



Identifying dimensions of job search strategy: A validation of measurement scale

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Abstract

This paper validates the scale on job search strategy by Crossley and Highhouse in the Indian context. Exploratory factor analysis followed by a confirmatory factor analysis was conducted on the responses elicited from a sample of 504 graduating students in a large business school in India. Reliability and validity scores were also calculated to ensure the psychometric stability of the scale. 14 items out of the original 16 items were retained for the study. Three distinct factors, namely; Focused Search Strategy (FSS), Exploratory Search Strategy (ESS), and Haphazard Search Strategy (HSS) emerged from the study, which is in sync with the extant factors reported by Crossley and Highhouse. This study highlights the importance of focused job search strategy for university students entering the job market in India. This should help final year higher education students to be better oriented towards their job search process in order to get a job in their preferred professions. This is the first study to focus on the psychometric stability of the measures for job search strategy when applied to the job seekers in emerging economies, like India. This research provides evidence that, with a few exceptions, the job search strategy scale is a valid and reliable measure amongst entry-level job seekers in India. Given the evidence, universities and career counselors in India can focus on guiding the students and job-seekers to use a focused or exploratory strategy when searching for a job.

Keywords Job search behavior · Job search strategy · Scale validation · Exploratory factor analysis · Confirmatory factor analysis

Introduction

Job search is one of the critical processes one gets involved in for finding (re)employment. However, with the rapid change in the job market scenario and development of economies across the globe, individuals are facing the wrath of unemployment, layoffs, and retrenchment due to lack of employability and/or mismatch between skills and requirements of jobs across different industries. A report by the Asia Business Council Forum (2014) highlighted that in recent times, the Asian job market has been boosted by the ‘demographic dividend’ factor. The two major economic powerhouses- India and China are producing young graduates in huge numbers every year. The majority of developing

nations including Japan are faced with the ageing population conundrum; this has opened up new avenues of labor supply. However, strangely, Asian countries are yet to leverage on this opportunity thereby leading to a wide-spread skill gap observed in some of the most populous Asian nations such as India, China, Pakistan and Bangladesh (S4YE 2015; Kilimani 2017). Population projection reports predict sustained increase in youth population across most Asian countries, including sub-Saharan Africa (Cleland and Machiyama 2016). In stark contrast, the number of jobs created to employ this huge employable youth workforce is lagging far behind. As a result, there is huge underutilization of labor resources and gross unemployment in some of the major developed and developing economies of Asia such as India, China, Vietnam, Philippines and Indonesia (Asia Business Forum Report 2014). In a McKinsey Global Survey (Gratton 2011), it was prominent that there is a difference between what educational institutions are teaching to the students and what the industry demands of fresh graduates. Asian nations have started some process to address this skill gap deficit problem and a few programs such as the Kosen schools in Japan and the National Skill Development Center (NSDC) of India aims at

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up-skilling 150 million workers in India by 2022 (Asian Business Council Forum 2014). Still, the current situation is not very encouraging, especially in countries in the Middle East and North Africa (Eichhorst et al. 2012). A recent report by the Association of Chamber of Commerce (ASSOCHAM) in India identified that only 7% of MBA graduates passing out from Indian B-schools are employable (PTI 2016), and majority earns only a meager salary in the range of 8–12 thousand Indian Rupees per month.

In this regard, it becomes imperative that job-seekers need to be more proactive in terms of their career orientation. The components of the job search such as sources and strategies become very important in generating (re)employment for the job seekers. Furthermore, the job search success is not limited to finding employment or obtaining job offers, but is extended to obtaining satisfaction with the job search process and (re)employment quality (Saks and Ashforth 2002; Koen et al. 2010). Accordingly, satisfaction with the job obtained and perception of person-job fit are the most prominent indicators of the (re)employment quality. However, to ensure the quality of (re)employment, job seekers are not only required to adopt the right sources for obtaining job leads, but also to use an appropriate strategy for their job search (Koen et al. 2010; Manroop and Richardson 2016; Taggar and Kuron 2016).

Extant literature on job search have identified three different strategies, namely, focused search strategy (FSS), exploratory search strategy (ESS), and haphazard search strategy (HSS) used by the job seekers to obtain (re)employment (Stevens and Turban 2001; Koen et al. 2010; Bonaccio et al. 2014; Taggar and Kuron 2016; Koen et al. 2016). According to Stevens and Turban (2001), job seekers using FSS focus at the small number of potential employers identified early during the process of their job search. Thereby limiting their job search to the job they are interested in and/or industries they want to work for. Job seekers following ESS have some idea about the types of job they want, but are open to opportunities that might present themselves. Therefore, job seekers following ESS besides applying for the jobs they are interested in, explore various alternatives across different industries too.

