Adaptation and Psychometric Properties of Urdu Version of Job Satisfaction Survey

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The present study aims to translate and validate Job Satisfaction Survey (JSS) developed by Spector (1985) into Urdu. Scale linguistic equivalence was ascertained by bilingual design with a sample (N = 45) of teachers; and positive correlation (r = .71, p < .01) between Urdu and English version of JSS was found. Next, JSS reliability was established with a larger sample (N = 367) teachers revealing high Cronbach's alpha (r = .88, p < .01) and split-half (r =.87, p < .01) measures for JSS. Exploratory factor analysis supported a 9-factor solution for JSS, and when tested again with test-retest reliability with 42 teachers after one week interval resulted in high measure of reliability (r = .80, p < .01). Lastly, convergent validities of JSS were revealed with 310 participants and the correlations with Organizational Commitment Questionnaire-Revised Version (r = .52, p < .01), Rosenberg Self Esteem Scale (r = .55, p < .01) and Trait Emotional Intelligence Questionnaire (r = .56, p < .01). All the findings demonstrated the Urdu version of JSS had sound psychometric properties.
Keywords: job satisfaction, linguistic equivalence, reliability, factor analysis**,** validity [1]

Psychometric Properties of Urdu Version of Job Satisfaction Survey

Job satisfaction has gained enormous attention and popularity among various researchers and employers over 100 years (Abuhashesh, Al-Dmour, & Masa'deh, 2019; Bhaskar & Mishra, 2017). From early studies on job satisfaction in 1950s to more than three thousand articles written on the subject until 1970 (Locke, 1976) followed by a total of five thousands articles shortly thereafter says something about the burgeoning interest in the topic. Most of the topics that were available were directly or indirectly associated with employees' job satisfaction (Allouzi, Suifan, & Alnuaimi, 2018; Saner & Eyupoglu, 2015). Various authors investigated employees' job

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satisfaction is strongly associated with organizational performance and productivity (Abdallah, Phan, & Matsui, 2016; Fu & Deshpande, 2014; Greguras & Diefendorff, 2009; Shmailan, 2016). Moreover, experts not only focused on the significance of job satisfaction they also focused on that how employees' job satisfaction is important for organizational outcomes and factors that reduce job redundancy (Abdallah, Obeidat Aqqad, Janini, & Dahiyat, 2017).

Later on, researchers turned their attention toward job satisfaction in employees of human services organization and found some contradictions in literature because the existing material was usually available predominantly about factory workers. For example, Vroom (1964) and Locke (1976) conducted studies of factory workers and found dissatisfaction with work significantly affected job performance, which remained a hot topic for organizational experts later with various factors like job performance, involvement, commitment and interest (Abuhashesh et al., 2019; Culibrk, Deli, Mitrovic, & Culibrk, 2018; Ghassemi, Isfahani, Abbaspour, & Farhanghi, 2015; Thevanes & Dirojan, 2018), and nature of job as well as type of organization (Abdullah et al., 2017; Spector, 1985). With the passage of time, various other studies were conducted in human services organizations to test employee job satisfaction (Eslami & Gharakhani, 2012; Kamali, Soltaninejad, & Toorani, 2010; Mosadeghradm Ferlie, & Rosenberg, 2008) with similar and promising findings. Since these studies were carried out in other countries, largely in the Western hemisphere, studies in the East and especially in Pakistan were few to find. Many thought human services organizations could benefit from job satisfaction (Ollo-López, Bayo-Moriones, & Larraza-Kintana, 2016) in countries like Pakistan.

The major reason for conducting the current study is the unavailability of relevant research tools (adapted in Urdu) in Pakistan. Although, some tools that measure job satisfaction are available in Pakistan, they have been largely validated on samples from industry or factory workers that bias their suitability for, and use in corporate or educational organizations. To answer this issue, relevant and culturally acceptable testing tools are considered more authentic and best instruments because they provide in depth and valid information. Similar issues were addressed by Frontz (1978) and Zaharia and his colleagues (1979) in their studies, when they tested samples of human service organizations through available existing tools such as, Job Descriptive Index (Smith, Kendall, & Hulin, 1969) and Minnesota Satisfaction Questionnaire (Weiss, Davis, England, & Lofquist, 1967). They found lower level of employees' job satisfaction and

reason was highlighted lack of relevant tools because the finding were interpreted according to existing norms and norms were established over factory workers.

Moreover, Spector (1985) faced the similar issues when he studied the job satisfaction of employees of different human service organizations. In order to address these issues, he felt the importance of such a relevant scale that can fulfill this gap. He developed the Job Satisfaction Survey (JSS) to assess purely employees' job satisfaction of human resource organizations and this tool emerged as a very valid and reliable tool worldwide. This scale is also suitable to assess employees' job satisfaction of our human resource organizations. For example, current study focused on the teachers' job satisfaction and this scale is a suitable to measure teachers satisfaction with pay, promotion, supervision, benefits, working relationships with colleagues, nature of work, communication etc. All the dimensions that cover this scale are relevant and can be addressed in our setup through the JSS.

