

VALIDITY AND RELIABILITY STUDY OF JOB COMMITMENT SCALE

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ABSTRACT

The concept of commitment to work that emerges as a result of good relations between the organization and the employee is important for effective and efficient management of the businesses. For this reason, how to measure the concept of commitment to job in the workplace is discussed. In this context, it is aimed to adapt the scale of job commitment in the literature to Turkish. For this purpose, a questionnaire was applied to 400 hospital employees by sampling method and data were obtained. In order to ensure the validity of the language, two separate group of participants were used for pilot study with high reliability. Structural validity, confirmatory and exploratory factor analysis, internal consistency and reliability analyzes, convergent and divergent validity analyzes were applied to the obtained field data using SPSS.22 and AMOS.22 packet programs. Confirmatory Factor Analysis (CFA) shows that the model is $\chi^2 (8.022)$, $\chi^2 / df (2.674)$. In addition, it was determined that the fit index values are within the acceptable range of GFI (.992), CFI (.996), SRMR (.0126), and RMSEA (.0650). It was concluded that the reliability of the Scale of job commitment (0.903) was very reliable. It was determined that the Composite Reliability (CR) and Average Variance Extracted (AVE) values were calculated, and that the AVE values were acceptable from 0.50 and CR values were greater than 0.70. In addition, the 1-dimensional and 5item job commitment scale can be implemented as a short version of the original scale in the literature.

Keywords: Job Commitment, Confirmatory Factor Analysis, Validity, Reliability

1. INTRODUCTION

In modern organizations, employees' organizational commitment affects business performance. It has been determined that this commitment plays a decisive role in the decisions of individuals to leave work, to continue work, to increase contribution to work. One of the consequences of positive relationships that the employee has with the organization is commitment to work. For this reason, due to the very positive effects, the job commitment scale was defined as the research topic.

In the literature of organizational psychology, job attachment is defined as the cognitive and emotional connection / relationship that occurs as a result of identification with the work of the individual (Kanungo, 1982: 341). Allport (1943) defines work commitment as the degree to which an individual's social, prestige, autonomy, and participation needs can be met. Lodahl and Kejner (1965), who for the first time talked about the concept of commitment to job and laid the foundations of the concept, as the internalization of business values. Blau (1985) interpreted the relationship between job identity and job commitment as a measure of the degree to which an individual's job is identified with psychological care (Blau and Boal,

1987: 290). As a result, commitment to job emerges as a result of the positive attitudes that the individual has developed for the job and results in the person feeling energetic, proud of his work, finding work meaningful (Keyko 2014: 881; Somers and Birnbaum 1998: 622; Blau and Boal, 1987: 290). The belief that individuals have opportunities within the organization to meet their needs allows the individual to identify with the organization. This identification leads to job commitment (Kanungo 1982: 342).

While there are a large number of job commitment scales in the literature, the first scale developed to measure the concept appears to be the 20-item Job Involvement Scale developed by Lodahl and Kejner. In the studies carried out in the following years, the 10-item short version scale developed by Kanungo (1982), which is obtained by subjecting the scale to factor analysis, is widely used. In this study, it is aimed to adapt Kanungo 's (1982) 10 - item job commitment scale. In the scale, the items "1: never, 2: very rare, 3: sometimes, 4: often, 5: always" are assigned to measure job commitment.

2. METHODOLOGY

2.1. Participants

Within the scope of the survey, a survey was conducted with 400 people living in Istanbul. 60.8% of the

respondents were female, 32.2% were nurses and 40.4% were college graduates. It is also understood that 57.2% of the participants have less than five years and others have more than 5 years of experience.