Finally, job seekers following HSS have no or little idea about the type of job they want and apply a trial and error approach to their job search. Empirical research, although limited, have shown that the strategies used by the job seekers significantly influences the success and outcomes of job search (Crossley and Highhouse 2005; Koen et al. 2010; Bonaccio et al. 2014; Taggar and Kuron 2016; Koen et al. 2016). Job search intensity (i.e. the frequency with which people search for a job) as a measure of job search behavior, has remained the main focus of scholarly investigation in the last two decades (Blau 1994; Saks and Ashforth 1999; Werbel 2000; Creed et al. 2009; Koen et al. 2013; Da Motta Veiga and Turban 2014; Lim et al. 2016). Job search strategy, as a measure of job search behavior has been largely ignored by

scholars; despite its relevance and impact on the job search outcomes (Koen et al. 2010; Taggar and Kuron 2016; Koen et al. 2016).

For this reason, there is a lack of validated instrument to measure job search strategies across different cultural settings, especially in emerging economies like India. India has over 354 million of its population in the age group of 15–29 years, and the average age of India's population will be 29 years by the year 2020 (International Labor Organization Global Employment Trends 2013; United Nations Global Population Prospect Report 2015). This suggests that with a huge young population, India has the potential to supply an ample workforce in the global job market due to its demographic composition. However, the number of entry-level jobs available in India does not suffice for the huge young population in India (Mamgain and Tiwari 2016). Therefore, given the labor market conditions, it is essential for higher education students in India to adopt an effective job search strategy so as to meet the employment goal (Altbach 2009; Khare 2014; Mamgain and Tiwari 2016). Such planning can also affect the perceived employability of job-seekers in the long run (De Battisti et al. 2016). Masters in Business Administration (MBA) is one of the most commonly opted professional courses in India (Kalla 2011; Anita 2016). Thereby investigating job search strategy on a sample of postgraduate management students in India will help in providing scope for establishing the validity of the scale. Therefore, the purpose of this study is to validate the job search strategy scale by Crossley and Highhouse (2005) in the Indian context. By doing so, this study can provide initial evidence of the cross-cultural generalizability of the scale. The findings are expected to be resourceful for job-seekers from other Asian nations to develop their career orientation in a more structured manner.

Methodology

Job Search Strategy Scale was validated in the Indian context by following the six-step model suggested by Ugulu (2013) as shown in Fig. 1 below:

Step 1: Review of Literature

An extensive literature survey was conducted to examine the studies on job search behavior in general and job search strategy in particular. We identified the paucity of research on the psychometric stability of the job search strategy measure across different cultural settings and especially in emerging economies like India. To bridge the gap in the literature we made a note of the items used to measure the three distinct job search strategies and their impact on the job search outcomes as suggested by Crossley and Highhouse (2005) and Koen

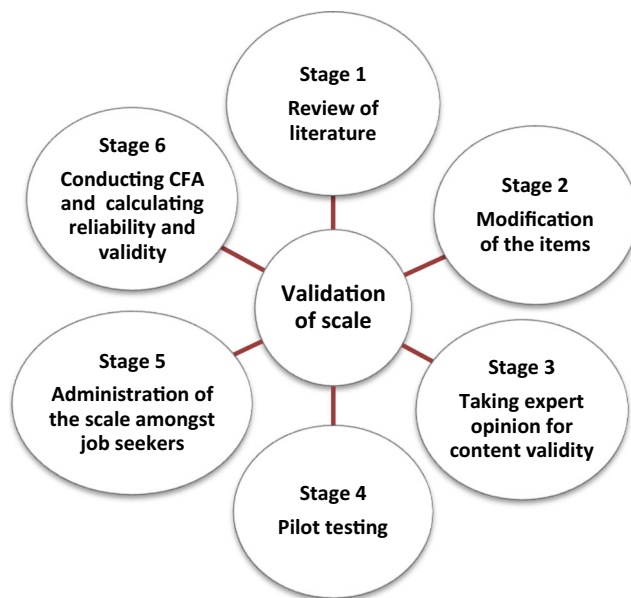


Fig. 1 Steps followed for scale validation

et al. (2010). Using the pool of items obtained from the extant literature, the next step was carried on.

Step 2. Modification of the Items

Since the measurement items for job search strategy produced by Crossley and Highhouse (2005) were retrospective in nature, all the 16 statements were written in past tense. Therefore, the measurement items were first converted into present tense and then shown to 30 randomly selected final year business management students, who were actively searching for a job. All the students were asked to read and comprehend the statements listed in the pool of items. We found that a few items were not easily understood by the students and they asked for clarifications. As a result of this external review exercise, several items were modified to suit the present context based on the feedback given by the students.

Step 3. Taking Expert Opinion

The next step was to take the expert opinion. We approached four senior faculty members employed at a large management college in India who had expertise in the subject and scale construction exercise and requested them to examine the modified items with regard to their content coverage, understandability, consistency, and relevance to the purpose of the scale. They were also given the original pool of items to compare and contrast the modifications done in step 2. In light of the expert opinion, corrections were made to some of the terminologies and one reverse coded item (FSS 7) was added to the existing pool of items for

FSS. This item was worded as ‘I have specific idea about what I want in a job’. Finally, the 17 item scale was used for testing the factor structure in the pilot test.

