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TRANSLATION AND VALIDATION OF THE ARABIC VERSION OF THE JOB DESCRIPTIVE INDEX

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ABSTRACT

The study aims to translate and validate the Job Descriptive Index (including the Job in General Scale) among Arabic speaking population. A standard ''forward–backward'' procedure of translation was used and the translated version was then validated on a randomly selected sample of 160 female school principals. Face validity of translated JDI was confirmed with pilot testing. Content validity of the translated JDI was evaluated by five school principals. For reliability, observed alphas were: Work, $\alpha = 0.89$; Pay, $\alpha = 0.81$; Promotion, $\alpha = 0.78$; Supervision $\alpha = 0.85$; Co-worker $\alpha = 0.89$; Job In General $\alpha = 0.91$. In conclusion, the Arabic version of the JDI is a reliable and valid measure of facet and overall job satisfaction in Arabic speaking population.

KEYWORDS: Validation, Translation

INTRODUCTION

Job satisfaction has been an increasingly important topic in organizational, human resources, social and behavioral sciences studies with over 12,400 studies published on the topic by 1991 (Spector, 1996). Reasons for interest in job satisfaction include significant relations found between job satisfaction and organizational commitment (e.g., Lok & Crawford, 2004; Hom & Griffeth, 1995), mental and physical health (e.g., Faragher, Cass, & Cooper, 2005), job performance (Judge, Thoresen, Bono, & Patton, 2001), employee withdrawal, life satisfaction, absenteeism and work-related accidents (Balzer, et. al., 2000). Knowledge of employees' job satisfaction was also confirmed useful in the prediction of future labor market behaviour and wage model (Long, 2005). However, despite the importance of job satisfaction in understanding workforce well-being, commitment, productivity, organizational performance and its importance to economies, little attention has been given to job satisfaction studies in Saudi Arabia. The significant dearth of job satisfaction studies in Saudi Arabia was reported by Maghrabi (1999); Alsinani (2003); and more recently by Al-Rubaish, Rahim, Abumadini, & Wosornu (2011).

Of importance to job satisfaction studies in Saudi Arabia is the need for an Arabic version of job satisfaction scale. Absence of a psychometrically sound Arabic job satisfaction scale might be one of the factors contributing to the paucity of job satisfaction studies in Saudi Arabia. While developing a new scale requires time, money and expertise (Spector, 1996), translating and validating an existing scale is equally time consuming and requires careful planning and adoption of rigorous methodological approaches for a valid and reliable measure (Sousa & Rojjanasrirat, 2011). This time consuming process of developing a new scale or translating and validating an existing scale before measuring job satisfaction can substantially reduce researchers' interest in job satisfaction studies in Saudi Arabia. The purpose of this study is to translate and validate an existing job satisfaction scale in Arabic language that can be used in both research and

practice in Saudi Arabia and Arabic speaking countries.

Several measures have been developed to assess job satisfaction, with the three most famous identified as the Job Descriptive Index (JDI) (Smith, Kendall & Hulin,1969); the Job satisfaction Survey (JSS) (Spector, 1997), and the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England & Lofquist, 1967). Among these scales, the JDI is considered the most carefully constructed (Roznowski, 1989; Vroom, 1964) and most widely used and popular measure of job satisfaction (Rain, Lane, Steiner, 1991). The scale is translated into nine different languages and administered in at least 17 countries. A further advantage of the scale include its brief response format, item brevity, low reading skills to comprehend (Balzer,et.al.,2000), emphasis on psychometric rigor and frequent updates (Lake, Gopalkrishnan, Sliter, & Withrow, 2010). The scale covers the major facets of job satisfaction namely Supervision, Pay, Promotion, Work, and Co-workers and is used in tandem with a psychometrically sound global measure of satisfaction; the Job in General Scale (JIG). The measure also provides norms to allow comparison and interpretation (Balzer et. al. 2000).

Since the official introduction of the JDI by Smith, Kendall & Hulin (1969), researchers have continuously worked on improving the scale. These include confirming the factor structure of the JDI in a racially diverse sample (Smith, Smith & Rollo, 1974), establishing and justifying the validity of the JDI response format in comparison with Likert scaled format (Hanisch, 1992; Johnson, Smith & Tucker,1982), and frequently updating the item content, validity evidence and national norms of the JDI (Lake et. al., 2010; Balzer, et.al. 2000).

