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SOCIOLOGY | RESEARCH ARTICLE

Development and validation of a multidimensional job satisfaction scale in different cultures

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Abstract: Pioneer studies towards the definition of the concept of job satisfaction are based on the beginning of the 20th century. Since its presentation, this concept has been attracting the attention of researchers and executives because of its influence on individuals' behaviour in organizations. The effects of job satisfaction on the various concepts has been tested and proven in myriad researches. However using diverse measurement instruments including many different dimensions show us that there is no certain consensus of measuring at least basic components of this concept. Today, much of the used questionnaires coming from the developing countries and reflecting the employee behaviour of Anglo-Saxon cultures. By translating those questionnaires without considering their cultural differences, of course, may not give us accurate results and damaging the validity of the scales. This study aims to fill this gap by measuring the concept on the basic and necessary factors, and developing a multidimensional job satisfaction scale reckoning with cultural effect. As a consequence of our extensive literature scanning, we established a scale incorporating six dimensions of job satisfaction concept. 699 data were collected from Turkish and Russian well-known businessmen associations in textile field and analysed through confirmatory factor analysis to assess validity and reliability. The data that obtained generally from the SMEs and basically/mentally from two different

ABOUT THE AUTHORS

The concept of job satisfaction I have focused during my PhD study is extremely important for all businesses. Although there are many studies realized at this concept, I have not seen a study that takes into account cultural influence. Therefore, I concentrate and started to deeply research at this concept. Before this study, I have realized a couple of examinations at this concept, and then I worked on the job satisfaction in my thesis. At this article that I have summarized the results obtained from my all researches, it was quite efficient on reflecting the results of the analysis. I hope that this article will play an important role on the future studies that will be conducted at this field.

PUBLIC INTEREST STATEMENT

Job satisfaction is one of the most important aspects of working life. This concept that extremely affected by cultural factors impacting employees' view to the work. Different cultural values naturally differentiate the level of individual's job satisfaction. Therefore, consideration of cultural values should be seen important while measuring the concept. The measurements not considering this effective factor may give non-significant results. In this study, while measuring job satisfaction it was taken into account the cultural factors. Different measurement instruments that have been used for measuring job satisfaction concept have been deeply checked and a new measuring tool has been formed. The new questionnaire consists five dimensions and 20 items. The results of the analysis of this new scale gave the statistically significant results by applying to the 699 Turkish and Russian SME's. In light of these results, a new scale can be used for measuring job satisfaction concept in different cultures.

developing countries forefront the cross-cultural dimension of the research. As a result of the analysis, we have attempted to contribute to business executives and academics by providing a multidimensional job satisfaction scale.

Subjects: Behavioral Sciences; Communication Studies; Social Sciences

Keywords: job satisfaction; development; validation; measurement instrument; satisfaction

1. Introduction

There have been many researches on the concept of job satisfaction, its components and their effects on different organizational concepts (Bennett, 1997; Cano & Miller, 1992; Hagedoorn, Yperen, Vliert, & Buunk, 1999; Iverson & Maguire, 2000; Lum, Kervin, Clark, Reid, & Sirola, 1998; Pettit, Goris, & Vaught, 1997; Savery, 1996; Shore & Martin, 1989; Wright & Kim, 2004). These various concepts and the effect of job satisfaction on them were examined and tested for the purpose of contributing a solution to the organizational issues. Especially for the development of academic, business and organizational management field, studies focused on this subject having importance for all determines as well as individuals.

Although many studies have been made on the job satisfaction concept, we discovered that there are many differences in the dimensions of the scales and no measurement instrument covers all components of job satisfaction we describe here. Existing studies were conducted independently and used various measurement methods. Current scales that describing this concept have been used only by translating from Anglo-Saxon culture to many different languages in various countries without considering cultural differences. In this point of view, even though the organizational culture concept which has great importance on social science researches, keeping cultural influences out on this equation may raise some shortcomings in terms of the consistency of the obtained results. Thus, using these scales without considering cultural differences may damage the validity of the scales. Furthermore, due to outward expansion of developing and growing organizations, a new dimension named “external environment” added to the instrument and tested. Therefore, the goal of this study is to fill this gap through developing a job satisfaction construct and testing its validity and reliability by considering cultural impacts for paving the way of performing more detailed tests for the future researches.

In this research, we applied the standard methodology for the development of the measurement scales in social sciences (Churchill, 1979; Llusar & Zornoza, 2002) for test constructing of measurement instrument. Component factors and key variables for the construct are identified through an extensive literature review. In general, the procedure that allows one to move from the concept to its measurement requires a four-stage process: literary definition, identifying of dimensions, selection of observed indicators, and synthesis of indicators or elaboration of indexes. Factor and reliability analysis of our test research are performed using SPSS 17.00 and confirmatory factor analysis (CFA) are performed using AMOS 20.0 to examine the construct and identify the model fitness.

In this respect, this article has arranged by using five sections. A literature review focusing on the job satisfaction concept follows this section. The main dimensions of the job satisfaction and causations are defined. In a third section, the applied methodology for the construction of the measurement instrument of job satisfaction is described. This section is followed by the evaluation of the measurement instrument via CFA and an examination of the reliability and validity of the scale. Finally, the conclusions are set out, together with some recommendations and advices for future research.