Step 4. Pilot Testing

For validation of the job search strategy scale, we used the modified 17 item scale. We obtained suggestions from the experts to establish the content and face validity of the items before administering the same for pilot testing. A pilot study was conducted by collecting data from 90 final year MBA students (53 females, 37 males) enrolled in a large business school with a cosmopolitan student population. The responses were obtained only from the students who reported to be actively looking for a job. The dataset obtained in this step was subjected to EFA in order to check the factor structure of job search strategy measure. The EFA results with the 17 items suggested the emergence of four factors initially, with a KMO value of 0.712. The reverse coded item FSS 7 was showing cross-loading with HSS2 (Yavuz 2005). After removing FSS 7 and HSS2, EFA was again conducted with the remaining 15 items which yielded a three factor solution with factor loadings greater than 0.5. The KMO value was 0.708. In sync with the findings by Crossley and Highhouse (2005), the items pertaining to ESS (6 items), FSS (6 items), and HSS (3 items) were loaded to their respective factors. The Cronbach’s alpha values for all the three factors were noted as 0.711(ESS), 0.728 (FSS), and 0.782 (HSS). On obtaining the desired Cronbach’s alpha values, the final 15 item scale was administered for further data collection.

Step 5. Administration of the Final Scale

Since the results of the pilot study were reliable, without any further modifications, the questionnaire containing the validated 15 items was administered amongst the final sample. Students’ responses were entered into an excel file created for further analyses.

Step 6. Calculating Validity and Reliability

The data collected from the final sample was split into two equal sets of 252 responses and the two sets were independently used to analyze the factor structure and the validity and reliability of the scale respectively. A data-set was established based on the responses regarding students’ job search strategy to conduct the exploratory factor analysis (EFA) using SPSS 20, and later with SPSS AMOS 21 for confirmatory factor analysis (CFA). The purpose of the CFA was to compare these results to the factor structure/constructs that emerged from the EFA, in an attempt to validate the factor structure and job search strategy measure.

Sampling and Data Collection

Sample for the present study were final year postgraduate students enrolled in a business management program at a renowned university in India. The sample comprised of students from diverse educational and professional backgrounds. The diversity in the background provides wider scope for job search options in various areas of general and specific fields of career in management. Thereby the sample of postgraduate management students provides a better scope for capturing the job search strategies followed by the entry-level job seekers, in the job search process. A study conducted on a sample of students pursuing a specific technical course, such as medicine and engineering is likely to limit the scope of the use of job search strategies, as a high amount of specialization would restrict the available job search options. A judgmental sampling technique was used and data were collected based on the job-search urgency of the graduating students. A total of 600 questionnaires were self-administered and the respondents were briefed about the objective and instructions to fill the questionnaire. We received 530 questionnaires, leading to a response rate of 88.33%, out of which 26 were incomplete and not usable for further analysis. Therefore, the final sample comprised of 504 responses. The responses considered in the final analysis did not include the responses obtained during a pilot study for the scale. 69.18% of the respondents were in the age group of 20–25 years and the remaining participants were in the age group of 26–30 years. 61% of the respondents were male and nearly 59% of them did not have any prior job experience of any type. The demographic characteristics of the respondents are presented in Table 1.

Exploratory Factor Analysis

The data was split into two equal halves (252 responses in each set) and with one half of the data, the exploratory factor analysis (EFA) was conducted. The splitting was done by generating two equal sets of random numbers using a random number generation software program. The EFA was conducted to examine the structure underlying the initial form of JSS scale using all 16 items. In order to determine the structure of the scale factor, Varimax rotation method was used and principal component factor analysis method was applied to scores obtained from the responses. The sampling adequacy for factor analysis was tested by Kaiser-Mayer-Olkin (KMO) coefficient (Ugulu et al. 2013). The KMO value was found to be 0.732 which is considered acceptable in principal component factor analysis (Hair et al. 2010). Another indicator of the strength of the relationship among variables is Bartlett's test of sphericity (Ugulu et al. 2013). In the present study, the observed significance level was $p < 0.001$, thus establishing that the strength of relationships among variables was strong (George and Mallery 2001).

Table 1 Demographic characteristics of the respondents

Demographic Variables	Categories	Percentage
Age	20–25	69.18
	26–30	31.82
Gender	Female	39
	Male	61
Academic Background	B.Tech/BE	9.32
	B.Com/ BA	48.29
	B.Sc	18.65
	BBA/BCA	21.35
	Others	2.38
Work Experience (in years)	0–1	58.69
	1–2	30.51
	2–5	11.8
Annual Family Income (in INR)	<3,00,000	73.41
	3,00,000-5,00,000	16.66
	>5,00,000	9.93

The procedure laid down by Pett et al. (2003) was then followed for factor extraction. EFA on the 15 item JSS scale extracted initially 4 factors with Eigen values exceeding 1.0. These factors altogether explained 54% variance of the results. However, one item FSS6 did not load onto any factor. Therefore, FSS6 was dropped and the next iteration was conducted with the remaining 14 items. At this stage, all the remaining 14 items loaded perfectly onto the three different factors (refer to Table 1). Thus, in summary, the final scale consisted of 14 items.

