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Araştırma Makalesi

ADAPTATION OF COLLEGE OUTCOME EXPECTATION QUESTIONNAIRE TO TURKISH

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Abstract

This study aims to adapt the College Outcome Expectation Questionnaire developed by Flores, Navarro and DeWitz (2008) to Turkish, under the name of Üniversite Mezuniyet Beklentileri Ölçeği (ÜMBÖ). For this purpose, first, language translation was put into practice. Then college students voluntarily participated in this study in 2017-2018 education year at a university at the north-east of Turkey. Data were tested with Exploratory and Confirmatory Factor Analysis. The original questionnaire consists of 19 items. After the analysis, 4 items were removed from its Turkish version and a structure consisting of two factors was emerged. The factors were named as professional expectations (PE) and individual expectations (IE). 9 of the 15 items were grouped under PE, while the other 6 under IE.

Keywords: Adaptation study, College outcome expectation questionnaire, Factor analysis.

ÜNİVERSİTE MEZUNİYET BEKLENTİLERİ ÖLÇEĞİNİN TÜRKÇEYE UYARLANMASI

Öz

Bu çalışma, Flores, Navarro ve DeWitz (2008) tarafından geliştirilen Üniversite Mezuniyet Beklentileri Ölçeği'nin (ÜMBÖ) Türkçeye uyarlanmasını amaçlamaktadır. Bu amaçla öncelikle ölçeğin dil çevirisi yapılmıştır. Daha sonra Türkiye'nin kuzey doğusundaki bir üniversitede 2017-2018 eğitim öğretim yılında öğrenim gören gönüllü öğrencilerden veriler toplanmıştır. Veriler Açımlayıcı ve Doğrulayıcı Faktör Analizi ile test edilmiştir. Orijinal ölçek 19 maddeden oluşmaktadır. Analiz sonuçlarına göre dört madde Türkçe versiyonundan çıkarılmış ve iki faktörden oluşan bir yapı ortaya çıkmıştır. Faktörler mesleki beklentiler (MB) ve bireysel beklentiler (BB) olarak adlandırılmıştır. Bu 15 maddenin dokuzu MB altında ve diğer altısı ise BB altında gruplanmıştır.

Anahtar Sözcükler: Faktör analizi, uyarlama çalışması, üniversite mezuniyet beklentisi.

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Araştırmanın Etik Kurulu İzni: Araştırma verileri 2017-2018 yılında toplanmıştır.

Introduction

Many internal and external factors play important roles on students' achievements, such as family (Christenson, Rounds, & Gorney, 1992), cooperation of parent and school (Gutman & Midgley, 1999), intuitional support (Graunke & Woosley, 2005), peer support (Dennis, Phinney, & Chuateco, 2005) and self-motivation (Deci, Vallerand, Pelletier, & Ryan, 2011). The factors which effect students' achievements as well as the educational objectives and expectations of the students are very important in terms of educational studies, because students' achievements are also significantly related to their educational expectations. For example, there is a significant relationship between university students' expectations from higher education and their success in higher education (Jones, 2018). So, it can be said that a successful completion of higher education is a three-step training path that consists of creating expectations first, then entering a higher education program and finally qualifying for a diploma (Wells, Seifert, & Saunders, 2013).

In addition, students are influenced by many factors both internally and environmentally. For example, it was demonstrated that students' socio-economic status had an impact on the educational expectations (Devlin, 2011; McKay & Devlin, 2016). In addition, students in socially disadvantaged groups can create more advanced educational goals than other students (Frost, 2007). Also, it was found that students from higher socio-economic classes have higher educational expectations compared to students from lower socio-economic classes (Alexander, Bozick, & Entwisle, 2008; Wells, Seifert, & Saunders, 2013). Related to that, factors such as financial opportunities, family support and expectations were effective on students' educational expectations (Cheng & Starks, 2002). Personal characteristics are also seen as an effective factor in creating educational expectations (Balloo, Pauli, & Worrell, 2017; Brown & Cinamon, 2016; Lent, Brown, & Hackett, 1994). At the same time, it was emphasized that the realization of the educational expectations is important for the psychological health of the students during the adulthood (Reynolds & Baird, 2010). To conclude, the educational expectations of the students and the realization of these expectations have significant results not only in the education but also in the whole life of the students. In this respect, the topic of educational expectations should be seen as an important research area in terms of educational studies.