2. Literature review

2.1. Job satisfaction

Job satisfaction has attracted the attention of researchers and executives because of the influence on an individual's behaviour in the organizations (Churchill, Ford, & Walker, 1974; Ivancevich &

Matteson, 2002; Locke, 1976; Oshagbemi, 1999; Smith, Kendall, & Hulin, 1969; Spector, 1997; Taylor, 1911; Wright & Kim, 2004). Job satisfaction is the most widely researched concepts in the field of industrial/organizational psychology, social psychology and organizational behaviour literature (Alotaibi, 2001; Hackman & Oldham, 1974; Parnell & Crandall, 2003). This concept is necessary on behalf of business achieve for providing sustainability in organizational development and staff productivity for organizations (Mullins, 1996; Siegel & Lane, 1974). Due to this aspect, the concept of job satisfaction is one of the important issues for researchers and organization executives.

Job satisfaction is a combination of individual's positive emotions against his/her work (Erdoğan, 1996). We can mention that individual likes his/her job and has positive values towards his/her job if having high degree job satisfaction. Locke (1976) and Oshagbemi (1999) defining job satisfaction as positive feelings and emotional attitudes against work and Vroom (1964) added to this definition that the working harmony provided from the job itself. Individual's positive attitude to the job proves that he/she has job satisfaction and vice versa shows that low degree job satisfaction or no satisfaction. According to Robbins, Judge, and Sanghi (2004), job satisfaction is individual's positive feelings about his/her job and its characteristic structure. In this sense, all components of the job are effective against the formation of job satisfaction. Knoop (1995) describes job satisfaction as general attitude towards the job and its sub-dimensions.

So far, hundreds of definitions have been made about concept of job satisfaction. Vroom (1964) linked job satisfaction with the individual's role in workplace and defining job satisfaction as affective orientations on the part of individuals toward work roles that they are presently occupying. Hackman and Oldham (1974) focused on individual's satisfaction and defined job satisfaction as employee's pleasure obtained from work. Davis (1982) thought about the concept as double-sided and described job satisfaction as individual's satisfaction or dissatisfaction with the work. Feldman and Arnold (1985) associated job satisfaction with positive emotions and defined job satisfaction as the amount of overall positive affect (or feelings) that individuals have toward their jobs. When we say that an individual has high job satisfaction, we mean that the individual generally likes and values the job highly and feels positively toward it. Spector (1997) took the job as a whole and described job satisfaction as simply how people feel about their jobs and different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs.

2.1.1. *Job satisfaction dimensions*

Even if job satisfaction may be considered as a single concept, when it is evaluated in terms of individual's satisfaction, then will be seen the different sub-dimensions. Individuals' different levels of job satisfaction from the different characteristic of the job or dissatisfaction case generally cause departmental evaluation of job satisfaction that individual gains from the job. All of these various factors under some conditions, more or less affecting job satisfaction (Hackman & Oldham, 1974; Luthans, 1973; Mullins, 1996; Oshagbemi, 1999).

As can be seen in Table 1, job satisfaction concept has been examined in the literature in terms of many different sub-dimensions. Some of these dimensions have been used in many different studies while some are used only in one measurement instrument. In this study, the classification of the job satisfaction components is divided into categories as in the preliminary studies made for identification of the job satisfaction concept. After scanning related literature, we have conducted interviews and meetings with corporate executives and supervisors to decide upon the sub-dimensions of job satisfaction. In the results of this information based on literature scanning and meetings with the executives, we modified the dimensions of job satisfaction. After the modifications, we decided to use *management skills, co-workers, job and working conditions, promotion, pay and external environment* in our study. The dimensions of the job satisfaction are described below.

Table 1. Job satisfaction components in the selected literature

Weiss et al. (1967)	Smith et al. (1969)	Hackman and Oldham (1974)	Spector (1985)	
Supervision-Technical	Supervisory		Supervision	
Supervision-human relations				
Variety				
Responsibility				
Social service			Fridge benefits	
Authority				
Ability utilization			Skill variety	
Moral values				
Advancement	Advancement			Promotion
Creativity				
Recognition		Feedback from the Job Itself	Contingent rewards	
		Feedback from Agents		
Activity				
Independence		Autonomy		
Working conditions	Work Itself		Nature of work	
Security				
Compensation	Pay		Pay	
Achievement				
Company policies			Operating procedures	
Social status			Task significance	
Co-workers	Co-workers	Dealing with others	Co-workers	
			Communication	
		Task identity		

2.1.1.1. *Management skills.* Ensuring the satisfaction of employees in the organization is one of the most important tasks for management of the organization. In this way, employees may pose maximum efficiency and output, and this will contribute to the progress of the organization. Individuals are mostly more satisfied when they feel the support of organization managers and their business competence (Mullins, 1996; Tietjen & Myers, 1998; Wright & Kim, 2004). Management style impacts employee satisfaction by different ways. One of these is the participation of workers in the organization's decision-making process in every sense. Participating in the decisions is positively contributing necessity of respect and recognition of individual. Individual, that can't afford it in this way will go to other organizations and different environments to get these necessities. The employees that can participate in the organization decisions and have an effect on it will have positive emotions towards their jobs and their job satisfaction degree will increase (Erdil, Keskin, İmamoğlu, & Erat, 2004; Hackman & Oldham, 1974; Luthans, 1973; Oshagbemi, 1999). Today's business world that individuals come to the forefront, relationship between supervisors and employees has great importance. Individual that satisfied with his/her supervisor in technical and humanitarian aspects will have a positive approach to the job and will be satisfied with the work. There are considered two main management skills that evaluate supervisors, technically and in terms of human relations (Smith et al., 1969; Spector, 1985; Weiss, Davis, England, & Lofquist, 1967). As a result, satisfaction from supervisors are evaluated technically and in terms of human relations in this study and combined as management skills.