Table 2 presents factor loadings and factor structures of the items. The factors derived were labeled according to the common characteristics of the items loaded on the same factor and they were named after the three distinct job search strategies suggested by Stevens and Turban (2001). The ESS subscale retained all six original items, while the FSS scale and HSS scale were left with five and three items respectively. Eigen values of the factors were 4.203, 2.554 and 1.909 respectively. Table 2 represents the three factors, their corresponding Eigen values and total variance explained. The proportion of explained variance by the prime factor in valid scales should be at least 20% (Reckase 1979). Because our factor 1 accounted for 28.019% of total variance (Table 3), these results are considered satisfactory.

Findings of EFA

According to the results obtained, it was seen that items constituting JSS scale were grouped under three factors. When items establishing factors were evaluated within themselves, we found that the first factor contained items describing an exploratory job search strategy, while the second factor contained items pertaining to a focused search strategy.

Table 2 Factor structures and loadings of the 14 items

	Factors		
	1 (Exploratory Search Strategy)	2 (Focused Search Strategy)	3 (Haphazard Search Strategy)
ESS4	0.940		
ESS1	0.909		
ESS3	0.671		
ESS2	0.668		
ESS5	0.636		
ESS6	0.620		
FSS2		0.955	
FSS4		0.747	
FSS3		0.706	
FSS5		0.634	
FSS1		0.601	
HSS3			0.937
HSS1			0.920
HSS4			0.561

Similarly, the third factor contained the items related to a haphazard job search strategy. ESS represents the items which suggest an exploratory approach of job seekers in their job search, wherein, they are open to all types of job opportunities that they come across, both inside and outside of their academic background/interest and/or previous work experience. The items pertaining to the second factor i.e. FSS demonstrates that the job seekers plan meticulously for their job search and they only apply for the jobs they are interested in and/or qualified for. Before applying for a given job opening, job seekers using FSS look for a match between the job and their interest area. Finally, for the third factor, the items loaded in HSS suggest that such job seekers do not plan about their job search and they apply for any job randomly.

Checking for Common Method Bias

The next stage of the scale validation required that the researchers checked for any possibility of common method bias (CMB), which is an error that occurs because a single questionnaire is used to collect data on multiple factors. Such practices may lead to systematic response bias (Podsakoff et al. 2003). The presence of common method bias in student

responses can be established if a majority of the variance explained by the variable can be captured under one factor. One way of determining the presence of common method variance is with the help of Harman’s single factor test (Podsakoff and Organ 1986). This test requires conducting a non-rotated EFA with a forced single factor solution. It was observed that the single factor accounted for only 28.02% of the variance, thus reducing any possibility of CMB (Podsakoff et al. 2003). However, Harman’s Single Factor test has received significant criticism from researchers of late (Podsakoff et al. 2003; Malhotra et al. 2006; Pavlou and El Sawy 2006), the reason being if one dominant factor is not achieved in this analysis, it does not refute the possibility of common method variance. Hence a chi square difference test was also conducted with a common latent factor (CLF) using the zero constrained approach (Podsakoff et al. 2012). In this method, first a common latent factor was introduced in the model and the chi-square value and the corresponding degrees of freedom were noted (unconstrained model). Next, the path coefficients of the CLF were constrained to be zero and again the model was run and the new chi-square value and the corresponding degrees of freedom were noted (constrained model). The StatsTool package developed by Gaskin (2016) was used to compute the Chi-square difference test which was observed to be insignificant ($p > 0.05$), thus establishing the point that the scale was free from the CMB (Podsakoff et al. 2012).

Table 3 Factor names, Eigen values and variance of factors

Factor names	Eigen values	Variance of factors
HSS	4.203	28.019
FSS	2.554	17.024
ESS	1.909	12.727

FSS=Focused Search Strategy; HSS = Haphazard search Strategy; ESS = Exploratory Search Strategy

Confirmatory Factor Analysis: Cross-Validating Initial Factor Structure

Confirmatory factor analysis (CFA) was performed using the statistical package AMOS version 21 in order to confirm the

factor structure that emerged in the EFA (Byrne 2013) using the remaining 252 data points. Various fit indices were used to test the adequacy of CFA model, namely, Cmin/df, Comparative Fit Index (CFI); Tucker-Lewis Index (TLI), Incremental Fit Index (IFI) and Root Mean Square Error Approximation (RMSEA). The fit indices indicate the goodness of fit of the model and ranges between 0 and 1 (Byrne 2013). Cmin/df values should be less than 3 to indicate good model fit (Hair et al. 2010). Traditionally, the cutoff point of 0.90 has been recommended for the CFI, GFI and TLI (Hair et al. 2010). However, a higher cutoff of 0.95 and above is suggested as more appropriate (Shevlin and Miles 1998). Initially, the fit indices were showing values above 0.90 but less than 0.95. However, it was observed that two error terms (e10 and e13) contained negative variances. This raised concern over the possible presence of Heywood cases in the model (Kolenikov and Bollen 2012). Steps were taken to address this issue, and as a result, the final model was observed to be having a more robust output. The values of the fit indices in the final model are observed to be all meeting the expected cutoff as per the guidelines of Hair and colleagues (Hair et al. 2010), and except for TLI, all indicators are at least 0.95, which indicates a good fit for the model (Cmin/df = 2.6665, CFI = 0.95; TLI = 0.927, IFI = 0.95). RMSEA is based on the analysis of residuals (Kelloway 1998). The expected value for a good model fit is possible when RMSEA index value is below 0.08 (Markus 2012; Erdogan et al. 2012). The RMSEA value for our CFA is 0.078, which is also within permissible value for good model fit. Thus, the result of the present study suggests a good model fit as all the coefficients are significant at $p < 0.001$. Besides, Fig. 2 illustrates that the three dimensions of job search strategy were allowed to correlate with each other.