In general terms, expectations include the anticipation that they will emerge as a result of a particular action and associating further actions with further outputs (Betz & Voyten, 1997; Lent et al., 1994). In other words, expectations also include actions to achieve a particular result. For example, expectations contain cognitive formulas as such: "if I do ... then I will get ..." or "if I study X regularly I will get a good grade from X and will graduate successfully." Thus, when the concept of expectations is associated with higher education following example can be given: "if I successfully complete a higher education program, I can get ..." or "if I have a college degree, I can live a life as I want." In fact, studies on these cognitive level expectations were based on the social cognitive theory of Bandura (1986). For example, Lent et al. (1994, 2000) developed social cognitive career theory based on Bandura's social cognitive theory. Then, some studies that adapted this theory to the field of education measured educational expectations of students from sciences, mathematics and engineering programs on social cognitive basis (Gainor & Lent, 1998; Lent et al., 2001; Lent et al., 2005).

Flores, Navarro and DeWitz (2008) tried to measure the role of expectations and targets at the college level in order to examine another dimension of social cognitive theory. In the context of social cognitive theory, it was emphasized that university students' achievements in

college education will not only be related to their personal motivations, academic interests and success in their courses, but will also be related to university graduation expectations and goals, and therefore it will be important to take into account the expectations of students related to the results of college education (Flores, 2008; Lent et al. 1994). From this, Flores et al. (2008) developed the College Outcome Expectation Questionnaire (COE) by reinterpreting the previously developed outcome expectations scales in social cognitive theory. In the Turkish literature, there is no study that measures the graduation expectations of college students with such a scale. The lack of such a Turkish scale in the context of social cognitive theory can be seen as an important reason for this adaptation study. In this regard, the aim of this study was to adapt the scale developed by Flores et al. (2008) as College Outcome Expectation Questionnaire to Turkish as "Üniversite Mezuniyet Beklentileri Ölçeği" (ÜMBÖ).

Method

In this study, the College Outcome Expectation Questionnaire (COE) has been adapted to Turkish as Üniversite Mezuniyet Beklenti Ölçeği (ÜMBÖ). For this purpose, the questionnaire was first translated into Turkish and then the questionnaire was performed to two different groups of senior college students. Orçan (2018) suggested to use an Exploratory Factor Analysis (EFA) first and then a Confirmatory Factor Analysis (CFA) when a questionnaire is adapted to another language or culture. Accordingly, in this study the first of the collected data was used for EFA and the data obtained from the second application were adapted for CFA. In this section, the adaptation process was given in detail.

Sample

The sample of the study was consisted of senior college students studying at a university at the north-east of Turkey during the 2017-2018 academic year. The participation was voluntary and the students were not given any compensation. The students were asked to fill the questionnaire while they were in a break or while they were waiting for a class to start. It took 7 to10 minutes to fill the form on average. A total of 242 students participated in the EFA study on a voluntary basis. The questionnaire was applied different colleges (e.g., College of education) and 29% of this group was male students. The ages of the participants were between 20 and 32 years and the mean age of the sample was 23.14 (SD = 1.86) years. In addition to demographic information, the sample group was asked about the reason for choosing their department. 8% of the group registered for the department because their family wanted, 20% registered because their university entrance exam score was good for the program only and 72% of them registered because they wanted to do so. In addition, the CFA sample consisted of 221 students. The sample was consisted of senior college students studying at a university at the north-east of Turkey during the 2017-2018 academic year. 28% of this sample was male and the mean age was 22.94 (SD = 2.46) years.

Adaptation Process

The College Outcome Expectation Questionnaire (COE) was developed by Flores, Navarro and DeWitz (2008). The questionnaire consisted of 19 items. The items responses were 10-point Likert where it ranged from "Strongly Disagree" and "Strongly Agree". The original scale, which was developed using 180 college students, consisted of one dimension and the Cronbach alpha value of the scale was reported as .94.

Translation Process

The process of adaptation of the scale to Turkish was first started with permission for the adaptation from the first author and the items of questionnaire were requested. Permission was obtained from the first author via e-mail on November 2016. Subsequently, the items in English were translated into Turkish by three experts who work as faculty members. After the translation process, another expert was considered the suggestions and finalized translations. The translation process is an important step in scale adaptation studies. An incoherent translation process will result in the formation of a possible structure to be different from what it should be. In the third step, an English language specialist was translated the items back to English (back translation). After the back translation process, a different expert compared these translations with the original language and finalized the Turkish translation of the scale.

