Turkish Version of Job Crafting Scale (JCS): The Validity and Reliability Study[1]

(İş Becerikliliği Ölçeği'nin Türkçe Versiyonu: Geçerlik ve Güvenirlik Çalışması)

Ahmet AKIN,
Sakarya University, Turkey
Hakan SARIÇAM,
Dumlupinar University, Turkey
Çınar KAYA,
Sakarya University, Turkey
Taner DEMIR,
Sakarya University, Turkey

ABSTRACT

The aim of this research is to examine the validity and reliability of the Turkish version of the Job Crafting Scale (JCS; Tims, Bakker, & Derk, 2012). The sample of this study consisted of 364 (193 female and 171 male) teachers. The results of confirmatory factor analysis demonstrated that the 21 items loaded on four factors and the four-dimensional model was well fit (x^2=340.27, df=175, p=0.00, RMSEA=.049, NNFI=.94, CFI=.95, IFI=.95, RFI=.89, GFI=.92, AGFI=.90, and SRMR=.068). The internal consistency coefficients of four subscales were .90, .72, .76, and .75, respectively. The corrected item-total correlations of JCS ranged from .33 to .87. The t-test results differences between each item's means of upper 27% and lower 27% points were significant. Overall findings demonstrated that this scale had high validity and reliability scores and that it may be used as a valid and reliable instrument in order to examine job crafting more often and to gain more knowledge about its antecedents and consequences. Nevertheless, further studies such as concurrent validity and test-retest reliability should make for its measurement force.

Keywords: Job crafting, validity, reliability, confirmatory factor analysis

ÖZET

Bu çalışmanın amacı İş Becerikliliği Ölçeğini Türkçeye uyarlayarak; psikometrik özelliklerini incelemektir. İstanbul ve Sakarya'da öğretmenlik yapan 364 öğretmen çalışmada yer almış ve veri toplama aracı olarak İş Becerikliliği Ölçeği kullanılmıştır. Elde edilen verilere uygulanana doğrulayıcı faktör analizi sonucu 21 madde ve 4 alt boyuttan oluşan modelin uyum indeksi değerleri (x^2=340.27, sd=175, p=0.00, RMSEA=.049, NNFI=.94, CFI=.95, IFI=.95, RFI=.89, GFI=.92, AGFI=.90, ve SRMR=.068) olarak hesaplanmıştır. Cronbach alfa iç tutarlık güvenirlik katsayıları sosyal meslek kaynaklarını arttırma alt boyutu için .90, yapısal iş kaynaklarını arttırma alt boyutu için .72, merak uyandırıcı iş taleplerini arttırma alt boyutu için .76 ve engelleyici iş ihtiyaçlarını azaltma alt boyutu için .75 olarak bulunmuştur. Düzeltilmiş madde toplam korelasyonları .33 ile .87 arasında değişirken alt-üst % 27 puanları istatistiksel olarak farklılaşmaktadır. Tüm bu sonuçlar doğrultusunda ölçeğin İş Becerikliliği Ölçeğinin Türkçe formunun iş becerikliliği düzeyini belirlemede geçerli ve güvenilir bir ölçme aracı olduğu söylenebilir. Ölçüt bağıntılı geçerlik ve test-tekrar test çalışmasının yapılması ölçme gücünün arttırılması açısından son derece önemlidir.

Anahtar kelimeler: iş becerikliliği, geçerlik, güvenirlik, doğrulayıcı faktör analizi

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Introduction

Job crafting can be defined as self-initiated change behaviors of the employees on the physical and relational qualities of their jobs according to their own motivations and understandings (Wrzesniewski and Dutton, 2001). Although there has been quantitative research endeavors, studies on this relatively new concept, were generally theoretical or qualitative in nature (Tims et al., 2012). Existing scales on job crafting were focusing on specific occupations as in studies of Ghitulescu (2006) and Leana et al. (2009). The need for a job crafting scale available for all occupations was also delineated by Tims and Bakker (2010), in their paper aiming to fit the construct job crafting in job design theory.

Job crafting behavior can be observed in different forms. The alterations may be (a) on the task-related aspects like the procedural contents of the job; (b) on the relational aspects of their jobs like the amount and the manner of contact with colleagues and costumers and (c) on the own cognitions about the job like the meanings of their work. (Wrzesniewski and Dutton, 2001).

Tims et al., (2012) defines job crafting in the theoretical framework of demands–resources (JD–R) model developed by Bakker and Demerouti (2007) and Demerouti et al. (2001) as "the changes that employees may make to balance their job demands and job resources with their personal abilities and needs"(p. 174).

JD–R model, categorizes all job characteristics in two broad classes: job demands and job resources. Job demands refer to persistent physical and mental (cognitive and emotional) effort or skills which induces physiological or psychological costs for the employees; whereas the job resources are physical, psychological, social, or organizational qualities of the job which support achieving work goals, personal growth, learning, development and reduce job demands and the physiological and psychological costs (Bakker and Demerouti, 2007).

