 1 survey measured JSSE as well as the antecedents (career exploration and career planning) and consequences (job search intention, job search behavior, and number of job offers received) of JSSE. The Time 2 survey measured job search behavior and number of job offers received. At Time 1, 795 respondents filled out the survey. Given the nature of the web survey method, a lower response rate was obtained at Time 2 (20%, 162 participants) (Cook, Heath, & Thompson, 2000). Therefore, we compared the participants who completed the Time 2 survey with non-respondents and found that there were no differences on the majority of study variables except for age, χ^2 (9, 794) = 60.007, p = .001 and education, χ^2 (9, 795) = 38.998, p = .001. The non-respondents were somewhat younger and less educated.

Of 795 participants at Time 1, 70% were women and 34% of the sample had a high school diploma or less while the rest of the sample had either college or technical training (66%), and 30% had a university degree or higher. The majority of the sample (73%) was between 25 and 40 years of age. Close to one third of the sample (28%) reported having studied or currently enrolled in the field of business, commerce, management or education; 10% were in humanities; and 20% reported social sciences and services. The rest of the sample was evenly distributed between medicine, arts, law, hospitality, education, engineering with about 5–7% in each category. The sample consisted of similar numbers of employed (39%) and unemployed (42%) job seekers. Finally, the majority of respondents (80%) were born in Canada and 70% spoke English as their first language, 20% French and 10% other languages. These sample characteristics correspond closely to a typical job seeker profile likely to access the HRDC web site in Canada (HRDC report, 2005). A small percentage of respondents were not searching for a job (e.g., students) and were therefore dropped from the study. The final sample included 359 unemployed and 333 employed job seekers.

2.2. Measures

2.2.1. Job search self-efficacy

We constructed a two dimensional JSSE scale that corresponds to job search behaviors and job search outcomes based on scale items used in previous studies (Caplan et al., 1989; Ellis & Taylor, 1983; Saks & Ashforth, 1999, 2000). A sample item for JSSE-B is "Prepare a sales pitch that will attract the interest of employers." A sample item for JSSE-O is "Obtain more than one good job offer." Participants were asked to indicate their confidence for each behavior/outcome on a 5-point scale with anchors, 1 (*not at all confident*), to 5 (*totally confident*) (α = .89 and α = .96 for JSSE-B and JSSE-O, respectively). The items for both scales along with the factor loadings can be in found in Table 1.

2.2.2. Antecedents: career exploration

We used Stumpf et al.'s (1983) measure of career exploration which assesses self career exploration (4 items; e.g., "Have been retrospective in thinking about my career") and environmental career exploration (6 items; e.g., "Sought more information on specific career options of interest to me"). These scales have been validated and found to be reliable and useful predictors of job search outcomes (Stumpf, Austin, & Hartman, 1984; Stumpf & Hartman, 1984; Werbel, 2000). Participants responded using a 5-point Likert-type scale ranging from 1 (*a little*) to 5 (*a great deal*). The reliabilities were high for both scales and similar to other studies (Stumpf et al., 1983; Werbel, 2000; Zikic & Klehe, 2006) (environmental career exploration, α = .85; self career exploration, α = .86).

Table 1
Factor loadings from a two-factor structure for the 20 items of the job-search self-efficacy scale.

Item	Factor loading	
	JSSE-B	JSSE-O
1. Use social networks to obtain job leads.	.57	
2. Prepare resumes that will get you job interviews.	.65	
3. Impress interviewers during employment interviews.	.67	
4. Make "cold calls" that will get you a job interview.	.65	
5. Conduct information interviews to find out about careers and jobs that you are interested in pursuing.	.61	
6. Prepare a sales pitch that will attract the interest of employers.	.69	
7. Plan and organize a weekly job search schedule.	.60	
8. Find out where job openings exist.	.66	
9. Use a variety of sources to find job opportunities.	.64	
10. Search for and find good job opportunities.	.68	
11. Obtain more than one good job offer.		.81
12. Be successful in your job search.		.85
13. Be invited to job interviews.		.85
14. Get a job offer in an organization that you want to work in.		.89
15. Get a job offer for a job that you really want.		.87
16. Get a job as soon as possible.		.77
17. Get a job with a very good salary.		.79
18. Be invited for second interviews.		.85
19. Be invited for site visits.		.83
20. Obtain a very good job.		.87

$N = 487$.