Reliability Analysis of JSS Scale

In this study, for determining whether items of the job search strategy scale were consistent with each other, frequently used Cronbach's alpha internal consistency coefficient was calculated. Considering the results of the CFA, reliability analysis of each factor was performed using SPSS version 21.0. Each analysis revealed satisfactory results. Cronbach's alpha coefficient (α) of the first factor with six items representing "Exploratory Search Strategy (ESS)" was found to be 0.820, reliability (α) of second factor with five items of "Focused Search Strategy (FSS)" was found to be 0.771 and reliability (α) of the third factor with three items was found to be 0.782 which represented "Haphazard Search Strategy (HSS)". The reliability (α) of the whole scale with fourteen items was found to be 0.772. Additionally, item total correlation scores of all items in each reliability analysis yielded satisfactory results, which are higher than .50 (Field 2013; Erdogan et al. 2012). Table 4 summarizes

the factor names, number of the items, factor loadings of each item, and reliability of each factor.

In addition to the internal consistency reliability test, we also conducted composite reliability and Convergent and Discriminant validity test. The results revealed that the composite reliability (CR) values of all the dimensions were above 0.7, which is acceptable considering the average variance extracted (AVE) values are also above 0.5 (Hair et al. 2010). Table 5 summarizes the results of composite reliability and convergent validity test performed on the basis of CFA results.

Discriminant validity of the sub-scales was also established since the square root of the AVE of each sub-dimension of job search strategy is less than all the correlations between each sub-dimension (Fornell and Larcker 1981).

Additionally, to test for the impact of demographic variables such as age, gender, academic background, and work experience on the factor scores of the three job search strategies, t-test and f-test analysis were conducted as applicable. This was mainly done to assess if the factors obtained are invariant across demographics. The results of t-test and ANOVA are presented in Table 6.

Discussion and Implications

As depicted from the results, the validity scores for job search strategy scale, although not excellent, falls within the acceptable limits as suggested by Field (2013). In comparison to the extant measure on job search strategy, the validated scale consists of 14 items in the Indian context, unlike the 16-item scale developed by Crossley and Highhouse (2005) in the US context. The sample in the Crossley and Highhouse (2005) study was a combination of employees of small companies and undergraduate students who were working full-time or part-time in addition to attending a computer teaching school.

However, in the present study, the sample was the final year MBA students who vigorously participated in the placement activities on the campus and were actively seeking for job. In comparison to the employed individuals and undergraduate students, the MBA students in their final semesters are likely to be more active in their job search and therefore are a more appropriate sample to establish the psychometric validity of the job search strategy scale. Lee et al. (2014) presented taxonomy in career literature within the field of management, mapping it across different regions in the world. The study shows that in the Asian region, the presence of literature on career and its relation to educational degree is of high relevance. This implies that for an Asian population, education forms a strong basis for job choice and job search processes likewise. Therefore, inclusion of job seeking final year

Fig. 2 Standardized coefficients for the three factors model for JSS Scale based on CFA through AMOS 21.0. ESS: Exploratory Search Strategy, FSS: Focused Search Strategy, and HSS: Haphazard Search Strategy