The first translation of the JDI/JIG into Arabic was in late 1980's and the psychometric characteristics of the scale was published in 1995 by Maghrabi, A.S. Maghrabi translated the 1985 revised JDI/JIG in an attempt to produce Arabic JDI with high psychometric standards of the original English version. However, Maghrabi reported the Cronbach alphas of the Arabic JDI as "generally below ideally desired level" (p. 51). The Supervision facet scale for example, had an alpha of 0.48; four items had to be deleted before the alpha "rose to a more desirable level (.78)" (p.52). Maghrabi stressed the need for further refinement of the Arabic JDI in order to attain the same reliability as the English version. Possible reasons that might have affected the 1985 JDI psychometric integrity as concluded by Maghrabi include mistranslation and item nonequivalence that may result from cultural differences between the scale's source and target language (Maghrabi, 1995).

After Maghrabi's translation of the 1985 JDI/JIG, the measure has undergone two major updates in 1997 and 2009. A number of items that no longer function well were replaced (Lake, et. al., 2010). This further necessitate the need for updating the Arabic JDI even if the initial Arabic version was of high psychometric standards.

The aim of this study was to deliver a validated translation of the 2009 revision of the Job Descriptive Index (including the JIG) in Arabic language with the aim of producing an Arabic JDI/JIG with the same psychometric qualities of the original for use in both research and practice in Arabic-speaking countries.

METHODS

Study Sample

The questionnaires was sent to 250 randomly selected principals through an online link by the Saudi Arabian Planning and Development Department; after a written permission to conduct research in the Eastern Province of Saudi Arabia was granted by the Saudi Ministry of Education. Follow-up visits, phone calls, and emails to Saudi PDD were done to ensure that reminders were sent to all randomly selected principals. One hundred and sixty five female principals

responded to the survey. However, 5 questionnaires were discarded due to incompleteness and only 160 usable responses were used for the final analysis of this study. The demographic characteristics of the respondents are presented in Table 1.

Questionnaire

The participants were invited to complete the Job Descriptive Index (including the JIG) measures and a demographic data sheet that captures respondents age, experience and school level. The JDI measures satisfaction the work itself, pay, promotion, supervision, and co-workers. The JIG on the other hand measures overall job satisfaction. Each item contains five or fewer words of low reading difficulty. Individuals respond by marking "yes" if the item describes their job, "no" if it does not describe the job, and "?" if the respondent cannot decide. The questionnaire takes 5 – 8 minutes to complete due to item brevity.

Translation

Before the translation of the instrument, written permission to adopt, translate and validate the Job Descriptive Index (including the JIG) was obtained from the Bowling Green State University; the owners of the JDI instrument. Translation of the instrument was in accordance with the international guidelines for translational studies (Sousa & Rojjanasrirat, 2011; Wild, Grove, Eremenco, McElroy, Verjee-Lorenz & Erikson, 2005) as follows:

Step 1: Forward Translation: Translation into the Target Language

Forward translation refers to the translation of the instrument from the source language to the target language. The instrument for this study was forward translated from English the source language to Arabic the target language by two independent certified translators who were fluent in both Arabic and English.

Step 2: Comparison of the Two Translated Versions of the Instrument

The translated versions were compared with the original instrument by researchers regarding discrepancies of words, sentences, and meaning. This process generated a preliminary initial version of the Arabic JDI/JIG.

Step 3: Blind Back Translation

The preliminary initial version of the Arabic JDI/JIG was then translated back into English by another two independent certified translators. The translators were blind to the original version of the instrument. This process resulted in two back translated versions of the JDI in English.

Step 4: Back Translation Review

The back translated versions and the preliminary initial version of the Arabic JDI were compared by a panel of experts to evaluate similarity of instruction, items, and response format. Consultation and collaboration continued between translators and the experts until all ambiguities were clarified and conceptual and lexical equivalence assumed to be fully gained.

Step 5: Pilot Test

The approved Arabic JDI was pilot tested with 30 female principals whose language was Arabic in order to evaluate instruction, response format and items. The comments of the respondents was taken into consideration by the researchers. Face and content validity of the instrument was evaluated by two faculty members who are expert in the field.

The final version of the Arabic JDI was then completed and made ready for this study.

DATA ANALYSIS

The primary goal of this study was to produce an Arabic version of the JDI/JIG scale with high level of internal consistency reliability equivalent to the original English version. As such, the main focus of data analysis was determining Cronbach alpha coefficient.

Hence, descriptive statistics were used to describe the demographic characteristics of respondents. Internal consistency was assessed by using Cronbach alpha. All analyses were performed using IBM SPSS version 22. The significance level was set at $p < 0.0$

RESULTS

Cronbach alpha test of internal consistency was used for the measurement of reliability. All Cronbach's alpha were found high (work, $\alpha = 0.89$; pay, $\alpha = 0.81$; promotion, $\alpha = 0.78$; supervision $\alpha = 0.85$; co-worker $\alpha = 0.89$; job in general $\alpha = 0.91$) above desired level of 0.7. A comparison of the original JDI/JIG in terms of Cronbach's alpha Coefficient is presented in Table 2.