2.2.3. Antecedents: career planning

Career planning was measured by Gould's (1979) six-item scale. The six items ask about having plans, goals, strategies, and objectives for one's career (e.g., "I have a plan for my career"). Participants responded using a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) ($\alpha = .85$).

2.2.4. Consequences: job search intention

Job search intention was measured by a 10-item scale based on Blau's (1994) job search behavior scale. Blau (1994) provided validation evidence of his measure which has been used by other researchers (Côté et al., 2006; Saks & Ashforth, 1999, 2002; Van Hooft, Born, Taris, & Van Der Flier, 2004, Van Hooft, Born, Taris, Van Der Flier, & Blonk, 2004; Van Hooft et al., 2005; Wanberg, Kanfer, & Banas, 2000; Wanberg, Kanfer, & Rotundo, 1999). Participants were asked to indicate the extent to which they plan to do each of the behaviors in the next 2 months (from 1 = *never* [0 *times*] to 5 = *very often* [*at least* 10 *times*]). Sample items include "Send out copies of my resume to potential employees" and "List myself as a job applicant in a newspaper, journal, or professional association" ($\alpha = .89$).

2.2.5. Consequences: job search behavior

Job search behavior was measured by the same 10-items from Blau (1994) that were used to measure job search intention. Participants were asked to indicate the extent to which they did each of the behaviors in the last two months (from 1 = *never* [0 *times*] to 5 = *very often* [*at least* 10 *times*]) ($\alpha = .88$ and .86 at T1 and T2, respectively).

2.2.6. Consequences: number of job offers

Participants were asked to indicate the number of job offers they received during their job search.

2.2.7. Control variables

We controlled for a number of demographic and background variables which have been found to be related to job search behavior including gender, age, marital status, and education (Kanfer et al., 2001).

3. Results

3.1. Confirmatory factor analysis

To examine the validity of two-dimensions of JSSE, we conducted a confirmatory factor analysis with AMOS 20.0 (Arbuckle, 2006). We compared the fit of our proposed two-dimensional model in which the 10 items expected to represent JSSE-B loaded on one latent factor and the 10 items expected to represent JSSE-O loaded on another latent factor with a common factor model in which all 20 items loaded onto one latent JSSE factor. Since the two latent factors in our proposed model are theoretically distinct factors that stem from the same source of self-efficacy, they were allowed to co-vary. To establish the model fit, we used multiple fit indices such as the chi-square statistic (χ^2), the normed index (NFI), the comparative fit index (CFI) and the root-mean-square error of approximation (RMSEA) (cf. Hu & Bentler, 1999). Following Mathieu and Taylor (2006), models with CFI values below .90 and RMSEA

values above .08 are considered deficient, models with CFI values between .90 and .95 and RMSEA values between .06 and .08 are considered acceptable, and models with CFI values above .95 and RMSEA values below .06 are considered good.

The proposed two-dimensional model resulted in a poor fit. However, because all factor loadings were significant and varied between .56 and .91 for both behavior and outcomes (see Table 1), we investigated where the model fit could be improved. Modification indices (>20) revealed that the model fit could be increased by allowing the error terms of several items within the two dimensions to co-vary. The specification of covariances between item-level error terms is generally accepted when it can be justified (cf. Byrne, 2005). In this case, the items with co-varying error terms had considerable content overlap but were, theoretically speaking, not causally correlated. That is, each item group referred to specific parts of the job search process, such as obtaining job leads (items 1, 4, 5) or finding information on job opportunities (items 8, 9, 10) within JSSE-B, and getting a preferred job offer (items 14, 15) or getting a follow-up invitation (items 18, 19) within JSSE-O. After allowing these item-level error terms to co-vary, the adjusted two-factor model showed an improved and acceptable fit supporting the proposed distinction between JSSE-B and JSSE-O.

Next, we compared the adjusted two-factor model with a common-factor model that contained the same co-varying error terms. Results yielded a significantly and substantially better fit for the two-factor model than for the common-factor model. These findings provide the first evidence that is it important to distinguish between JSSE-B and JSSE-O when measuring job search self-efficacy.