However, this gap remained unfulfilled. JSS and others similar tools are available in English that produce the gap and availability of research tools in local or cultural languages are unavailable. Tools in local language provide valid and in-depth information (Trimble, 2007). Similarly, in Pakistan, the idea to produce testing tools in cultural language has drawn researchers' attention but gap is still unfilled. Human service organizations in Pakistan carry a huge group of employees and this number is increasing further with the passage of time. On the other hand, employees' workplace problems are also increasing because of limited job opportunities and economic crisis (Vomberg, Homburg, & Bornemann, 2015).

Department of Education is one of the biggest human service organizations in Pakistan. If teachers feel satisfied with their jobs, they will be committed with work and will perform jobs better. Moreover, to understand their workplace problems is a key point because workplace issues may happen due to a variety of reasons. When the outcomes happen in a negative way, it influences teachers' degree of job satisfaction and it increases low degree of job satisfaction that reflects in form of teachers' poor performance, poor job involvement and high job turnover (Cronley & Kim, 2017; Kanten, Kanten, & Gurlek, 2015; Mendes, Gomes, Marques-Quinteiro, Lind, & Curral, 2016). In this regards, to explore the dynamics behind these problems is very important. Generally, we can assess employees' attitudes and behaviors toward through a subjective observation but the standard procedure is an assessment through a valid tools and this can done more adequately when the scale is in local language. The testing tools in local language or culturally acceptable measure the information more deeply (Hambleton, 2005).

Moreover, test adaptation is an easier and more economical process. Similarly, for the developing countries like Pakistan having limited economical resources, therefore, researchers feel difficulty to bear expensive procedures and lack of financial support might be the possible encumbrances in test development but test validation into cultural language is easier and it takes limited time as well as similar in worth and it produces similar results. For example, translation refers to produce similar meaning with minor changes in wording (Van De Vjver & Poortinga, 2005) and adaptation means the concept, wording and expressions are culturally, and linguistically equivalent and acceptable according to the target language and culture (Hambleton, 2005).

Tests in local language are commonly considered more acceptable and valid in order to test the hypothesis and this is the prime need of researchers. Considering the need to assess employees' job satisfaction in a Pakistani society with a scarcity of available tools, the task of linguistic and cultural validation and adaptation was undertaken. . Although, some measures are available to measure the construct of job satisfaction but those tend to measure only specific jobs with limited scope while the JSS was found to be the more reliable tool to assess employees' job satisfaction at wide range and that's why the too was translated and validated in Urdu language. The JSS covers nine major job dimensions and is being used worldwide and due is its popularity and significance and it has been translated into more than 40 different languages in different countries (Spector, 2020). In order to fulfill this gap in our country the JSS was selected and adapted for Pakistan.

Method

Phase I: Translation in Urdu

Step- 1: Brief Description of Measure. JSS (Spector, 1985) is globally acceptable and time tested measure, comprised of 36 items with nine subscales namely Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards, Operating Conditions, Coworkers, Nature of Work and Communication. Each subscale has four items and each item is rated on a 6-point Likert-type rating scale from *disagree very much* (1) to agree very much (6). Almost 18 items of JSS are negatively worded. Overall composite scores represent overall level of job satisfaction. Lower scores indicate lower the level of job satisfaction and higher the score represents higher the degree of job satisfaction. JSS is originally developed to assess employees' attitudes toward job in human service organizations and it was found to be suitable to assess teachers' job satisfaction (Spector, 1985).

Step-2: Panel of Experts. Using MAPI scandalized guidelines of scale translation-validation; panel of four experts was formed. All panelists were bilingual experts with vast experience of test translation, construction and validation. All were PhDs and were taken from the Institute of Clinical Psychology, University of Karachi. They critically evaluated the forward and backward translations of JSS after which the final draft was prepared.

Step-3: Selection of Experts Translators. Translators should be experienced and qualified and trained in technical and scientific knowledge of test translation (Johansone & Malik, 2008). There were a total eight experts, four were responsible for the forward (Urdu) and other four were responsible to translate the measure backward (English). All panelists were bilingual experts and were experienced in the field of test construction and validation.

Step-4: Forward Translation. In forward translation, single or preferably a group of translators translate the test from the source language to the target language (Hambleton, 2005). JSS English version was given to four experts and they translated it into Urdu. Each translator worked independently. Drafts of received translations were prepared and a meeting of the experts was called. Experts critically reviewed all items and selected the best translation of each item with mutual consensus and the final draft was prepared for next step.