2.1.1.2. *Job and working conditions.* According to Davis (2004), the most important evidence of deterioration of working condition is decreasing of job satisfaction. The employees that unhappy from the conditions offered them by the organization have low-level satisfaction from their job. In the opposite case, they have a positive view towards their job and their productivity is increased. As a result of job dissatisfaction observed strikes, work slowdown, disciplinary issues and performance problems.

By inheriting advantage of some features of non-formal groups, the creation of autonomous work groups as work design technic in modern working conditions and by doing this tried to have organizational effectiveness and employee satisfaction (Churchill et al., 1974; Kaplan, 2011; Luthans, 1973; Wright & Kim, 2004). Individuals spend most of their life in the work place. They care about the physical and specific conditions of their work (Price & Mueller, 1986). The work they do generally shapes their lives. Hereby, working conditions dimension was combined with job itself in this study and formed a new dimension that named job and working conditions.

2.1.1.3. *External environment.* Individuals work in today's business world have to be connected to the different institutions that affecting organizational activities from out of the organization. This communication and interaction case shows direct relationship with the individual's job attitude and may affect employee satisfaction. Cribbin (1972) when he explained the job satisfaction concept, he mentioned that job satisfaction is the relaxing and calming feeling that an individual trying to achieve from job itself, managers, working groups and internal-external environment. It is seen that external environment that individual is obligated to be contacted has an importance to the individual's job satisfaction. In the 2000s, in a study of Shellenbarger, the external environment that command and control of excessive is seen very hard and individual has to be contacted by them may be the reason of long-term disbelief, infidelity and job dissatisfaction problems (Lund, 2003). Especially in this century, because of the globalized world and increasingly competitive environment, executives need to manage their organizations more professional and more rational (Churchill et al., 1974; Oshagbemi, 1999; Price & Mueller, 1986). This case obliges to organizations and its members to be in touch and cooperate with many external identities such as consultants, advisors, lawyers, health officers, educators, partner suppliers, big buyers. All these elements are factors that affecting job satisfaction. We defined these factors as external environment dimension and used in this research.

2.1.1.4. *Pay.* It is aimed by using pay and compensation management, traditionally get individuals attract, retain them in the work and minimize their dissatisfaction from the job (Bayraktar, 2002; Churchill et al., 1974). Pay factor is the individual's income that they get from their work for what they do. Pay management shows the relationship between its determination, structure and work values. It includes determining of working conditions, pay limits, and certain values of this component (Ataay, 1990; Hackman & Oldham, 1974; Mullins, 1996). Employees comparing their wages with the other employees and also compare the efforts with others. If the rate they expect is less than they get then they will be dissatisfied with their job, or if it is higher than they will be satisfied (Johns, 1996; Luthans, 1973; Wright & Kim, 2004). According to Spector (1997), one of the most popular factors affecting job satisfaction is pay and compensations. In terms of individual's social requirements should be fulfilled, economic and financial dimension of the job considered highly important (Price & Mueller, 1986). Wages as equivalent of labour is a factor that assessed and compared with others. As one of the most important components of job satisfaction concept, pay dimension is used in this study.

2.1.1.5. *Promotion.* Promotion of is an effective factor and has significant impact on the process of an individual's job satisfaction and one of the key elements in the development of it (Luthans, 1973). It is seen that individuals that do not have any expectation of being promoted are more satisfied than the employees that waiting to be promoted and effort for this. It is expected and seen that this promotion expectation is positively affecting individual's performance but negatively affection individual job satisfaction (Basset, 1994; Churchill et al., 1974; Oshagbemi, 1999). Individuals, after a

long period of experience, business knowledge and skills, they hope and wish to have better conditions and to be promoted in their work (Price & Mueller, 1986). By using the promotion mechanism and as a result of it they got positive developments on their life and social status, they are being more satisfied. Organizations, by using advancement facilities, aim to increase individuals' motivation and job satisfaction. Employee status achieved by promoting is not used only in the work field, also used in their private life. In this study, promotion that has importance for both management levels and employees is used as one of the job satisfaction components.

2.1.1.6. Co-workers. According to George and Jones (2005), co-workers are effective on especially individuals that just started to the work in the organization. New employees are unfamiliar with the rules of formal and non-formal principles in the organization. In this sense, their colleagues are effective in this adaptation process. Colleagues and co-workers have an effect on job satisfaction. Technical and social support and to be sufficient in the business field may be affective on individual's job satisfaction. The employees that supporting each other and work timely, accurate by considering group rules and to be in this group may be considered positive and improve job satisfaction level of the individual (Churchill et al., 1974; Erdoğan, 1996; Hackman & Oldham, 1974; Mullins, 1996; Wright & Kim, 2004). According to Spector (1997), behaviour by an employee intended to help co-workers with the organization, outside the employees' specific assigned tasks or above or beyond the call of duty as well as technical competency, the work group can be a strong source of job satisfaction (Price & Mueller, 1986). Individuals as a social being, especially in organizations must work together and collaborate on some specific issues. While they are communicating and interacting with others, they become satisfied or dissatisfied with their personality traits and behaviours. Therefore, given the importance of an individual's job satisfaction co-workers dimension is used in this study.

In this study, we incorporated six dimensions of the job satisfaction concept to develop a single multidimensional measurement instrument. Although the job satisfaction construct is conceptualized as consisting six distinct components, the covariance among the items can be accounted for by a single job satisfaction factor. Therefore, these six sub-dimensions should be merged in a single job satisfaction construct. While describing the concept of job satisfaction, the internal and external functions of the organizations and its members should work together in accordance to achieve individual's satisfaction for all organizational and individual benefits.