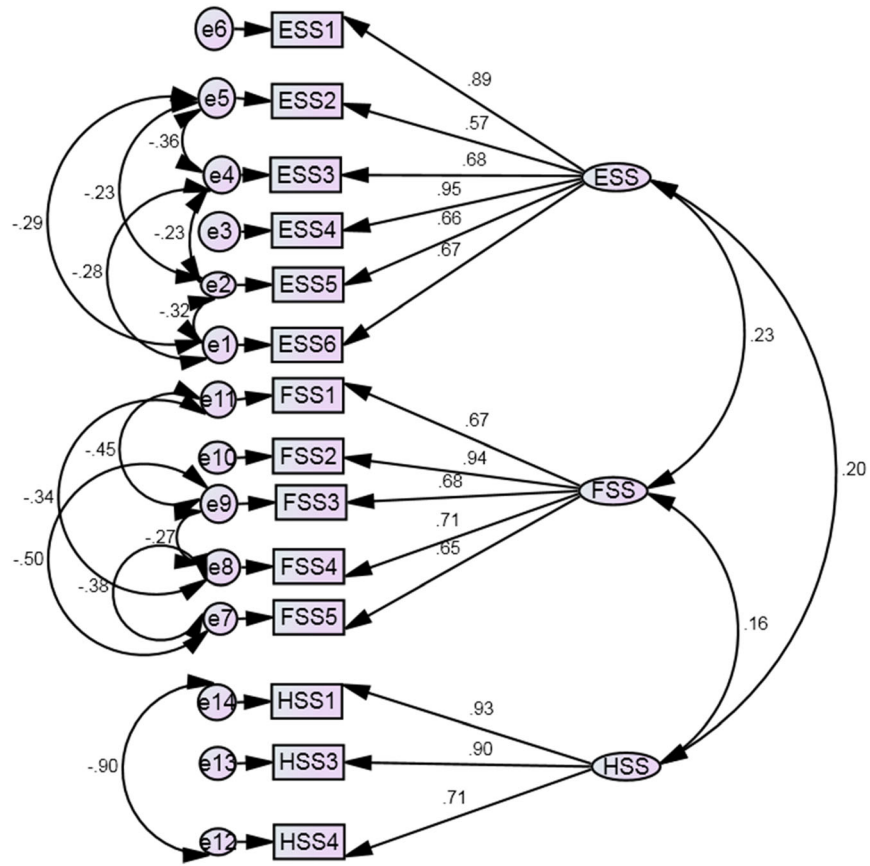


Table 4 Factor names, number of the final scale items, with factor loadings and Cronbach’s alpha values

Factor names	Number of items	Items	Factor Loadings	Cronbach’s alpha Values
Exploratory Search strategy	6	I examine all available sources of job information (e.g. employment agencies, placement officers, friends, job portals etc.).	0.940	0.820
		I follow up on most job leads.	0.909	
		I try to send my resume out to as many organizations as possible.	0.671	
		I follow up on every lead to make sure I don’t miss any good opportunities.	0.668	
		I gather information about all possible job opportunities, rather than looking for something specific.	0.636	
		I gather as much information about all the companies that I can.	0.620	
Focused search strategy	5	I gather information only for jobs that I am really interested in.	0.955	0.771
		My information gathering efforts are focused on specific jobs/employers.	0.747	
		I gather information only for job openings that look like what I want.	0.706	
		I have a clear idea of what qualities I want in a job.	0.634	
		I gather information only for jobs that I know I would qualify for.	0.601	
Haphazard Search strategy	3	I use a “hit or miss” approach when gathering information about my job.	0.937	0.782
		My job search is more or less unplanned.	0.920	
		My approach to gathering job-related information could be described as random.	0.561	

Table 5 Composite reliability and convergent validity

	CR	AVE	MSV	ASV
FSS	0.840	0.665	0.045	0.969
HSS	0.875	0.549	0.045	0.929
ESS	0.825	0.518	0.008	0.918

FSS=Focused Search Strategy; HSS = Haphazard search Strategy; ESS = Exploratory Search Strategy; CR = Composite Reliability; AVE = Average Variance Extracted; MSV = Maximum Shared Variance; ASV = Average Shared Variance

postgraduate students of a management college is more likely to give scope for job search strategies.

The elimination of two items (one each from FSS and HSS) during the pilot stage and the EFA of the present study once again confirm the influence of culture and context on the measurement of a construct. Nevertheless, the factors obtained in the present study are not remarkably different from the extant factors obtained by Crossley and Highhouse (2005) as, 14 out of 16 items were loaded on their respective factors with high loadings. Accordingly, we expect that using the validated measure of job search strategy will yield similar results in predicting the outcomes of job search behavior amongst Indian job seekers.

Crossley and Highhouse (2005) and Koen et al. (2010) predicted the impact of the three job search strategies on the job search outcomes such as number of job offers, re-employment quality, and satisfaction with the job and the job search process. The results suggested that FSS positively linked to all the job search outcomes while use of HSS was negatively related to the number of job offers, re-employment quality, and satisfaction with the job and the job search process. ESS was found to be positively predicting the number of

Table 6 Results of t-test for Gender and Age and ANOVA for academic background and work experience

	FSS	ESS	HSS
Gender	$t = 0.92$ $p = 0.14$	$t = 0.81$ $p = 0.28$	$t = 1.11$ $p = 0.25$
Age	$t = 1.82$ $p = 0.49$	$t = 0.91$ $p = 0.39$	$t = 1.51$ $p = 0.37$
Academic background	$F = 1.66$ $p = 0.82$	$F = 1.73$ $p = 0.33$	$F = 3.65$ $p = 0.29$
Work Experience	$F = 3.45$ $p = 0.12$	$F = 0.93$ $p = 0.31$	$F = 0.43$ $p = 0.72$

The effect of gender, age, academic background, and work experience were not found to be significant on FSS, ESS, and HSS where FSS=Focused Search Strategy; HSS = Haphazard search Strategy; ESS = Exploratory Search Strategy (factor scores)

job offers, but the satisfaction with the job obtained was not predicted by the use of ESS. Since the objective of the present study was limited to validating the job search strategy scale, we did not check for the impact of different job search strategies on the job search outcomes. Currently, the authors of this paper are conducting an empirical study to investigate the influence of job search strategies on the different job search outcomes in the Indian context.