3.2. Consequences of JSSE

The second aim of our study was to investigate whether JSSE-B and JSSE-O could differentially predict job search intention, behavior, and number of job offers. As a first step, we created the variables JSSE-B ($\alpha = .89$) and JSSE-O ($\alpha = .96$), based on the confirmatory factor analyses as described above. Table 2 shows the means, *SD*s, reliabilities and correlations for all variables. The mean of both scales was around the mid-point, with JSSE-B slightly yet significantly higher ($M = 3.33$, $SD = .86$) than JSSE-O ($M = 3.13$, $SD = 1.14$); ($t(481) = 5.21$, $p = .00$).

We examined the predictive validity of the JSSE-B and JSSE-O scales by conducting regression analyses on job search intention at T1 and job search behavior at T1 and T2, and the number job offers at T1 and at T2. As stated in the first two hypotheses, both scales should be related to job search intention, job search behavior, and the number of job offers received. However, JSSE-B should be particularly strongly related to job search intention and job search behavior (Hypothesis 1), whereas JSSE-O should be more strongly related to the number of job offers (Hypothesis 2).

As shown in Table 3, JSSE-B and JSSE-O explained a significant amount of the variance in job search intention at T1 ($\Delta R^2 = .19$, $p = .00$), job search behavior at T1 ($\Delta R^2 = .19$, $p = .00$), job search behavior at T2 ($\Delta R^2 = .07$, $p = .01$), and the number of job offers at T1 ($\Delta R^2 = .04$, $p = .00$) and T2 ($\Delta R^2 = .09$, $p = .01$), after controlling for demographics. Regression weights showed that only JSSE-B was significantly related to job search intention and job search behavior at T1 and T2 (respectively $\beta = .48$, $p = .00$/$\beta = .53$, $p = .00$/$\beta = .32$, $p = .01$), whereas JSSE-O was not significantly related to job search intention and job search behavior at T2. These findings support Hypothesis 1. Results also showed that only JSSE-O was significantly related to the number of job offers at T1 ($\beta = .27$, $p = .00$) and at T2 ($\beta = .34$, $p = .01$) after controlling for demographics. JSSE-B showed no significant relationship with either the number of job offers at T1 or at T2. Thus, Hypothesis 2 was confirmed. Hypotheses 3a and 3b were also supported as JSSE-B was more strongly related to job search intention and job search behavior than to the number of job offers received and JSSE-O was more strongly related to the number of job offers received than to job search intention and job search behavior.

3.3. Antecedents of JSSE

To further test the validity of the two dimensions of JSSE, we tested the relationships between the three antecedents and JSSE-B and JSSE-O. Hypothesis 4 stated that career exploration (environmental exploration and self-exploration) should be positively related

Table 2
Correlations, means, standard deviations and coefficient alphas.

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	1.30	.46	(–)													
2. Age	3.78	2.32	.05	(–)												
3. Education	5.22	3.27	.06	.29**	(–)											
4. Marital status	1.55	.50	.00	−.39**	−.20**	(–)										
5. JSSE-B	3.33	.86	−.02	−.04	.01	−.03	(.89)									
6. JSSE-O	3.13	1.14	.04	−.11*	.03	−.02	.69**	(.96)								
7. Career planning T1	3.04	1.02	.09*	.05	.04	.02	.31**	.36**	(.85)							
8. Environmental exploration T1	2.82	1.01	.04	−.04	.07	−.06	.42**	.28**	.26**	(.85)						
9. Self-exploration T1	3.65	.98	−.03	.13**	.01	−.01	.32**	.18**	.12**	.52**	(.86)					
10. Job search intention T1	3.15	.98	.00	.09	.04	−.02	.42**	.25**	.07	.38**	.31**	(.89)				
11. Job search behavior T1	2.59	.93	.02	.02	.00	.04	.42**	.22**	.20	.51**	.37**	.63**	(.88)			
12. Job search behavior T2	2.43	.89	.11	.20*	.03	.07	.25**	.11	.19*	.25**	.15	.46**	.51**	(.86)		
13. Job offers T1	.92	1.95	.13**	.09	.03	−.01	.07	.18**	.13**	.02	.08	.00	.07	.15	(–)	
14. Job offers T2	1.05	1.35	.05	−.07	.11	.03	.20*	.32**	.07	−.16	−.04	−.03	−.12	.03	.33**	(–)

** $p < .01$ (2-tailed).
* $p < .05$ (2-tailed).

Table 3
Regressions on job search intention, job search behavior (T1/T2) and number of job offers (T1/T2).