3. Methodology

3.1. Research goal

In this study, we aimed to develop a job satisfaction measurement scale that is not affected by cultural factors and to test its reliability and validity. Starting from this point of view, first of all we have checked the literature and started to collect the items used for describing job satisfaction and its dimensions. Then, dimensions we are planning to use in this scale were chosen and the items have been checked, analysed and specified by taking the views of academicians and business experts. In this process, it is intended to be reduced cultural impact to a minimum level on the items and dimensions. Thus, a new scale has been prepared by defining items and dimensions on the job satisfaction concept. In following part of the research, these processes can be seen as more detailed and descriptively.

3.2. Item selection, data collection and sample characteristics

The scale development procedure was conducted in six sections: (1) literary definition of the concept; (2) identification of the concept; (3) generation of items; (4) reduction of the scale; (5) data collection; (6) testing of the scale. After defining the job satisfaction concept, we conceptualized six dimensions of job satisfaction through interviews with academics interested in organizational behaviour and 25 corporate executives, each having an MBA degree and ten years' minimum experience. In the items generation section, the items related to job satisfaction used recent studies (Baycan, 1985; Ergin, 1997; Hackman & Oldham, 1974; Smith et al., 1969; Spector, 1985; Weiss et al., 1967; Yelboğa, 2009). As it can be seen in Table 1, many dimensions and items that were used to

describe job satisfaction concept were collected and formed through taking the views of academicians and business experts. Similar dimensions or items were combined; some items that are considered as affected by the cultural factors were removed from the scale. These were combined in the draft questionnaire through a comprehensive literature review. All questions were subjected to the “translate, reverse translate” procedure by the experts of both languages (Brislin, 1970). The draft questionnaire form was reviewed and the numbers of variables were reduced by interviews with the same academics and corporate executives. Furthermore, we discussed possible semantic shifts and awkwardness of expression with the executives participating in the preliminary test section of our study, to determine any semantic shift or bad expression. Consequently, 5 items measuring external environment occurring one dimension and 25 items included in five dimensions were generated from the literature. A Likert-type of scale was used and the choices for each item were as follows: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*.

As a research universe it is chosen Turkey’s and Russia’s textile supplying sector firms. Zipper producers that lower arm of this sector were chosen sector’s biggest players by contacting Turkey’s leading association in the field of textile sector, Turkish Clothing Findings and Trimmings Association, and as a selection method we used random sampling. In Russian side, because of the fact that there are less firms operating in this area and producing zipper and its materials, we checked the market deeply and contacted with all of them.

In this context, 394 questionnaires that mostly filled by using face to face and handing out methods to the companies were obtained from Turkey, 300 surveys were sent to four companies and received 175 of them and by using online system, 219 surveys were received from eight organizations. In Russia side, totally received 363 surveys, 200 were sent and 97 questionnaires received from two companies and by using online system, 266 surveys were received from eight organizations. On the basis of these results, the rate of return from Turkey is 58.3% and the ratio from Russia is 48.5%. Because of some questionnaires that were not sent just filled by using online system by clicking a link, it is impossible to talk about the returning ratio of those surveys.

After the detecting of questionnaires that were filled by hand, we examined and noticed some data storage or not appropriate filling, we removed 17 surveys form from Turkey and 41 from Russia and finally we obtained 377 surveys from Turkey and 322 from Russia. Firstly we entered all the data that received from surveys to the SPSS.17 program for creating a data-set. And surveys that were filled using online system were transferred automatically from the path because of the fact that Google system prepares all data, as we need to be form for analysing. We have not seen any statistical significance among the eliminated surveys and used surveys on the subject of company age, firm sizes and averages. It is shown the survey amounts obtained on the basis of companies in Table 2.

According to the results obtained from data collecting, demographic details are given below. As it can be seen in Table 3, 81.9% of the respondents from Turkey was male and 18.1% was female. In Russia the ratios are 35.7% male and 63.3% female.

The age ranges of the respondents are shown in Table 4. As can be understood from the answers of respondents, 35.8% of them is at the age of between 18–30 and 48.3% of them is between 31–40 in Turkey. 5.6% of them are older than 51. In Russia, the respondents’ ages are 35.1% here. 35.1% of them are in 18–30 age range, 33.2% of them are in 31–40 age range and 3.4% of them are older than 51.

According to the responses, company types are seen in Table 5. According to the results, 59.2% of them is limited and 13.5% of them is private company in Turkey. 77% of them is limited and 5.6% of them is private company in Russia. Additionally 17.4% of the companies has foreign business partnerships in Russia. When the results are examined, it is seen that limited companies are more than others for both countries. And also foreign partners are seen in Russia more than in Turkey.

Table 2. Amount of surveys we received from respondents

	Turkey		Russia	
	Firm	Count	Firm	Count
Online	Firm-1	36	Firm-1	17
	Firm-2	42	Firm-2	30
	Firm-3	31	Firm-3	30
	Firm-4	29	Firm-4	47
	Firm-5	32	Firm-5	39
	Firm-6	18	Firm-6	38
	Firm-7	20	Firm-7	47
	Firm-8	11	Firm-8	18
By hand	Firm-9	41	Firm-9	25
	Firm-10	72	Firm-10	31
	Firm-11	23		
	Firm-12	22		
Total	377		322	

Table 3. Gender table of respondents

Gender	Turkey		Russia	
	Frequency	Ratio (%)	Frequency	Ratio (%)
Male	309	81.9	115	35.7
Female	68	18.1	207	63.3
Total	377	100.0	322	100.0