Step-5: Backward Translation. In backward translation, the final draft of the test was translated back by four experts into English in order to cross check the meaning and context of items. This English version was then matched with the original English version of JSS for similarity in language and content. All translators were satisfied with the back translation matched with the original English version of the scale.

Step-6: Cross Language Validation. In cross language validation, the key objective is to check the maintenance of linguistic, conceptual, and precise equivalence between the adapted and original version. According to Trimble (2007), linguistic equivalence dealt with test accuracy and item translation precision. Similarly, JSS linguistic equivalence was checked over sample of 45 (men = 27, women = 18) participants, where a little more than a half were married (n = 26) and ranged in age between 25-45 (M = 33.51, SD = 6.33) years. Results validated a significant ($p < .01$) positive correlation ($r = .72$) between Urdu and English versions of JSS.

Phase II: Psychometric Evaluation of Urdu JSS

Sample. In phase-II, 367 (women 54.5%) respondents were recruited from different government institutions using a convenient sample. All participants had completed masters level education with at least one year of job experience. Further, participants with any kind of mental and physical illness were excluded from the study. Respondents came from secondary schools (37.6%), colleges (36.0%) and from university (26.4%). Age range of participants was between 25-40 years (M = 33.73, SD = 4.89).

Procedure. All educational institutions provided permission for this study. Then researcher briefly explained the purpose of the study to the participants who were assured that all information about them would remain confidential and anonymous. The test packet which contained the demographic sheet was handed to all participants individually.

Internal consistency reliability. In internal consistency reliability, usually a single measurement tool is administered to a group of people on one time to estimate reliability. The best and the most popular index to estimate internal consistency is Cronbach's alpha index (Parameswaran & Yaprak, 1987), and alpha value closer to 1.00 indicates higher internal consistency (Wells & Wollack, 2003). JSS overall internal consistency was high (r = .88) and for its subscales was between low to high (r =.67-.78) levels and all correlations were significant (p < .01).

Test-retest reliability. Anastasi (1954) stated "the most obvious method for findings the reliability of test score is by repeating the identical test on a second occasion. The reliability coefficient in this case is simply the correlation between the scores obtained by the same person on the two administrations". The time interval between first and second administration of Urdu JSS was one week with a small sample (n = 42) that resulted in high test-retest reliability (r = .80) for the composite scale and for sub-scales between low to high levels (r = .46-.80) See Table 1 below.

Exploratory Factors Analysis. Factor analysis of Urdu version of JSS computed through principal component extraction method. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were used to check the empirical suitability of the sample. KMO value greater than .70 along with selecting factor Eigen value greater than 1 indicates factor significance and test adequacy (Kaiser, 1974). Factor analysis statistics for JSS fulfills the criteria of test adequacy.

Phase III: Convergent and Discriminant Valadities of Urdu JSS

In order to fulfill this JSS scale validity estimation was checked with the following scales.

Rosenberg Self Esteem Scale (RSES). Rosenberg (1965) RSES is a 10 items self-report measure which is globally acceptable to assess individual's self-esteem. It is scored on 4-point Likert scale from "strongly disagree=1" to "strongly agree=4". Scale high score indicate high level of self-esteem and lower score indicates lower level of self-esteem.

Trait Emotional Intelligence Questionnaire (TEIQue). TEIQue (Petrides & Furnhm, 2006) is 30 items self-report instrument which assess person's level of emotional intelligence. This scale has 15 subscales and each statement is scored on 7-point Likert scale from "strongly disagree=1" to "strongly agree=7". Scale sum indicates overall level of individual's level of emotional intelligence. High score on scale shows high level of emotional intelligence while low score indicates lower level of emotional intelligence. Translated version of TEIQue-SF was used in this study (Shahzad, Riaz, Begum, & Khanam, 2014).

Organizational Commitment Questionnaire-Revised Version (OCQ-RV). OCQ-RV (Meyer, Allen & Smit, 1993) is self-report measures comprised of 18 items. Scale has three subscales namely affective, continuous and normative organizational commitment. Each sub-scale is consisted of 6 items. Each item is scored on 7-point Likert Scale from "strongly disagree" to "strongly agree". Translated version of OCQ-RV was used (Abbas & Khanam, 2019)

Sample. For this purpose, 310 teachers (women = 52.3%) were recruited. Respondents age range was between 25-40 years (M = 33.38, SD = 4.73). Married participants were more (51.6%) than unmarried (48.4%) respondents. Job experience in participants with less than five years was (37.7%), less than 10 years (46.8%) and more than 10 years (15.5%).