	Job search intention (T1)			Job search behavior (T1)			Job search behavior (T2)			Job offers (T1)			Job offers (T2)		
Predictors	*b*	*SD b*	*β*	*b*	*SD b*	*β*	*b*	*SD b*	*β*	*b*	*SD b*	*β*	*b*	*SD b*	*β*
Step 1															
Gender	−.01	.10	.00	.03	.10	.02	.19	.17	.10	.54	.22	.13*	.13	.29	.04
Age	.04	.02	.09	.02	.02	.05	.10	.04	.26**	.08	.05	.09	−.06	.06	−.10
Education	.01	.02	.02	.00	.02	.00	.00	.03	−.01	.00	.03	.00	.06	.04	.14
Marital status	.04	.10	.02	.10	.10	.06	.31	.17	.17	.10	.22	.02	.06	.29	.02
Step 2															
Gender	.02	.09	.01	.07	.09	.03	.21	.16	.11	.48	.22	.11*	.08	.28	.03
Age	.05	.02	.11*	.02	.02	.06	.10	.04	.27**	.11	.05	.13*	−.03	.06	−.05
Education	.00	.01	.01	.00	.01	−.01	.00	.02	−.02	−.01	.03	−.01	.05	.04	.12
Marital status	.08	.09	.04	.14	.09	.08	.33	.16	.18*	.14	.22	.04	.12	.28	.04
JSSE-B	.55	.07	.48**	.57	.07	.53**	.33	.12	.32**	−.25	.16	−.11	−.06	.21	−.04
JSSE-O	−.07	.05	−.08	−.12	.05	−.15*	−.07	.09	−.08	.46	.12	.27**	.40	.16	.34**
Multiple R step 2			.44**			.45**			.39**			.26**			.34**
ΔR^2 step 2			.19**			.20**			.07**			.04**			.09**
Adjusted R^2 total			.18**			.20**			.11**			.05**			.07**

** $p < .01$ (2-tailed).
* $p < .05$ (2-tailed).

to JSSE-B and JSSE-O, while more strongly to JSSE-B. Hypothesis 5 states that career planning should be positively related to JSSE-B and JSSE-O, while more strongly to JSSE-O.

To test these hypotheses, we regressed each of the JSSE scales on career exploration (environmental exploration and self-exploration) and career planning. As shown in Table 4, the antecedents explained a significant amount of the variance in JSSE-B ($\Delta R^2 = .23$, $p < .01$) and JSSE-O ($\Delta R^2 = .17$, $p < .01$) after controlling for demographics. Career exploration (environmental exploration and self-exploration) was more strongly related to JSSE-B ($\beta = .27$, $p < .01$ and $\beta = .16$, $p < .01$ respectively) than to JSSE-O ($\beta = .12$, $p < .05$ and $\beta = .11$, $p < .05$ respectively), confirming Hypothesis 4 and career planning was more strongly related to JSSE-O ($\beta = .32$, $p < .01$) than to JSSE-B ($\beta = .23$, $p < .01$) in support of Hypothesis 5.

Finally, Hypotheses 6a and 6b state that career exploration relates more strongly to JSSE-B than career planning and career planning relates more strongly to JSSE-O than career exploration. As expected, environmental exploration was more strongly related to JSSE-B than career planning providing some support for Hypothesis 6a (self-exploration was not more strongly related to JSSE-B then career planning) and career planning was more strongly related to JSSE-O than both environmental and self-exploration in support of Hypothesis 6b.

4. Discussion

The purpose of this study was to reconceptualize the construct and measurement of job search self-efficacy. Given that job search research focuses on the prediction of job search behavior and/or outcomes and JSSE scales should match the criteria they are predicting (Ajzen, 1991; Bandura, 1997), we tested a two-dimensional measure of JSSE that corresponds to job search behavior (JSSE-B) and job search

Table 4
Regressions on JSSE-B and JSSE-O.