Table 4. Age range of respondents

Age range	Turkey		Russia	
	Frequency	Ratio (%)	Frequency	Ratio (%)
18-30	135	35.8	113	35.1
31-40	182	48.3	107	33.2
41-50	39	10.3	91	28.3
Older than 51	21	5.6	11	3.4
Total	377	100.0	322	100.0

Table 5. Company types of participant organizations

Company type	Turkey		Russia	
	Frequency	Ratio (%)	Frequency	Oran (%)
Private company	51	13.5	18	5.6
Limited	223	59.2	248	77.0
Joint-stock comp.	71	18.8	-	-
Comandite	-	-	-	-
Foreign partnership	32	8.5	56	17.4
Total	377	100.0	322	100.0

3.3. Analyses for measurement validity and reliability

In order to assess the construct validity and the reliability of the scale developed in this article, the following analyses suggested by Bagozzi and Phillips (1982) were considered: factor analysis, reliability, unidimensionality, convergent validity, and discriminant validity. Content validity is a method related to the expressions that constitute the scale. Content validity based on judgments about the sampling adequacy of test content. Judgments of the sampling adequacy of test content can be thought of as one means of establishing the scientific soundness of a measure. These judgments indicate the degree to which the content domains of a test are represented by the items of the test they thereby establish the fit between the definition of a measurement operation and the actual operation that is devised (Cronbach, 1971). Consensus among experts indicates these items cover the objects of our study and the matters to be measured, indicating the content validity of the scale. Also in this research process, before preparing the job satisfaction scale it was interviewed, discussed and agreed with the academics and business experts on all collected items and dimensions, then the new job satisfaction scale has been generated for other testing processes. Reliability indicates that the measures are free of any random errors and measure the construct in a consistent manner. Unidimensionality, one of the most basic assumptions in the measurement theory, is the degree to which items represent one and only one underlying latent variable (Garver & Mentzer, 1999). Convergent validity concerns the extent of consistency between applications made by distinct methods for the same purpose (Llusar & Zornoza, 2002; Rao, Solis, & Raghunathan, 1999). At this point, the scales have been developed for measuring job satisfaction concept have examined, the scale development processes were deeply analysed. The scale that was developed in this research has been pre-tested by using a smaller sample first, then the sample was expanded and used on the bigger sample, finally it has seen that the test results obtained from two researches were close to each other. This is providing the convergent validity of this new job satisfaction scale. Discriminant validity indicates that the dimensions of concept should distinctly and independently differs from each other (Bagozzi & Phillips, 1991). The factor analysing results for both the pre-testing period and in this research shows that the items were divided to the dimensions and came together to the dimensions with the statistically significant values as it was predicted. These results have proved the discriminant validity of the research. In other words, the construct should yield different results when measuring different variables. In order to create a job satisfaction scale survey form, we added all 30 variables to the analyses. Looking first to the validity of the scale, Cronbach's alpha coefficient had seen as high as 0.944.

The application of principal component analysis (PCA) allows the reduction of the proposed instrument dimensionality and varimax rotation method maximizes the sum of variances of required loadings of the factor matrix (Hair, Anderson, Tatham, & Black, 1998). The dimensionalities of the 30 items were analysed using varimax factor analysis and at the end of varimax rotation, six factors had Eigen-values greater than one. In the data reduction procedure those variables having a factor load of 0.500 and above were taken into account. Six basic components of job satisfaction were obtained as a result of PCA. Thereafter, we aimed to test structural validity of the scale and according to results of exploratory factor analysis by using 30 variables that were predicted job satisfaction scale we obtained six components of job satisfaction. As a result of the exploratory factor analysis, findings of the factor loadings were obtained among 0.591–0.798 range. It shows the validity of one-dimensionality of the factorial components because of the fact that they loaded to the predicted factors by using 30 variables and in the condition of using 1 as Eigen values. The main components obtained after explanatory analysis, the results can be seen in Table 6. After the results of explanatory factorial analysis, In order to verify the data were obtained from the 699 surveys, they are analysed by using Maximum Likelihood estimation. According to the Kolmogorov-Smirnov test results that are necessary for using the estimation for testing the normality of distribution, t_{\min} value of each variable was above than 4.070. This finding proves the normal distribution of the scale in 0.001 possibilities.

Table 6. Factorial components according to the results of explanatory factor analyse

	Promotion	Pay	External environment	Co-workers	Management Skills	Job-working conditions
JSPRO1	0.720					
JSPRO2	0.786					
JSPRO3	0.754					
JSPRO4	0.786					
JSPRO5	0.798					
JSPAY1		0.776				
JSPAY2		0.777				
JSPAY3		0.794				
JSPAY4		0.742				
JSPAY5		0.748				
JSENV1			0.687			
JSENV2			0.709			
JSENV3			0.796			
JSENV4			0.733			
JSENV5			0.778			
JSCOL1				0.757		
JSCOL2				0.688		
JSCOL3				0.646		
JSCOL4				0.724		
JSCOL5				0.708		
JSMS1					0.685	
JSMS2					0.742	
JSMS3					0.782	
JSMS4					0.591	
JSMS5					0.640	
JSJWC1						0.605
JSJWC2						0.694
JSJWC3						0.788
JSJWC4						0.739
JSJWC5						0.621

Structural Equation Modelling (SEM) has become one of the techniques of choice for researchers across disciplines and increasingly is a “must” for researchers in the social sciences (Hooper, Coughlan, & Mullen, 2008). It combines the measurement model (confirmatory factor analysis) and the structural model (regression or path analysis) into a simultaneous statistical test (Bagozzi, 1981).