Procedure. After getting permission from the authorities, data was collected from different government academic institutions. Participants were assured about confidentiality that your information will never be disclosed and you can withdraw if you feel any kind of discomfort during the test administration. Purposive sampling technique was applied to gather the data. Correlation statistics was used to investigate the findings. Include what was in the packet that was given to the participants.

Results

Table 1

Internal consistency, Split-half and Test-Retest Reliability of JSS

Subscale	*α (N = 367)*	*Split-Half Reliability (N = 367)*	*Test-Retest Reliability (N = 42)*	*p*
Pay	.73	.74	.83	.01
Promotion	.78	.75	.57	.01
Supervision	.77	.75	.57	.01
Fringe benefits	.75	.76	.63	.01
Contingent rewards	.73	.71	.65	.01
Operating conditions	.74	.70	.65	.01
Coworkers	.67	.61	.55	.01
Nature of work	.78	.78	.61	.01
Communication	.71	.68	.46	.01
Total Satisfaction	.88	.87	.80	.01

Table 1 Indicates Cronbach's Alpha of overall JSS is calculated .88 and for subscales it is calculated from .67 -.78 significant at .01 level. JSS split-half reliability was calculated .87 and for subscales it was calculated .61- .78 significant at .01 level. Further, JSS test-retest reliability of overall scale was calculated .80 and for subscales it was calculated .46 - .83 significant at .01 level of significance. The over indexes indicate the scale reliability is good.

Table 2

Inter Correlation of Nine Subscales of Urdu Version of Job Satisfaction Survey

Subscales	1	2	3	4	5	6	7	8	9
Pay	-	.32**	.33**	.44**	.32**	.11*	.27**	.18**	.23**
Promotion		-	.35**	.45**	.41**	.26**	.19**	.14**	.31**
Supervision			-	.25**	.38**	.14**	.35**	.22**	.33**
Benefits				-	.34**	.33**	.20**	.12*	.27**
Rewards					-	.23**	.24**	.21**	.35**
Conditions						-	.24**	.10**	.30**
Coworkers							-	.17**	.28**
Nature of work								-	.31**
Communication									-

**. Correlation is significant at the 0.05 level (2-tailed).*

***. Correlation is significant at the 0.01 level (2-tailed).*

Table 2 indicates that there is significant positive inter correlation among subscales of JSS which indicates scale is reliable and good in internal consistency.

Table 3

Rotated Matrix for Urdu Version of Job Satisfaction Survey Items Using Varimax Rotation Method (N=367)

Items	Component								
Subscales	NW	PRO	OC	SUP	FB	PA	CR	COM	CO
JJS-35	**.80**	.03	.04	.12	.06	-.00	.07	.08	.05
JJS-27	**.79**	-.06	-.00	.05	.12	-.06	.11	.09	.09
JJS-17	**.78**	.09	.03	-.00	-.03	.13	-.01	.02	.07
JJS-8	**.53**	-.00	.09	.13	-.13	.22	.10	.27	-.11
JJS-11	-.06	**.78**	.06	.17	.13	.06	.10	.06	.04
JJS-2	-.06	**.67**	.24	.02	-.00	.21	.25	.09	-.05
JJS-20	.00	**.66**	.15	.12	.24	.08	.10	.08	.02
JJS-33	.25	**.63**	.07	.19	.23	.04	.11	.01	.05
JJS-31	.05	.10	**.78**	-.10	.01	.07	.08	.05	.15
JJS-24	.07	.06	**.71**	.07	.03	.07	.05	.12	.15
JJS-6	-.08	.05	**.65**	.13	.20	-.10	.16	.11	-.10
JJS-15	.11	.18	**.62**	-.04	.19	-.08	-.13	.09	.12
JJS-30	.23	.15	-.00	**.76**	.07	.04	-.00	.06	.20
JJS-12	.05	.11	-.01	**.72**	.08	.12	.13	.07	.03
JJS-3	.09	.29	-.12	**.69**	.05	.05	.07	.07	.17
JJS-21	-.06	-.01	.20	**.68**	.00	.14	.20	.13	.10
JJS-13	.01	.24	.04	.03	**.77**	.11	.04	.00	.11
JJS-22	.08	.13	.11	.10	**.75**	.08	.00	.03	.10
JJS-4	.02	.20	.15	.03	**.59**	.25	.20	.07	-.07
JJS-29	-.10	-.02	.29	.06	**.54**	.26	.28	.17	-.08
JJS-19	.08	-.00	.07	.22	.00	**.76**	.08	.10	.14
JJS-10	-.09	.05	.10	.10	.23	**.69**	.16	.04	-.08
JJS-1	.15	.28	-.09	.03	.14	**.61**	.04	.09	.12
JJS-28	.19	.15	-.17	.01	.33	**.61**	-.03	-.04	.18
JJS-14	.09	.09	.07	.18	.11	-.08	**.77**	.09	.03
JJS-32	-.01	.09	.05	.01	.08	.17	**.71**	.16	.02
JJS-5	.06	.35	-.13	.08	.04	.04	**.62**	.07	.11
JJS-23	.23	.09	.21	.17	.06	.17	**.57**	.05	.15
JJS-18	.21	.04	.16	.02	.01	.06	.01	**.77**	.06
JJS-36	.09	.09	.15	.05	-.01	.10	.24	**70**	.07
JJS-26	-.03	-.03	.19	.24	.11	.07	.11	**.66**	.02
JJS-9	.16	.34	-.18	.05	.16	-.08	.00	**.61**	.22
JJS-7	.01	.03	-.01	.09	.10	.02	.02	.07	**.78**
JJS-25	.24	.12	.04	.17	.07	.02	-.02	.03	**.71**
JJS-34	.03	.01	.24	.10	-.11	.08	.16	.06	**.59**
JJS-16	-.17	-.13	.21	.10	.08	.29	.17	.11	**.52**
Eigen Values	7.23	2.69	2.37	1.96	1.84	1.73	1.34	1.30	1.15
% of variance	20.07	7.47	6.52	5.44	5.10	4.79	3.73	3.59	3.22
Cumulative %	20.07	27.53	34.05	39.49	44.58	49.37	53.10	56.68	59.90