Based on the JD–R model, Tims et al. (2012) suggested three theoretically different dimensions of job crafting: (1) increasing job resources; (2) increasing challenging job demands; and (3) decreasing hindering job demands; and depending on the relevant literature concluded that job crafting may be strongly related with positive organizational outcomes, work engagement, job satisfaction and proposed that job crafting behavior may be negatively related with burnout and negative organizational outcomes.

The aim of the present study is to translate the JCS to Turkish and to examine its psychometric properties. JCS, as an instrument devised for assessing the job crafting construct, which has sufficient psychometric properties, is presented to the attention of researchers and practitioners in Turkey for utilization in evaluation and research activities in various areas like industrial, organizational behavior and leadership research.

Method

Participants

Participants were 364 (193 female and 171 male) teachers who were employed in different schools in Istanbul and Sakarya, Turkey. The departments of these teachers were psychological counseling and guidance (n=35), science education (n=33), pre-school education (n=99), computer and instruction technology education (n=23), primary education (127) and Turkish language education (n=47) and the mean age of the participants was 31,1.

The Instrument

Job Crafting Scale: Tims et al. (2012) developed and validated Dutch Job Crafting Scale (JCS). The 21-item five-point Likert scale (1= totally disagree; 5= totally agree) is composed of four subscales (increasing structural job resources, increasing social job resources, increasing challenging job demands and decreasing hindering job demands). The results of confirmatory factor analysis indicated that the four-dimensional Job Crafting model (increasing structural job resources, increasing social job resources, increasing challenging job demands and decreasing hindering job demands) model was well fit (x^2= 792.62, df= 366, x^2/df= 2.17, RMSEA= .040, TLI= .88 CFI=.90). The internal consistency reliability coefficients were: .76 for increasing social job resources; .73 for increasing challenging job demands; .77 for decreasing hindering job demands, and .75 increasing structural job resources.

Process

Primarily translation of the JCS into Turkish was based on the recommendations of Maria Tims (2012). As the first step two specialists who were a native Turkish speaker fluent in English translated English version into Turkish. Discrepancies in initial translations were addressed with the assistance of a third independent transla¬tor. The Turkish version of the JCS was then translated back into English by two English-speaking language specialists who were blinded to the original scale and the objective of the study. The differences between translated versions were evaluated and a satisfactory com¬pliance with the original scale was achieved by consensus of the translators. The completed Turkish version was evaluated for cultural appropriateness by three academicians from department of English Language and Literature, controversial items were determined and necessary modifications were done. The updated version was reevaluated by the original group of expert reviewers, to finalize the Turkish version used in this study.

After that a study of language equivalence was executed and then the validity and reliability analyses of the scale were examined. In this study confirmatory factor analysis (CFA) was executed to confirm the original scale's structure in Turkish culture. Also concurrent validity, internal consistency reliability, the item-total correlations and the differences between mean scores of upper 27% and lover 27% groups were examined. Data were analyzed using LISREL 8.54 and SPSS 17.0 package programs.