CFA evaluates the factors’ psychometric properties in term of reliability and validity. Confirmatory factor analysis is the statistical method applied for testing the fitness of the structures with the factorial components (Byrne, 2001; Schumacher & Lomax, 2004).

The Goodness-of-Fit statistic (GFI) was created by Jöreskog and Sorbom as an alternative to the χ^2 test and calculates the proportion of variance that is accounted for by the estimated population covariance (Tabachnick & Fidell, 2007). GFI ranges from 0–1 with 1 meaning perfect fit (Byrne, 2001).

Although higher values indicate more powerful fitness (Rao et al., 1999) there is no consensus on the threshold of GFI because of its relative independence of the sample size. Many researchers interpret GFI score between the 0.80–0.89 ranges as representing a reasonable fit and, when measured above 0.90 it is evidence of a good fit (Chau, 1997).

Related to the GFI is the AGFI that adjusts the GFI based upon degrees of freedom, with more saturated models reducing fit (Tabachnick & Fidell, 2007). RMSEA tells us how well the model, with unknown but optimally chosen parameter estimates would fit the population covariance matrix (Byrne, 1998). It is thought that an RMSEA of between 0.08 to 0.10 provides a mediocre fit, below 0.08 shows a good fit, above .10 shows a poor fit (MacCallum, Browne, & Sugawara, 1996).

Multiple fit indexes are evaluating incremental fit. Comparative fit index (CFI) indicates fitness of the tested model and assumed model with each other (Bentler, 1990). Normed fit index (NFI), Tucker-Lewis Index (TLI), and incremental fit index (IFI) evaluate the degree of freedom of the evaluated model relative to the initial model (Bentler & Bonett, 1980).

CFI values as NFI for this statistic range between 0.0 and 1.0 with values closer to 1.0 indicating good fit (Hooper et al., 2008). If all these indexes (CFI, NFI, TLI, and IFI) are above 0.90, it indicates that the model is ideal and findings give excellent results (Hair et al., 1998).

The χ^2 degree of freedom (χ^2/df) statistic evaluates the parsimonious fit of the model by measuring the difference between covariance of the sample and fitted models. Although there is no consensus regarding an acceptable ratio for this statistic, recommendations range from as high as 5.0 (Wheaton, Muthen, Alwin, & Summers, 1977) to as low as 2.0 (Tabachnick & Fidell, 2007).

After this stage, test results that obtained after analysing the model fit were as follows: $\chi^2/df = 4.492$, GFI = 0.850, NFI = 0.873, IFI = 0.898, TLI = 0.886, CFI = 0.898 and RMSEA = 0.071 ($p = 0.000$). These findings observed the harmony of predicted model and revealed model. Regression weights that show the factor loadings on the variables are between 0.662–0.848. These numbers are sufficient in statistical science.

To mention about the convergence validity, despite the views that these numbers should be greater than 0.700, it is not fully accepted by researchers. After investigation the error variance, no existing variables with a high error variance were observed.

Factor loadings, critical ratios and correlation coefficients among factorial dimensions that obtained from primary confirmatory factor analyse can be seen in Table 7. The critical ratios in parentheses in the table give the values of statistical significance.

After the primary confirmatory factor analysis model, for testing if factorial components are suitable to the upper job satisfaction factorial structure, it is performed structural equation modelling with secondary level confirmatory factorial analyse. As it can be seen in Table 8, six factors that composed in the primary factor analyse are merged in the secondary factor analyse also.

40 variables and six components, as it can be seen in Table 8, properly seated to the job satisfaction structural factor. Factor loadings are close to each other (0.635–0.860) and values are obtained pretty high. The findings are statistically significant ($p < 0.001$). Model fitness values are in enough value and very close to the primary confirmatory factor analysis: $\chi^2/df = 4.851$, GFI = 0.839, NFI = 0.860, IFI = 0.885, TLI = 0.875, CFI = 0.885 and RMSEA = 0.074 ($p = 0.000$).

Table 7. Factor loadings and correlation coefficients of the scale according to primary confirmatory factor analysis

	Promotion	Pay	External environment	Co-workers	Management skills	Job-working conditions
Promotion	-	0.588	0.338	0.441	0.520	0.485
JSPRO1	0.756 (17.144)					
JSPRO2	0.848 (14.854)					
JSPRO3	0.809 (15.616)					
JSPRO4	0.827 (14.127)					
JSPRO5	0.823 (15.559)					
Pay	-	-	0.306	0.275	0.490	0.497
JSPAY1		0.754 (14.240)				
JSPAY2		0.762 (14.518)				
JSPAY3		0.791 (16.404)				
JSPAY4		0.817 (15.525)				
JSPAY5		0.826 (15.462)				
External environment	-	-	-	0.532	0.484	0.579
JSENV1			0.738 (15.850)			
JSENV2			0.745 (14.470)			
JSENV3			0.707 (15.752)			
JSENV4			0.784 (15.541)			
JSENV5			0.808 (15.287)			
Co-workers	-	-	-	-	0.563	0.541
JSCOL1				0.740 (14.064)		
JSCOL2				0.712 (14.482)		
JSCOL3				0.695 (15.136)		
JSCOL4				0.762 (15.817)		
JSCOL5				0.703 (15.891)		
Management skills	-	-	-	-	-	0.648

(Continued)

Table 7. (Continued)

	Promotion	Pay	External environment	Co-workers	Management skills	Job-working conditions
JSMS1					0.754 (15.067)	
JSMS2					0.814 (14.744)	
JSMS3					0.857 (15.320)	
JSMS4					0.717 (14.074)	
JSMS5					0.677 (16.218)	
Job-working conditions	-	-	-	-	-	-
JSJWC1						0.769 (16.779)
JSJWC2						0.831 (16.065)
JSJWC3						0.805 (13.792)
JSJWC4						0.823 (14.842)
JSJWC5						0.662 (15.814)

Notes: There is no *t*-value of the coefficient values because of the fact that regression values are fixed to 1 for the first variable of each factor components. The correlations between the dimensions of all factors are statistically significant in $p < 0.001$ level.