Note: Values < .3 are suppressed; NW= Nature of Work, PRO=Promotion, OC= Operating Conditions, SUP=Supervision, PA= Pay, FB= Fringe Benefits, CR= Contingents Rewards, COM= Communication and CO= Coworkers.

Findings reported (Table 3), the factor analysis structured the 9 original factors with Eigen values (ranging from 7.23 to 1.15) which explains 20.07 to 3.22% variance with high cumulative values (ranging from 20.07 to 59.90). The selecting Eigen value of structured factor greater than 1 indicates factor significance (Kaiser, 1974). Summary of factors loading of final Urdu version of JSS with all 36 items is explained through Varimax Rotation Method. Such as, factor 1 loaded with nature of work subscale items (e. g. I sometimes feel my job is meaningless). Factor 2 loaded with items of promotion subscale (e. g. Those who do well on the job stand a fair chance of being promoted). Factor 3 loaded with items of operating conditions subscale (e. g. I have too much paperwork). Items related to supervision subscale loaded at factor 4 (e. g. I like my supervisor). Factor 5 extracted with items of pay subscale (e. g. I feel unappreciated by the organization when I think about what they pay me). The next factor structured with items of fringe benefits subscale (e. g. The benefits we receive are as good as most other organizations offer). All items of contingents rewards subscale loaded on factor 7 (e. g. I do not feel that the work I do is appreciated). Factor 8 loaded of items of communication subscale (e. g. The goals of this organization are not clear to me). Last factor consisted with the all items of coworkers subscale (e. g. I like the people I work with).

Table 4

Job Satisfaction Survey and its Subscales correlation with Organizational Commitment Questionnaire, Self-Esteem Scale and Trait Emotional Intelligence Questionnaire

Subscales	*OCQ*	*RSES*	*TEIQ-SF*
Pay	.36**	.44**	.51**
Promotion	.36**	.32**	.36**
Supervision	.39**	.44**	.41**
Fringe benefits	.35**	.32**	.27**
Contingent rewards	.28**	.32**	.41**
Operating conditions	.46**	.51**	.52**
Coworkers	.37**	.42**	.40**
Nature of work	.43**	.46**	.43**
Communication	.47**	.47**	.42**
Total Satisfaction	.515**	.549**	.554**

Table 4 indicates the validity estimation of the overall JSS and its subscales with Urdu version of Organizational Commitment Questionnaire-Revised Version, Rosenberg Self-Esteem Scale and Trait Emotional Intelligence Questionnaire-Short Form. The correlation values indicate scale has good convergent validity.

Table 5

Correlation Matrix among scales and subscales of Job Satisfaction, Organizational Commitment, Emotional Intelligence and Self-Esteem (N=310)

Scales	1	2	3	4	5	6	7	8	9	10	11	12	13
1-Pay	1												
2-Promotion	.431**	1											
3-Supervision	.477**	.636**	1										
4-Fringe benefits	.562**	.498**	.430**	1									
5-Contingent rewards	.504**	.537**	.452**	.462**	1								
6-Operating conditions	.542**	.619**	.596**	.530**	.563**	1							
7-Coworkers	.427**	.462**	.668**	.323**	.446**	.584**	1						
8-Nature of work	.410**	.299**	.451**	.374**	.268**	.370**	.473**	1					
9-Communication	.474**	.564**	.657**	.436**	.481**	.602**	.640**	.546**	1				
10-JSS Total	.722**	.759**	.802**	.702**	.711**	.815**	.744**	.620**	.800**	1			
11-OCQ Total	.360**	.363**	.386**	.343**	.282**	.462**	.368**	.424**	.469**	.515**	1		
12-RSES Total	.435**	.313**	.432**	.318**	.321**	.511**	.412**	.455**	.473**	.549**	.509**	1	
13-TEIQue-SF Total	.510**	.357**	.405**	.273**	.407**	.513**	.399**	.424**	.421**	.554**	.545**	.513**	1

Table-8 indicates JSS subscales and scale total has significant positive correlation with Organizational Commitment, Self-Esteem and Emotional Intelligence.