	JSSE-B			JSSE-O		
Predictors	*b*	*SD b*	*β*	*b*	*SD b*	*β*
Step 1						
Gender	−.04	.09	−.02	.11	.11	.04
Age	−.03	.02	−.07	−.08	.03	−.15**
Education	.00	.01	.02	.02	.02	.06
Marital status	−.10	.09	−.06	−.15	.11	−.07
Step 2						
Gender	−.08	.08	−.04	.04	.10	.02
Age	−.03	.02	−.08	−.09	.02	−.18**
Education	.00	.01	.00	.02	.02	.04
Marital status	−.10	.08	−.06	−.18	.11	−.08
Career planning	.20	.04	.23**	.36	.05	.32**
Environmental exploration	.23	.04	.27**	.14	.06	.12*
Self-exploration	.14	.04	.16**	.12	.06	.11*
Multiple R step 2			.49**			.44**
ΔR^2 step 2			.23**			.17**
Adjusted R^2 total			.23**			.18**

** $p < .01$ (2-tailed).
* $p < .05$ (2-tailed).

outcomes (JSSE-O). The results of CFA indicated that a two-factor model corresponding to the two dimensions of JSSE showed a significantly and substantially better fit to the data than a common-factor model. These findings support the distinction between JSSE-B and JSSE-O.

In addition, JSSE-B was a better predictor of job search intention and job search behavior, while JSSE-O was a better predictor of the number of job offers received. Only JSSE-B was related to job search intention and job search behavior and only JSSE-O was related to the number of job offers. With respect to the antecedents of JSSE, environmental exploration and self-exploration were stronger predictors of JSSE-B, while career planning was a stronger predictor of JSSE-O. This pattern of differential relationships with antecedents and consequences further supports the validity of a two dimensional measure of JSSE.

The results of this study help to explain the inconsistent relationships between JSSE and job search intention, behavior, and outcomes reported in previous studies. That is, the results of previous studies reporting non-significant or weak relationships for JSSE might be due to the measurement of JSSE (Liu et al., 2014b; Van Hooft, Born, Taris, & Van Der Flier, 2004; Van Hoye et al., in press; Wanberg, Zhu, & Van Hooft, 2010). For example, a JSSE scale that does not include items specific to job search outcomes might not predict job search outcomes and therefore lead to the conclusion that JSSE is not related to outcomes. Furthermore, the strength of relationships reported in previous studies between JSSE and job search behavior and outcomes might have been weakened by a JSSE scale that includes a mix of items (e.g., job search knowledge, abilities, behaviors, and/or outcomes) or items that are not commensurate with the criterion variable.

4.1. Implications for research and practice

A two dimensional measure of JSSE not only enables greater consistency and validity in the measurement of JSSE across studies, but it also allows researchers to choose the most meaningful measure of JSSE given a study's objectives. The use of these scales enables researchers to ensure that their measure of JSSE is commensurate with their criteria — whether it is job search behavior or job search outcomes. Thus, studies that focus on predicting job search behavior should measure JSSE-B while those that focus on the prediction of job search outcomes should measure JSSE-O. Similarly, research on the antecedents of JSSE should choose the most appropriate measure of JSSE given that some antecedents will be more likely to influence JSSE-B (e.g., career exploration) while others will be more likely to influence JSSE-O (e.g., career planning).

Future research might also examine the development of JSSE-B and JSSE-O over time. We suspect that JSSE-B will develop first and in time lead to JSSE-O as we found that participant's JSSE-B was significantly greater than their JSSE-O. Strong JSSE-B is necessary for job seekers to develop intentions to search and to put time and effort in their job search behavior. Positive experiences and early successes (e.g., job interviews) are likely to strengthen JSSE-O during the job search process. Longitudinal research is required to track job seekers' JSSE-B and JSSE-O over time as it develops prior to and during the job search process.