Inter-item correlations for all items in the translated JDI/JIG were good and above .3 indicating good correlation between each item and the total scale. However, inter-item correlation value for item 12 in "Work itself" and item 17 in Supervision scale remain negative even after checking for incorrectly scored items. The inter-item correlation value for Pay Scale item 7 and 8 were also low. However all Cronbach's alphas were high and above the threshold value of .7. Table 3 presents the inter-item correlations for each item and the Cronbach alpha if item is deleted.

DISCUSSIONS

The main objective of this paper was to produce an Arabic version of the JDI (including the JIG) with high psychometric standards of the original English. The results shows the Arabic version of the JDI had high psychometric integrity in terms of internal consistency despite the scale's subjection to linguistic and cultural changes. Internal consistency refers to the degree to which items that make up a scale hang together. Internal consistency reliability is usually measured in terms of Cronbach alpha coefficient. In an ideal situation Cronbach alpha coefficient should be above .7 (Pallant, 2011; DeVellis 2003). The Cronbach alpha coefficient for all the facet scales and the job in general scale in the translated JIG were high and similar compared to the original JIG. With a larger sample size, the Cronbach alpha of the translated JDI is much likely to attain the same high reliability levels as the English, since alpha value is affected by sample size.

Compared to the 1985 Arabic JDI (Maghrabi, 1995), a substantial improvement had occurred. The alpha for the present JDI was far above the 1985 Arabic version. Whereas four items were deleted in supervision scale in the 1985 Arabic JDI for the alpha to rise from 0.48 to 0.78, in this study the alpha was good (0.85) with all the 18 items.

Although all Cronbach alpha's were high, acceptable and similar to the original JDI/JIG, inter-item correlation showed the value of item 12 in Work scale as negative and low. The Cronbach alpha for work rose from 0.89 to 0.92 with the deletion of that item. However, since the Cronbach alpha for the scale is good, the Work scale will retain all its 18 items as the original JDI/JIG as removal of items means studies cannot be compared with results of others studies using the

same scale (Pallant, 2011). Further studies is needed to check why the inter item correlation value for item 12 in "Work itself" and item 17 in Supervision scale remain low even after checking for incorrectly scored items. The inter-item correlation value for Pay Scale item 7 and 8 were also low.

Other than this, the inter-item correlation values for all items were all above .3 indicating good contribution of each item in measuring all the underlying construct. The Cronbach alpha for all the scales were also high and above acceptable threshold of .7. The data for this study confirmed the reliability and validity of the 2009 Arabic version of the JDI/JIG for measuring facet and overall job satisfaction for research and practice in Saudi Arabia and other Arab speaking countries.

Table 1: Demographic Characteristics of Respondents

Variable	Frequency	Percent
Age Group		
35 years or less	0	
36 – 45 years	94	58.8
46 and more	66	41.3
Total	**160**	**100.0**
Experience In Principal Ship		
1 – 5 years	72	45.0
6 - 10 years	33	20.6
11 years and more	55	34.4
Total	**160**	**100.0**
School Level		
Elementary	76	47.5
Intermediate	53	33.1
High	31	19.4
Total	**160**	**100.0**

Table 2: Coefficient Alpha Values for Translated and Original JDI/JIG

	JDI/JIG Translated	JDI/JIG Original
Subscale	Alpha	Alpha
Work	.898	.90
Pay	.814	.86
Promotion	.785	.87
Supervision	.855	.91
Co-workers	.898	.91
Job In General	.914	.92

Table 3: Inter Item Correlation

Items in Questionnaire (Work itself Scale)	Item-Test Correlation	α if Item Deleted	Items in Questionnaire(Job in General Scale)	Item-Test Correlation	α if Item Deleted
Fascinating ممتع	.652	.889	Pleasant حسنة	.600	.908
Routine روتيني	.531	.893	Bad سيئة	.577	.909
Satisfying مقنع	.696	.887	Great مثالية عظيم	.505	.912
Boringمل	.738	.886	Waste of timeمضيعة للوقت	.537	.910