Discussion

The translation and validation of the Job Satisfaction Survey (Spector, 1985) in Urdu language, provides a reliable tool to be used with the Pakistani population. Extensive procedures of scale translation and validation were followed in s the translation of this scale with 36 items, covering s nines major dimensions of job satisfaction. Theoretically, job satisfaction is considered a combination of multi-dimensions of job that produce overall satisfaction when all subscales computed collectively. The JSS is comprehensive in nature and overall job satisfaction can be calculated. First line findings of linguistic equivalence based data suggest a strong positive correlation between adapted and original version of JSS was calculated with high significant positive inter-item correlations. This indicates the adapted version has a strong compatibility with original version in terms of item content, meaning and statement as well as cultural adaptation.

Internal consistency of total scale and subscales indicated high reliability. Cronbach's Alpha index closes to 1 and high split-half correlation coefficient significant at .01 level and both are correlating with Alpha and split half coefficient values of original version of JSS which indicates high temporal stability. Further, high Cronbach's Alpha values of subscales of JSS were found significantly inter-correlated and consistent with the alpha values of subscales of original JSS. Strong consistency between values of test-retest reliability of adapted JSS versions with one-week interval indicates good reliability that is comparatively greater than test-retest reliability of original version of JSS. Exploratory factor analysis indicated that all 36 items were clearly loaded into nine sub-groups measuring the dimensions of overall job satisfaction with factors loading sequence i.e. Nature of Work, Promotion, Operating Conditions, Supervision, Fringe Benefits, Contingent Rewards, Communication and Coworker subscales. These findings are confirmed by factor analysis examined by Spector (1985). Spector explored the factor structure analysis and investigated two aspects of JSS reliability such as internal consistency of items and stability with specific time interval. Factor loading represents employees' different attitudes toward different aspects of job. Items loading on particular subscales represent scale transparency and adequacy and this evidence strongly reflects the JSS is multidimensionality construct.

The analysis of JSS with other theoretically and hypothetically interrelated variables supports a good discriminant and convergent validityconsistent with the original version. Inter correlations among subscales of adapted version of JSS were found homogeneous with original version and it represents good construct validity and comparability with original version. Further, validity base data reported Urdu version of JSS has strong positive correlation with Urdu version of Organizational Commitment Questionnaire (OCQ) that is hypothetically interlinked and these findings are consistent with those of the original version investigated by Spector (1985), who administered OCQ over five samples and found uniformity in correlation. Moreover, strong positive relationships were calculated with self-esteem and emotional intelligence. Literature supports that job satisfaction is strongly associated with personal characteristics or person personality and these abilities play a supportive role in performing job at workplace (Khugshal, Rawat, & Chaubey (2014; Kiarie, Maru, & Cheruiyot, 2017; Sakas, Vlachos, & Nasiopoulos, 2014; Sharma & Manani, 2012). These explanations provide more evidences that adapted version of JSS have homogeneous characteristics with theoretically interrelated constructs.

It is summarized that the findings regarding the linguistic equivalence tend to support the JSS language adequacy reflecting that the scale is adapted successfully in similar meanings and context and it is measuring the same thing like original that wanted to measure. Temporal stability and test-retest reliability findings supported the adapted version of JSS has high internal consistency reliability and strong homogeneity with original version. Factor analysis structured the nine original factors. Item loadings on relevant scale, it represents that JSS is multidimensionality construct and each domain measures particular aspect of job satisfaction. Item loading on particular subscales shows employees clear attitude over items. A Positive correlation with other constructs hypothetically indicates that the scale has good construct validity. The drawn conclusion represents that the adapted version of JSS has reliable psychometric properties and can be recommended to be a culturally valid and reliable tool to assess employees' job satisfaction across diverse human resource organizations in Pakistan

References

Abbas, Q & Khanam, S. J. (2019). Reliability and Validity Estimation of Organizational Commitment Questionnaire-Revised. *Pakistan Journal of Psychological Research, 34* (2), 255-276. https://doi. org/10.33824/PJPR.2019.34.2.14

Abdallah, A. B., Obeidat, B. Y., Aqqad, N. O., Al Janini, M. N. K., & Dahiyat, S. E. (2017). An integrated model of job involvement, job satisfaction and organizational commitment: A structural analysis in Jordan's banking sector. *Communications and Network, 9,* 28–53.