Therefore, the scale-forming six factorial components have been determined the factors of overall size of the job satisfaction. In addition, as can be seen that there is statistically significance correlation among all components of job satisfaction.

The comparison of model fitness coefficients that obtained during our study is in Table 9. As it can be seen in the table, to have very close values of initial and final model coefficients results shows the fitness of the obtained model to the initial model. The small differences occurred among the model fit coefficients are due to differences between the freedom coefficients of scale models.

By testing internal validity of job satisfaction components, correlation coefficients between the variables and validity coefficients in condition if variables omitted, internal validity of the model that was obtained in the secondary level factor analysis in Table 10. The model's internal validity of coefficients is found as $\alpha = 0.845$. Thus, it is once again demonstrated the existence of the convergence validity of the structural model of job satisfaction.

Integrated validity coefficient (Werts, Linn, & Joreskog, 1974) that is proposed evaluating together with the Cronbach's α coefficient during the scale validity process is calculated as $p_c = 0.989$ and it was quite higher value than recommended threshold value 0.70 (Bagozzi & Yi, 1988).

Table 8. Factor loadings of secondary factor analysis and correlation coefficients

Dimensions	Factor loadings	Promotion	Pay	External environment	Co-workers	Management skills	Job-working conditions
Promotion	0.676 (11.385)	1	0.588*	0.338*	0.441*	0.520*	0.485*
Pay	0.635 (11.672)		1	0.306*	0.275*	0.490*	0.497*
External environment	0.705 (10.415)			1	0.532*	0.484*	0.579*
Co-workers	0.735 (8.581)				1	0.563*	0.541*
Management skills	0.839 (7.568)					1	0.648*
Job-working condition	0.860 (7.041)						1

* $p < 0.001$.

Table 9. The comparison of model fitness

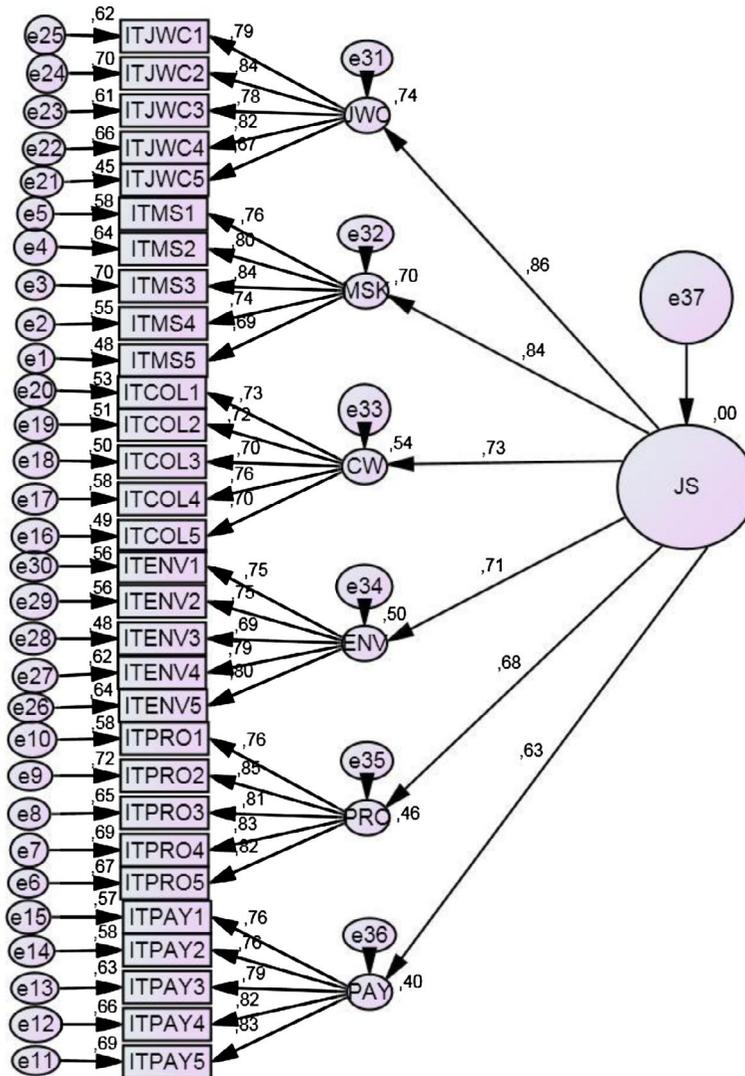
Process	Model	Explanation	X^2/df	GFI	NFI	IFI	TLI	CFI	RMSEA
Primary factor analysis	1	30 Variables 6 Dimensions	4.492	0.850	0.873	0.898	0.886	0.898	0.071
Secondary factor analysis	2	30 Variables 6 Dimensions	4.851	0.839	0.860	0.885	0.875	0.885	0.074

Table 10. Internal validity coefficients of the scale components and secondary level confirmatory factor analysis