2.2. Language Validity

One of the important points in adaptation studies of scales used in scientific studies is the validity of language. It is very important to translate the scales into a language other than the original language (Prieto, 1992, pp. 1-14). It is also the case that individuals who can speak the language of the target language and the original scale for language validity are translated into the target language and the translated scale is translated into the original language. The first translation of the scale was made by two experts who mastered English and Turkish (Geisinger, 1994, pp.304-312; Beaton et al., 2000). Experts also have the ability to assess the scale because they are corporate businesspeople. The obtained Turkish scale was evaluated by two different translators and the necessary corrections were made. The completed scale was assessed by experts who have mastered both languages and has been finalized.

2.3. Confirmatory Factor Analysis

The KMO value and the Bartlett's test were used to determine whether the 10 item scale was suitable for factor analysis. For the confirmatory factor analysis, the preliminary tests on the scale were assessed as having a probability ($p = 0.000 < 0.05$) and a KMO value (0.836) for the Bartlett's Test and the "perfect". As indicated in Table 1, 5 items with lower factor loadings were extracted from the 10-item scale and the remaining and 5 items were collected under one dimension.

Table 1 Confirmatory Factor Analysis of the Job Commitment Scale

Dimension	Items	Factor Loading (FL)	Variance Explained (VE) (%)
Commitment-C	2. For me, work is a small part of my self.	0.890	72.258
	3. I take great care of all the details of my work.	0.881	
	6. I am very dependent on work.	0.838	
	1. Working in this job is one of the most beautiful things that have ever happened	0.831	
		0.808	

5. Most of my interests focus on work

Job Commitment	Total	72.258
<i>KMO: .836 Bartlett's Test of Sphericity P value: 0.00</i>		
<i>FL:factor loading VE: Varyans explained Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization</i>		

The resulting dimension is called "commitment". In total, it was found that 72.258% of variance belonging to the job commitment variable was explained. This percentage is a very high explanatory value for the method of data collection by questionnaire. The explanatory fractions obtained, KMO values have been shown to provide structural validity of the scale.

2.4. Confirmatory Factor Analysis results

The model confirmatory factor analysis (DFA) was searched by the AMOS 22.0 package program to test whether the measurement model of the Job Commitment Scale was meaningful. When the result is examined, it is seen that the measurement model is acceptable. The suitability of the full model was then assessed with the aid of good fit measures. As the sample size increases, the value of Chi-Square (χ^2) increases and the level of statistical significance of Chi-Square (χ^2) test becomes low (Bollen, 1989: 256; Fornell and Larcker, 1981: 40). The validity of the scale used for the research was evaluated in the confirmatory factor analysis and whether the general tested models were appropriate, the Chi-square (χ^2) value (Chi-square value / Degree of freedom) corrected with the degree of freedom, other goodness of fit indexes and the standardized residual, as a result of examining the values in the covariance matrix (Bollen, 1989: 256).

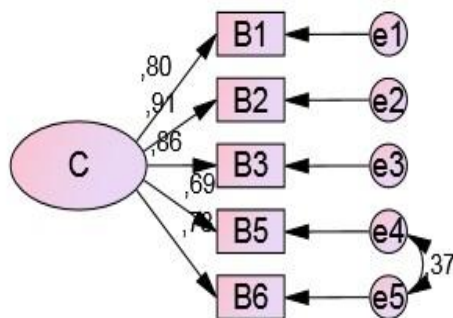


Figure 1 Confirmatory Factor Analysis of the Job commitment Scale

When the result is examined, it is seen that the measurement model is acceptable. The suitability of the full model was then assessed with the aid of good fit measures. When Figure 1 is examined, it is seen that 5 items from the 10-item Job Commitment Scale are extracted from the fact that the item factor loads are low, and the item factor weight values (0.690; 0.910) in the CFA made with the remaining 5 items.

In the confirmatory factor analysis (CFA), model test values ($p < .05$); χ^2 (8.022), χ^2 / df (2.674), it is understood that Confirmatory Factor Analysis is meaningful. In addition, fit index values were found to fall within the "acceptable harmonization" limits of GFI (.992), CFI (.996), SRMR (.0126), and RMSEA (.0650) (Stevens, 2001).