Abdallah, A. B., Phan, C. P., & Matsui, Y. (2016). Investigating the effects of managerial and technological innovations on operational performance and customer satisfaction of manufacturing companies. *International Journal of Business Innovation and Research, 10,* 153–183

Abuhashesh, M., Al-Dmour, R., & Masa'deh, R. (2019). Factors that affect employees' job satisfaction and performance to increase customers' satisfaction. *Journal of Human Resources Management Research, 4,* 1–23. https://doi. org/10.5171/2019.354277

Allouzi, R. A. R., Suifan, T. S., & Alnuaimi, M. (2018). Learning organizations and innovation mediated by job satisfaction. *International Journal of Business and Economics Research, 7* (1), 7–19

Anastasi, A. (1945). Psychological testing, New York: Macmillan.

Bhaskar, U., & Mishra, B. (2017). Exploring relationship between learning organizations dimensions and organizational performance. *International Journal of Emerging Markets, 12* (3), 593–609

Cronley, C., & Kim, Y. (2017). Intentions to turnover. *Leadership & Organization Development Journal, 38* (2), 194–209. Retrieved from. https://doi. org/10.1108/LODJ-10-2015-0227

Culibrk, J., Deli c, M., Mitrovic, S., & Culibrk, D. (2018). Job satisfaction, organizational commitment and job involvement: The mediating role of job involvement. *Frontiers in Psychology, 9,* 1–12.

Eslami, J., & Gharakhani, D. (2012). Organizational Commitment and Job Satisfaction. *ARPN Journal of Science and Technology, 2* (2), 85-91. Retrieved from http://www. ejournalofscience. org/archive/vol2no2/vol2no2_12. pdf

Frontz, H. O. (1978). Sources of job satisfaction and dissatisfaction among psychiatric aides. *Hospital & Community Psychiatry, 29,* 229-230.

Fu, W., and Deshpande, S. P. (2014). The impact of caring climate, job satisfaction, and organizational commitment on job performance of employees in a china's insurance company. *Journal of Business Ethics 124*, 339–349. doi: 10.1007/s10551-013-1876-y

Fulmer, I. S., and Ployhart, R. E. (2014). "Our most important asset" a multidisciplinary/multilevel review of human capital valuation for research and practice. *Journal of Management, 40*, 161–192.

Ghassemi, R. A., Isfahani, A. N., Abbaspour, A., & Farhanghi, A. A. (2015). A study of the mediating role of job involvement in affecting good character of managers on employees' organizational affective commitment. *Indian Journal of Science and Technology, 8* (27), 1–10. Retrieved from. https://doi. org/10.17485/ijst/2015/v8i27/82444

Greguras GJ, Diefendorff JM (2009), "Different fits satisfy different needs: linking person-environment fit to employee commitment and performance using selfdetermination theory", *Journal of Applied Psychology*, *94* (2):465-477

Hambleton, R. K. (2005). Issues, designs, and technical guidelines for adapting tests into multiple languages and cultures. In R. K. Hambleton, P. F. Merenda, & C. D. Spielberger (Eds.), *Adapting educational and psychological tests for cross-cultural assessment* (pp.3-38). Mahwah, NJ: Lawrence Erlbaum Associates.

Johansone, I., & Malik, B. (2008). Translation & National Adaptation of TIMMS 2007 Assessment and Questionnaires. In J. F. Olson, M. O. Martin & I. V. S. Mullis (Eds.), TIMMS 2007 Technical report. Chestnut Hill, M. A; TIMMS and Pirls International Study Center, Boston College.

Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, *39*, 31-36.

Kamali, M., Soltaninejad, A., Toorani, S. (2010). Investigation of the Relationship between Employees' Organizational Commitment and Job Satisfaction in Kerman's Shahid Bahonar Hospital of Psychotherapy. *Zahedan's Medical Sciences Research Magazine*, 12th year, No.2, Page 51.

Kanten, P., Kanten, S., & Gurlek, M. (2015). The effects of organizational structures and learning organization on job embeddedness and individual adaptive performance. *Procedia Economics and Finance, 23*, 1358–1366.

Khugshal, R., Rawat, B. & Chaubey, D. S. (2014). Emotional intelligence and its relationship with job performance: an empirical study. *Asia*

Pacific Journal of Marketing & Management Review, 3 (8), 47-59. Retrieved from http://indianresearchjournals. com/pdf/APJMMR/2014/August/6. pdf

Kiarie, M., Maru, L., & Cheruiyot, T. (2017). Leader personality traits and employee job satisfaction in the media sector, Kenya. *The TQM Journal, 29* (1), 133–146.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Hand-book of industrial and organizational psychology.* Chicago: Rand McNally.