Findings

1. Construct Validity

The results of confirmatory factor analysis indicated that the model was well fit and Chi-Square value (x^2=340.27, df= 175, x^2/df= 1.94, p= .00) which was calculated for the adaptation of the model was found to be significant. The goodness of fit index values of the model were RMSEA=.049, NNFI=.94, CFI=.95, IFI=.95, RFI=.89, GFI=.92, AGFI=.90, and SRMR=.068. Factor loadings and path diagram of Turkish version of JCS are presented in Figure 1.
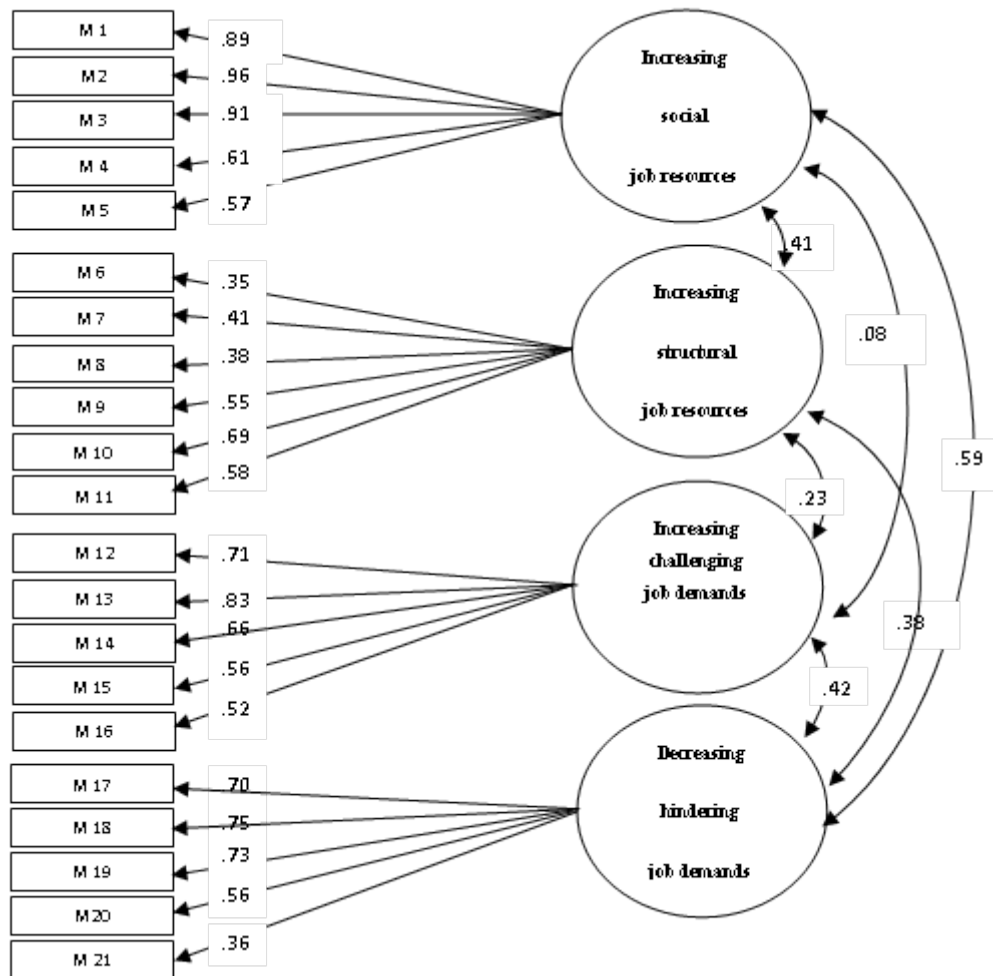

Figure 1. *Factor Loadings and Path Diagram for the JCS*

2. Reliability

For reliability of the Turkish version of the JCS internal consistency coefficient was calculated. The Cronbach's Alpha internal consistency of the scale was as .90 for increasing structural job resources sub-scale, .72 for increasing social job resources sub-scale, .76 for Increasing challenging job demands sub-scale, .75 for decreasing hindering job demands sub-scale and .84 for whole scale. The corrected item-total correlations of JCS ranged from .33 to .87. The t-test results differences between each item's means of upper 27% and lower 27% points ranged from -5.34 to -27.84 were significant (p< .001). The item analysis result and descriptive statistics are presented in Table 1.

Table 1 *The JCS Item-Total Correlation, t-test results differences between each item's means of upper 27% and lower 27% group*

Items	Corrected item-total correlation	Upper 27% Lower 27% group t	Items	Corrected item-total correlation	Upper 27% Lower 27% group t
1.	,80	-20.35***	**12.**	,57	-10.34***
2.	,87	-16.02***	**13.**	,63	-7.64***
3.	,84	-12.64***	**14.**	,58	-6.42***
4.	,63	-8.27***	**15.**	,55	-8.25***
5.	,59	-7.75***	**16.**	,33	-6.25***
6.	,39	-22.86***	**17.**	,53	-5.95***
7.	,46	-5.34***	**18.**	,59	-7.95***
8.	,49	-27.84***	**19.**	,62	-6.60***
9.	,49	-7.23***	**20.**	,52	-6.27***
10.	,44	-6.45***	**21.**	,36	-22.34***
11.	,42	-25.79***			

*** ($p < .001$)

Discussion and Conclusion

The purpose of this study was to adapt the JCS into Turkish and examine its psychometric properties. Confirmatory factor analysis demonstrated that the factor structure was harmonized with the factor structure of the original scale. Thus, it can be said that the structural model of the JCS which consists of four factors was well fit to the Turkish culture (Bentler and Bonett 1980; Hu and Bentler 1999; Schermelleh-Engel and Moosbrugger 2003). The internal consistency reliability coefficients of the scale were high (Büyüköztürk 2012; Kline 2000). Considering that item total correlations having a value of .30 and higher and significant test results differences between each item's means of upper 27% and lower 27% are generally considered to be adequate in terms of distinguishing between the traits to be measured for construing item total correlation, it is possible to state that item total correlations and t-test result regarding the scales are adequate (Büyüköztürk 2012). Overall findings demonstrated that this scale had acceptable validity and reliability scores and that it may be used as a valid and reliable instrument in order to examine job crafting more often and to gain more knowledge about its antecedents and consequences. Nevertheless, further studies that will use JCS are important for its measurement force.

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