2.5. Reliability and Internal Consistency Analysis

In this study, Cronbach's Alpha model was used during the reliability analysis. Cronbach's alpha indicates the total reliability level of the questions under the factor. When Cronbach's Alpha value is 0.70 or higher, it is accepted that the scale is reliable (Bollen, 1989).

Table 2 Reliability values of the Job Commitment Scale

Scale	Number of Items	Cronbach's Alpha
Commitment	5	0.903

According to the reliability analysis results as indicated in Table 2, the reliability value of the Job Commitment Scale (0.903) was found. Accordingly, when evaluated from the point of total reliability value, the scale is at "excellent reliability" level.

2.6. Composite Reliability (CR) and Average Variance Extracted (AVE)

Composite Reliability (CR) is an alternative to Cronbach's alpha and Cronbach's alpha coefficient can give high results when the number of items is high. For this reason, the CR value is used to confirm the Cronbach's alpha coefficient. If the CR value is greater than 0.7, the scale is considered valid (Fornell and Larcker, 1981, pp. 39-50).

Average Variance Extracted (AVE) is obtained by the ratio of the total number of squares of the covariances of the factorials to the number of items. This process is calculated for each factor structure obtained. According to this method, over 0.50 of the Average Variance Extracted (AVE) values of the materials are used so that convergence validity of the scale can be achieved; the composite reliability values (CR) must be higher than 0.70.

Table 3 CR and AVE values of the Job Commitment Scale

Dimension	Items	FL	AVE	CR
C	B2	0.890	0.722786	0.928669
C	B3	0.881		
C	B6	0.838		
C	B1	0.831		
C	B5	0.808		

Composite Reliability (CR) and Average Variance Extracted (AVE) values of the Job Commitment Scale were calculated and the results are given in Table 3. Accordingly, AVE values were 0.50 and CR values were higher than 0.70. Higher values than AVE values (0.50) and CR values higher than the critical value (0.70) indicate convergent and divergent validity (Fornell and Larcker, 1981, pp. 39-50). It is also seen that the CR values are larger than the AVE values in all sizes. According to these values, the Job Commitment Scale has provided Convergence Validity and Convergence Validity.

3. RESULTS

Within the scope of the research, Kanungo's 10-item job commitment scale developed in 1982 was primarily language validated. The method of language validity is defined as a back translation. In the first stage, the English language, the original language of the scale, and those who can speak the Turkish language of the target language, have turned the scale into Turkish. The scale translated into English was translated into English and the necessary corrections were made to ensure language validity. The obtained scale was applied to 444 hospital employees. The data obtained were analyzed with SPSS 22 and AMOS 22 statistical programs. After obtaining the demographic factors, exploratory factor analysis was performed. As a result of this analysis, 5 expressions with low factor load from the scale were extracted and the remaining 5 expressions were collected in one dimension, which determined 72.258% dependence on work.

In the confirmatory factor analysis, model test values ($p < .05$); χ^2 (8.022), χ^2 / df (2.674), confirming

that Verifiable Factor Analysis is meaningful. It was also found that the compliance index values were GFI (.992), CFI (.996), SRMR (.0126), and RMSEA (.0650). In CFA, the item was included in the factor weight values (0.690; 0.910), and 5 items were collected in one dimension. This one dimension, which is obtained as a CFA result, is also called a dependency.

According to the results of convergent and divergent validity, it was determined that the CR values of the expressions were between 0.831-0.890 and the CR (0.928) values were higher than the AVE (0.722) values. These results show that convergent and divergent validity of the Job Commitment Scale is achieved. Language validity of the study, exploratory and confirmatory factor analysis, reliability and validity analysis, convergent and divergent obtained validity analyzes were made, one-dimensional and 5 consisting of expression Job Commitment Scale, to measure the health personnel working in Turkey are dependent on how much the jobs available concludes been reached.

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