The findings of the present study posit to enable the career counselors and placement officers of the universities in assessing the job search strategy applied by the job seekers so as to help them in arriving at a desired job search outcome. Both career counselors and placement officers would be able to help the job seekers and students in modifying or shifting to a different search strategy based on their requirements, outcome expectations, and job market conditions.

Limitation and Future Research Direction

Although the present study validates the job search strategy (JSS) scale in the Indian context, a sample size of 504 is relatively small in a country with a huge young population (Census Report 2012). Similarly, the Cronbach's alpha values and the composite reliability and convergent validity scores, although acceptable, are not excellent when compared to the past studies on scale validation. Future studies can collect data from a large sample in order to further refine and validate the scale in the Indian subcontinent and other developing countries. Furthermore, the proportion of males and females in the sample are almost equal but the female representation is a little higher. Since, the objective of the study was not to conduct a gender based investigation; future studies can make a comparison of factors obtained from job search strategy scale across a male and female sample of job seekers. The study was conducted on a sample of final year post graduate management students in India and has not included other technical and specific courses so as to avoid limiting the scope for the use of job search strategies by job seekers. However, future studies can extend this study to a wider sample of technically specific courses to establish relationship between job search strategies and job search outcomes.

Compliance with Ethical Standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical Approval All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

- Altbach, P. G. (2009). One-third of the globe: The future of higher education in China and India. *Prospects*, 39(1), 11–31.
- Anita, R. (2016). Quality of management education in India-concerns and challenges. *International journal of research in economics and Social Sciences*, 6(5), 54–60.
- Asia Business Council Forum (2014). The future of jobs in developing Asia. Spring. Available at: <http://www.asiabusinesscouncil.org/ResearchJobs14.html>
- Blau, G. (1994). Testing a Two-Dimensional Measure of Job Search Behavior. *Organizational Behavior and Human Decision Processes*, 59(2), 288–312.
- Bonaccio, S., Gauvin, N., & Reeve, C. L. (2014). The experience of emotions during the job search and choice process among novice job seekers. *Journal of Career Development*, 41(3), 237–257.
- Byrne, B. M. (2013). Structural equation modeling with Mplus: Basic concepts, applications, and programming. Routledge.
- Census Report (2012). Available at: http://www.censusindia.gov.in/vital_statistics/SRS_Reports_2012.html
- Cleland, J., & Machiyama, K. (2016). The challenges posed by demographic change in sub-Saharan Africa: A concise overview. *Population and Development Review*. <https://doi.org/10.1111/padr.170> (accessed 14 March 2017).
- Creed, P. A., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person and situation variables, and career concerns in young adults. *Journal of Vocational Behavior*, 74(2), 219–229.
- Crossley, C. D., & Highhouse, S. (2005). Relation of job search and choice process with subsequent satisfaction. *Journal of Economic Psychology*, 26(2), 255–268.
- Da Motta Veiga, S. P., & Turban, D. B. (2014). Are affect and perceived stress detrimental or beneficial to job seekers? The role of learning goal orientation in job search self-regulation. *Organizational Behavior and Human Decision Processes*, 125(2), 193–203.
- De Battisti, F., Gilardi, S., Guglielmetti, C., & Siletti, E. (2016). Perceived employability and reemployment: Do job search strategies and psychological distress matter? *Journal of Occupational and Organizational Psychology*, 89(4), 813–833.
- Eichhorst, W., Rodriguez-Planas, N. Schmidl, R. & Zimmermann, K.F. (2012) A Roadmap to Vocational Education and Training Systems around the World, IZA Discussion Paper 7110, Bonn: Institute for the Study of Labor.
- Erdogan, M., Ok, A., & Marcinkowski, T. J. (2012). Development and validation of children's responsible environmental behavior scale. *Environmental Education Research*, 18(4), 507–540.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Fornell, C., & Larcker, D. (1981). Structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Gaskin, J., (2016), Stats Tools Package. Retrieved from: http://statwiki.kolobkreations.com/index.php?title=Main_Page
- George, D., & Mallery, P. (2001). SPSS for windows: 10.0 update .Massachusetts: Allyn & Bacon, 84–87.
- Gratton, L. (2011). The skill gap: Asian style. *Forbes*, October 14, available at: <https://www.forbes.com/sites/lyndagrattton/2011/10/14/the-skill-gap-asian-style/#1a59e2813405>
- Hair, J., Black, W., Babin, B., and Anderson, R. (2010). *Multivariate data analysis* (7th ed.): Prentice Hall, Inc. Upper Saddle River, NJ, USA.
- International Labor Organization. Skill mismatches hurt job creation prospects, Global Employment Trends 2013. Available at: http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_203840/lang%2D%2Den/index.htm
- Kalla, N. (2011). Quality of management education: An Indian perspective. *Scholar*, 3(1), 172–175.
- Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. Sage.
- Khare, M. (2014). Employment, employability and higher education in India the missing links. *Higher Education for the Future*, 1(1), 39–62.
- Kilimani, N. (2017). Africa's youth employment challenge: New perspectives. *IDS Bulletin*, 48(3) available at: <http://bulletin.ids.ac.uk/idsbo/article/view/2867/ONLINE%20ARTICLE>.
- Koen, J., Klehe, U. C., Van Vianen, A. E., Zikic, J., & Nauta, A. (2010). Job-search strategies and reemployment quality: The impact of career adaptability. *Journal of Vocational Behavior*, 77(1), 126–139.
- Koen, J., Klehe, U. C., & Van Vianen, A. E. (2013). Employability among the long-term unemployed: A futile quest or worth the effort? *Journal of Vocational Behavior*, 82(1), 37–48.
- Koen, J., van Vianen, A. E., van Hooft, E. A., & Klehe, U. C. (2016). How experienced autonomy can improve job seekers' motivation, job search, and chance of finding reemployment. *Journal of Vocational Behavior*, 95, 31–44.
- Kolenikov, S., & Bollen, K. A. (2012). Testing negative error variances: Is a Heywood case a symptom of misspecification? *Sociological Methods & Research*, 41(1), 124–167.
- Lee, C. I., Felps, W., & Baruch, Y. (2014). Toward a taxonomy of career studies through bibliometric visualization. *Journal of Vocational Behavior*, 85(3), 339–351.
- Lim, R. H., Lent, R. W., & Penn, L. T. (2016). Prediction of job search intentions and behaviors: Testing the social cognitive model of career self-management. *Journal of Counseling Psychology*, 63(5), 594–603.
- Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science*, 52(12), 1865–1883.
- Mamgain, R. P., & Tiwari, S. (2016). Youth in India: Challenges of employment and inclusion. *Journal of Social and Economic Development*, 18(1–2), 85–100.
- Manroop, L., & Richardson, J. (2016). Job search: A multidisciplinary review and research agenda. *International Journal of Management Reviews*, 18(2), 206–227.
- Markus, K. A. (2012). Principles and practice of structural equation modeling by rex B. Kline. *Structural Equation Modeling: A Multidisciplinary Journal*, 19(3), 509–512.
- Pavlou, P. A., & El Sawy, O. A. (2006). From IT leveraging competence to competitive advantage in turbulent environments: The case of new product development. *Information Systems Research*, 17(3), 198–227.
- Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. Sage.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569.
- PTI (2016). Only 7 percent MBA graduates employable: ASSOCHAM study. *Business Standard*, April 27, available at: http://www.business-standard.com/article/pti-stories/only-7-per-cent-mba-graduates-employable-assochem-study-116042700823_1.html
- Reckase, M. D. (1979). Unifactor latent trait models applied to multifactor tests: Results and implications. *Journal of Educational and Behavioral Statistics*, 4(3), 207–230.