Table 3: cond.,

Good جيد	.658	.889	Good جيدة	.565	.909
Gives sense of accomplishment يعطي الشعور بالإنجاز	.743	.886	Undesirable غير مرغوبة	.617	.908
Respected محترم	.422	.897	Worthwhile جديرة بالاهتمام	.541	.910
Exciting مثيرة	.668	.888	Worse than most رديئة وسيئة أكثر من غيرها	.652	.907
Rewarding مجزية	.637	.889	Acceptable مقبولة	.520	.911
Useful مفيد ونافع	.512	.894	Superior مميزة	.692	.906
Challenging فيه تحدي	.388	.897	Better than most أفضل بكثير من غيرها	.536	.910
Simple بسيط	-.265	.918	Disagreeable غير مقبولة	.670	.907
Repetitive تكراري أو متكرر	.466	.895	Makes me content تجعلني مقتنعاً	.463	.912
Creative مبدع وخلاق	.742	.885	Inadequate غير ملائمة	.699	.906
Dull مملة	.736	.886	Excellent ممتازة	.719	.905
Uninteresting رتيباً	.592	.891	Rotten سيئة للغاية	.568	.910
Can see results يمكن أن نرى النتائج	.589	.892	Enjoyable ممتعة	.671	.906
Uses my ability يستخدم قدرتي	.477	.895	Poor ضعيفة	.441	.912

Table 4

Items in Questionnaire (Supervision Scale)	Item-Test Correlation	α if Item Deleted	Items in Questionnaire (Co-Workers Scale)	Item-Test Correlation	α if Item Deleted
Supportive داعمة	.613	.840	Stimulating تحفيز	.695	.903
Hard to please صعب إرضاؤة	.588	.841	Boring مملون	.633	.902
Impolite غير مؤدب	.354	.852	Slow بطيئون	.678	.907
Praises good work يثني على العمل الجيد	.583	.843	Helpful بارعون	.512	.908
Tactful ذو لباقة	.618	.844	Stupid محدودي الذكاء	.460	.902
Influential ذو نفوذ ومؤثر	.528	.844	Responsible يتحملون المسئولية	.685	.906
Up-to-date حديث وماوكب ومطلع على أحدث المعلومات	.652	.838	Likeable محبوب	.563	.906
Unkind قاس	.524	.844	Intelligent أذكياء	.547	.909
Has favorites لديه المفضلة	.485	.847	Easy to make enemies يكون اعداء لهم بسهولة بسبب تصرفاتهم	.391	.907

Table 4: cond.,

Tells me where I stand يقول لي أين أقف	.417	.851	Rude وقحاً	.486	.908
Annoying يقول لي أين أقف	.597	.842	Smart ذو مهارات عالية	.508	.903
Stubborn مزعج ومضايق	.500	.846	Lazy كسلاء	.629	.906
Knows job well واسع المعرفة بمتطلبات العمل	.560	.843	Unpleasant غير لطفاء	.548	.904
Bad سيء	.524	.847	Supportive داعمة	.606	.901
Intelligent ذكي	.554	.843	Active نشيطون	.721	.902
Poor planner مخطط سيئة	.579	.842	Narrow interests إهتمامتهم ضعيفة ومحدودة	.685	.908
Around when needed موجود عندما أحتاج إليه	-.640	.891	Frustrating محبط	.481	.905
Lazy كسول	.530	.845	Stubborn يصعب التفاهم معهم	.610	

Table 5

Items in Questionnaire (Pay Scale)	Item-Test Correlation	α if Item Deleted	Items in Questionnaire (Promotion Scale)	Item-Test Correlation	α if Item Deleted
Income adequate for normal expenses الراتب كافي وملائم للمصاريف العادية	.743	.763	Good opportunities for Promotion فرص الترقية جيدة	.684	.731
Fair الراتب والأرباح منصفة وعادلة	.667	.775	Opportunities somewhat Limited فرص الترقية محددة الى حد ما	.394	.774
Barely live on income الراتب لا يكاد يكفي للمعيشة	.610	.782	Promotion on ability فرص الترقية متوفقة على المقدرة	.331	.787
Bad سيء	.602	.784	Dead-end job لا توجد فرص للترقية في الوظيفة الحالية	.425	.771
Comfortable مريحة	.597	.785	Good chance for promotion فرص سانحة للترقية	.481	.763
Less than I deserve الراتب أقل مما استحق	.474	.800	Very limited محدودة جداً	.404	.773
Well paid الراتب أعلى من المستوى العادي	.113	.827	Infrequent promotions الترقيات نادرة	.546	.754
Enough to live on يكفي للعيش	.162	.837	Regular promotions الترقيات دورية ومنتظمة	.510	.758
Underpaid الراتب أقل من المستوى العادي	.572	.787	Fairly good chance for Promotion فرص ترقية عادلة وجيدة جداً	.492	.762

CONCLUSIONS

The Arabic version of the JDI is a reliable and valid measure of facet and overall job satisfaction in Arabic speaking population

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