Mendes, M., Gomes, C., Marques-Quinteiro, P., Lind, P., & Curral, L. (2016). Promoting learning and innovation in organizations through complexity leadership theory. *Team Performance Management, 22* (5), 301–309.

Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology, 78* (4), 538 -551.

Millar, C. C. J. M., Chen, S., and Waller, L. (2017). Leadership, knowledge and people in knowledge-intensive organisations: implications for HRM theory and practice. *International Journal of Human Resource Management, 28*, 261–275. doi: 10.1080/09585192.2016.1244919

Mosadeghrad, A. M., Ferlie, E., & Rosenberg, D. (2008). A study of the relationship between job satisfaction, organizational commitment and turnover intention among hospital employees. *Health Survey Manage Research, 21* (4), 211-217.

Ollo-López, A., Bayo-Moriones, A., & Larraza-Kintana, M. (2016). Disentangling the relationship between high involvementwork-systems and job satisfaction. *Employee Relations, 38* (4), 620–642.

Parameswaran, R., & Yaprak, A. (1987). Cross-national comparison of consumer research measures. *Journal of International Business Studies, 8* (1), 35-49.

Petrides, K. V., & Furnham, A. (2006). The role of trait emotional intelligence in a gender-specific model of organizational variables. *Journal of Applied Social Psychology, 36* (2), 552-69.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Sakas, D., Vlachos, D., & Nasiopoulos, D. (2014). Modelling strategic management for the development of competitive advantage, based

on technology. *Journal of Systems and Information Technology, 16* (3), 187–209.

Saner, T., & Eyupoglu, S. Z. (2015). The job satisfaction of bank employees in North Cyprus. *Procedia Economics and Finance, 23*, 1457–1460. https://doi. org/10.1016/S2212-5671 (15) 00594-8

Shahzad, S., Riaz, Z., Begum, N., & Khanum, S. J. (2014). Urdu translation and psychometric properties of trait emotional intelligence questionnaire short form (TEIQue-SF). *Asian Journal of Management Sciences & Education, 3* (1), 130-140

Sharma, S., & Manani, P. (2012). Relationship between self-esteem and job satisfaction among teachers. *Journal of Psychosocial Research, 7* (2), 291-296.

Shmailan, A. S. (2016). The relationship between job satisfaction, job performance and employee engagement: An explorative study. *Issues in Business Management and Economics, 4* (1), pp.1-8. http://dx. doi. org/10.15739/IBME.16.001

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). *Measurement of satisfaction in work and retirement.* Chicago: Rand McNally.

Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the job satisfaction survey. *American Journal of Community Psychology, 13* (6), 693-713.

Spector, P. E. (2020). Job Satisfaction Survey Translations. Retrieved February 26, 2020, from http://paulspector. com/scales/our-assessments/job-satisfaction-survey-jss/job-satisfaction-survey-translations/

Tabachnick, B. G., & Fidell, L. S. (2013). Using Multivariate Statistics, (6th eds.). Boston; Pearson.

Thevanes, N., & Dirojan, T. (2018). Impact of training and job involvement on job performance. *International Journal of Scientific and Management Research, 1* (1), 1–10. http://ijsmr. in/ doc/ijsmr_01_6888_1. pdf

Trimble, J. E. (2007). Cultural measurement equivalence. In C. S. Clauss-Ehlers (Ed.), Encyclopedia of cross-cultural school psychology. New York: Springer.

Van De Vijver, F. J. R., & Poortinga, Y. H. (2005). Conceptual and methodological issues in adapting tests. In R. K. Hambleton, P. F. Merenda, & C. D. Spielberger (Eds.), *Adapting educational and psychological tests for cross-cultural assessment* (pp.39-63). Mahwah, NJ: Lawrence Erlbaum Associates.

Vomberg, A., Homburg, C., and Bornemann, T. (2015). Talented people and strong brands: the contribution of human capital and brand equity to firm value. *Strategies Management Journal, 36,* 2122–2131. doi: 10.1002/smj.2328

Weiss, D.3., Davis, R. V., England, G. W., & Lofquist, L. H. (1967). *Manual for the Minnesota Satisfaction Questionnaire*. Minneapolis: University of Minnesota.

Wells, S. C., & Wollack, J. A. (2003). An Instructor's Guide to Understanding Test Reliability. Testing & Evaluation Services publication, University of Wisconsin. Retrieved from https://testing. wisc. edu/Reliability. pdf work, 9, 2 8 –53.

Zaharia, E. S., & Baumeister, A. A. (1979). Cross-organizational job satisfactions of technician-level staff members. *American Journal of Mental Deficiency, 84,* 30-35.

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