	Correlation between adjusted variables	Squared multiple correlations	Cronbach's α
Job-working conditions	0.726	0.560	0.801
Management skills	0.715	0.533	0.803
Co-workers	0.598	0.449	0.825
External environment	0.562	0.407	0.831
Promotion	0.627	0.451	0.821
Pay	0.565	0.431	0.835

When model fit indexes belongs to the final model that obtained from testing progress and internal validity of coefficients evaluated together, fixed correlation coefficients of each dimension were greater than 0.30, α values despite 0.60 are seen sufficient (Churchill, 1979) for the first practical research recommended generally for the reliability were greater than 0.70 (Nunnally, 1978), and none of the multiple correlation coefficients values disrupted the model. The values obtained from this research are above than acceptable level of recommended values by Price and Mueller (1986). The integrated internal reliability coefficient value ($\alpha = 0.845$) and unified validity coefficient value ($p_c = 0.989$) are supporting the acceptance of the obtained scale as job satisfaction scale. The final structural model of obtained job satisfaction scale can be schematically seen in Figure 1.

Figure 1. The final structural model of obtained job satisfaction scale.



4. Discussions and conclusion

In this article we have focused on the development of a multidimensional measurement instrument for the job satisfaction concept. We have scanned the methods in literature and discussed by researchers and academics for testing construct validity and the reliability of a job satisfaction construct. At each step in the research, techniques and acceptable standards were discussed and all methods are considered. In the process of developing a multidimensional scale of job satisfaction the dimensions were selected in harmony of the experienced executives and academics. This selection was made by interviews with the academics interested in organizational behaviour and executives of the 25 firms each having a MBA degree and a minimum of ten years of experience. Variables generated by using items related to job satisfaction concept and its components were used independently in advance and empirically tested. For checking the validity of the variables we used factor analyses in the research model. Principal component analysis of all components was applied, and it was found that all of the items loaded in groups to separate dimensions.

The individual is influenced by the factors of social culture during the period of life from birth to death. When we consider that each country has different social values, it is impossible to apply a single perspective on the measuring of individual's behaviour. In this case, it cannot be ignored the cultural effect on individual's job satisfaction as on the individual behaviour. However in the

measuring process of the job satisfaction concept, most of the researchers focused on only specific job satisfaction dimensions that generated and presented to the researchers by well-known measurement instruments. It is one of the restrictive factors that the dimensions of job satisfaction are considered and used only from these sources. And also some of these instruments have too many dimensions and some have very few. It shows that there is no measurement tool that can be used and accepted by the majority of researchers. In our study we also aimed to achieve a questionnaire that can be easily used by researchers and added a new dimension (external environment) that has great importance in this globalized world. This new dimension will be a considerable signal of individual's satisfaction especially for the corporations in the international scale. Additionally measuring concept and its components without considering cultural affect may not be very rational. In addition, sampling and considering Turkish and Russian organizations together in the research shows us the availability of using this scale for two countries in terms of internal consistency.

The results obtained from this research are considered statistically significant. However we recommend to the researchers that planning to study on the job satisfaction field may use and test the reliability and validity of this scale. One of our goals for the future is to develop a job satisfaction scale that including all sub-dimensions of this concept that has been used in the literature. In this way, we will be available to reach more comprehensive information on the measuring individual's job satisfaction level. In addition, obtained results from this research contain enlightening information for the textile industry and producer firms and give ideas about the relationship they are establishing with their employees. In addition, we recommend to the researchers using this scale on the researches of relationships among job satisfaction and other organizational concepts. Also as job satisfaction concept, it is an important to develop new scales on the basis of cultural influence for other concepts of organizational behaviour in order to achieve more valid results. Therefore, this study, its results and final survey may help measuring job satisfaction and its dimensions for Turkish and foreign firms.

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Appendix

Please carefully read the following statements and mark on the scale to which you agree or disagree.

	Strongly disagree	Partly disagree	Neither agree nor disagree	Partly agree	Strongly agree
Satisfaction on "job and working conditions"	1	2	3	4	5
1) Physical environment where I work is appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) I am satisfied with my job in terms of working conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) My job is satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) My job is good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) I proudly mention to my friends on my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfaction on "management skills"	1	2	3	4	5
6) My manager is quite enough at his work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) My manager provides me assistance at difficult cases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8) My manager manages in a good way his subordinates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) My manager always stands behind the workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) My manager considers the complaints of employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfaction on "co-workers"	1	2	3	4	5
11) I am satisfied with my colleges on being agreed with each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) I am satisfied with the people I speak and I work with	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) My colleagues are hardworking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14) I am satisfied with the friendship of my colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15) My colleagues are responsible on their duties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfaction on "external environment"	1	2	3	4	5
16) I am satisfied with the way I connect with external environment (suppliers, consultants, advisers, etc.) at my work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17) The approach of the people to me from the external environment is good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18) The people I meet from the external environment because of my job do not disturb me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19) My relationship with the people from the external environment is good at my work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20) I am satisfied with the people from the external environment at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfaction on "promotion"	1	2	3	4	5
21) Promotions at my work are based on individual skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22) There are regular promotion practices at my work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23) The person makes his job well can get the chance to be promoted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly disagree	Partly disagree	Neither agree nor disagree	Partly agree	Strongly agree
24) I am satisfied with the notification methods of promotion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25) I am satisfied with the opportunity of being promoted at this job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Satisfaction on "pay"	1	2	3	4	5
26) My wage is enough for my regular expenses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27) My wage is appropriate when it is compared with other workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28) I think I get a fair wage for the work I do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29) I am satisfied with my salary increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30) My salary is good when it is compared with the wage of other people who work at similar positions in other firms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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