Given the importance of JSSE as a predictor of job search behavior and outcomes, future research should examine how best to develop each type of JSSE. Identifying the most effective strategies for strengthening each type of JSSE will have important implications for practice as well as for the measurement of JSSE. For example, a study on the effect of a learning-goal orientation intervention which involves improving job search competencies and behaviors should measure JSSE-B while a study on the effects of a performance-goal orientation intervention which focuses on the outcomes of job search should measure JSSE-O. Similarly, research in which job seekers set learning goals should measure JSSE-B while research in which job seekers set performance or employment goals should measure JSSE-O (Noordzij et al., 2013).

The results of this study have implications for research on job search and the theory of planned behavior. As indicated earlier, the results of previous studies have reported mixed results for the relationships between JSSE and job search intention and job search behavior. This might be due to the way that JSSE has been measured which would explain why some studies have not found a significant relationship between JSSE and job search intention and behavior (e.g., Van Hooft, Born, Taris, & Van Der Flier, 2004; Wanberg, Zhu, & Van Hooft, 2010). We suggest that future research on the TPB measure JSSE-B as the predictor of job search intention and behavior. Furthermore, while JSSE-B might best predict job search intention and behavior, JSSE-O might be an outcome of job search behavior as job seekers' who engage in a more intense job search and begin to experience some success (e.g., job interviews) might then develop higher JSSE-O which might then lead to employment outcomes (e.g., job offers and employment). Thus, future research on job search and the TPB should measure JSSE-B and JSSE-O to better understand how they relate to job search intention, job search behavior, and job search outcomes.

In terms of practice, our results suggest that job search counselors and interventions should focus on the development of job seeker's JSSE-B at the initial stages of job search instruction and preparation. This is because job seeker's must first learn about the job search process and become confident about engaging in a variety of job search behaviors. An overemphasis on job search outcomes too early in the process might be harmful to the job search behavior of job seekers who have not yet developed strong JSSE-B. Thus, the development of JSSE-O, as a more distal variable, should only be emphasized once job seekers have developed strong JSSE-B beliefs. The need to first develop JSSE-B is similar to findings in the goal setting literature that have found that learning goals should be set before performance goals during the early stages of learning so that job seekers' focus on knowledge and skill acquisition rather than performance outcomes (Seijts et al., 2004). Thus, career counselors should first focus on JSSE-B and only consider job search outcomes and the development of JSSE-O once job seekers' have developed strong JSSE-B beliefs.

4.2. Study limitations

One of the limitations of this study is that the data was self-report and as a result, common method variance might have inflated the relationships among the variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). While this is always possible, we believe that it

is less likely for a number of reasons. First, our study included longitudinal data for the measurement of job search behavior and the number of job offers received, and we found significant relationships for both eight months after JSSE was measured. Second, although the data for job offers was self-report, it is an objective outcome that should be less susceptible to perceptual distortion (Wanberg, Watt, & Rumsey, 1996). Third, we found differential relationships between the JSSE measures and the antecedents, job search intention, job search behavior, and job offers. If inflation bias was a serious problem, then both JSSE scales would have been similarly related to the antecedents and consequences. This was not the case but rather, they were differentially related in meaningful ways.

Another limitation is that although longitudinal data was used for job search behavior and job offers, the design of this study does not allow us to make causal conclusions about the relationships between JSSE and the antecedents, job search behavior and job offers. However, our intent was to test the validity of two dimensions of JSSE not to examine causal relationships between the variables so this is less of a concern.

Finally, our sample included both employed and unemployed job seekers from a variety of disciplines, and the majority had at least a college degree or technical training. Thus, the results should be generalizable to other samples of job seekers.

5. Conclusion

Job search self-efficacy has been part of job search research for thirty years and has become a key predictor and theoretical variable in job search research. However, there has been a great deal of inconsistency in the measurement of JSSE and many scales confound knowledge, behavior, and outcomes. These inconsistencies raise questions about the validity of findings from previous studies. This study has attempted to resolve the inconsistency in the measurement of JSSE by testing a two-dimensional measure that corresponds to job search behavior and job search outcomes. This not only provides researchers with reliable and valid scales to measure JSSE, but it also enables them to use a job search self-efficacy measure that is commensurate with antecedents and consequences. We hope that the use of these measures helps to shine a brighter light on future research on JSSE and its antecedents and consequences.

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