- Saks, A. M., & Ashforth, B. E. (2002). Is job search related to employment quality? It all depends on the fit. *Journal of Applied Psychology, 87*(4), 646.
- Saks, A. M., & Ashforth, B. E. (1999). Effects of individual differences and job search behaviors on the employment status of recent university graduates. *Journal of Vocational Behavior, 54*(2), 335–349.
- S4YE (2015) Strategic Plan 2015–2020, Toward Solutions for Youth Employment: A 2015 Baseline Report, available at: http://www.s4ye.org/sites/default/files/Toward_Solutions_for_Youth_Employment_Overview.pdf
- Shevlin, M., & Miles, J. N. (1998). Effects of sample size, model specification and factor loadings on the GFI in confirmatory factor analysis. *Personality and Individual Differences, 25*(1), 85–90.
- Stevens, C. K., & Turban, D. B. (2001). Impact of job seekers' search strategies and tactics on search success. In annual conference of the Society for Industrial and Organizational Psychology.
- Taggar, S., & Kuron, L. K. (2016). The toll of perceived injustice on job search self-efficacy and behavior. *Career Development International, 21*(3), 279–298.
- Ugulu, I. (2013). Confirmatory factor analysis for testing validity and reliability of traditional knowledge scale to measure university students attitudes. *Educational Research Review, 8*(16), 1399–1408.
- Ugulu, I., Sahin, M., & Baslar, S. (2013). High school students' environmental attitude: Scale development and validation. *International Journal of Educational Sciences, 5*(4), 415–424.
- United Nations Report (2015). World Population Prospects - The 2015 Revision. Available at: https://esa.un.org/unpd/wpp/publications/files/key_findings_wpp_2015.pdf
- Werbel, J. D. (2000). Relationships among Career Exploration, Job Search Intensity, and Job Search Effectiveness in Graduating College Students. *Journal of Vocational Behavior, 57*(3), 379–394.
- Yavuz, S. (2005). Developing a technology attitude scale for pre-service chemistry teachers. *The Turkish Online Journal of Educational Technology, 4*(1), 17–25.