Data Analysis

The data collected for EFA were analyzed in SPSS. Maximum likelihood (ML) and principal axis factoring (PAF) are two commonly used estimation methods for EFA models. However, ML has assumption of normality while PAF does not (Brown, 2006; Costello & Osborne, 2005). Also, PAF has less probability for improper solution compared to ML (Brown, 2006). Therefore, the scale consisted of 19 items was investigated by using PAF extraction method. In addition, just to be safe, it was expected to have correlation between possible factors and therefore promax rotation was used. Eigenvalue was used as the factor determination criteria. "Eigenvalue above 1" rule was used to determine possible number of factors. Finally, the factor loadings greater than .3 was taken into consideration in the model. Kaiser-Meyer-Olkin (KMO) value was checked whether the data were suitable for EFA. Finally, the Cronbach alpha value was calculated to see the internal consistency of the items.

Data obtained for CFA were analyzed in the Mplus 5.1. CFA was considered in this study in order to validate the structure resulting from the EFA. For the CFA, the maximum likelihood robust (MLR) estimation method was used because of the non-normal distribution of the data. Model data fit was evaluated by using Chi-Square value, Comparative Fit Index (CFI), Standardized Root Mean Square (SRMR) and Root Mean Square Error of Approximation (RMSEA) indices. For this, the criteria introduced by Hu and Bentler (1999) were used.

Results

First, the reliability of the scale form was determined by the test-retest method. For this purpose, the Turkish version of the COE, consisting of 19 items, was applied to 39 participants twice a week apart. 26 of the participants were female college students and average age was 23.42 (SD =2.74). The data from these 39 students were only used for the test-retest analysis. Based on the data, the correlation coefficient between the first and second applications was calculated. The test-retest reliability coefficient was obtained as .85 from all 19 items. Later, some of the items

were removed from the scale based on the results. The test-retest reliability coefficient of the remaining items was .87.

Explanatory Factor Analysis

For the purpose of adaption, the data set consisting of 19 items was first subjected to EFA by using PAF estimation method with promax rotation. According to the results of this analysis (EFA1), it was concluded that the data were suitable for a factor analysis. The KMO value for the EFA was .90 which was greater than .80 indicating that it was suitable for a factor analysis. In detail, based on the EFA1 results there were four factors. The first factor had 10 items (item 1, 2, 3, 4, 5, 6, 7, 8, 10 and 12), the second factor had five items (item 11, 13, 15, 16 and 18). The third factor had three items (item 9, 11 and 14). The last factor had only two items (item 14 and 17). However, some of items were not loaded to any factors (e.g., item 19) and some items were found to be loaded to more than one factor with greater factor loading value than .30 (e.g., item 14). In order to get a non-complex structure, each item must be loaded on only one factor. At the same time, factor loadings were expected to be higher than .30 (Martin & Newell, 2004; Seçer, Halmatov & Gençdoğan, 2013). Considering these, the EFA1 model was renewed step by step, and at the end four items were removed either for not loading on any factor or loading for more than one factor. After removing the items the final model (EFA2) was reached. In the EFA2, a 2-factor structure was formed. Figure 1 shows the scree plot of the final EFA model.

The final EFA model had 15 items in total. The analysis indicated 2-factor structure and each of the items was loaded on only one factor. KMO value of the model was .91. Similarly, Bartlertt's test, which tests whether the data is suitable for EFA, indicated the data set was suitable for the analysis (χ^2 =1739.97, $p < .01$). The result of EFA2 model was shown in table 1. The structure of the factors and items was clearly indicated in the table. The item numbers in the original scale were given in brackets after the item in the table. For example, the M9 in the new scale was item 10 in the original scale.

This two-factor structure explains 49.49% of the total variance. In total, 9 out of 15 items were loaded on the first factor. This factor was called professional expectations ([profesyonel beklentiler] - PB). The first factor explained 41.40% of the total variance and the eigenvalue of the factor was 6.21. The internal consistency (Cronbach alpha) of the nine items was found as .89. Under this factor the highest factor loading value was .83 (item 7) and the lowest value was .36 (item 3).

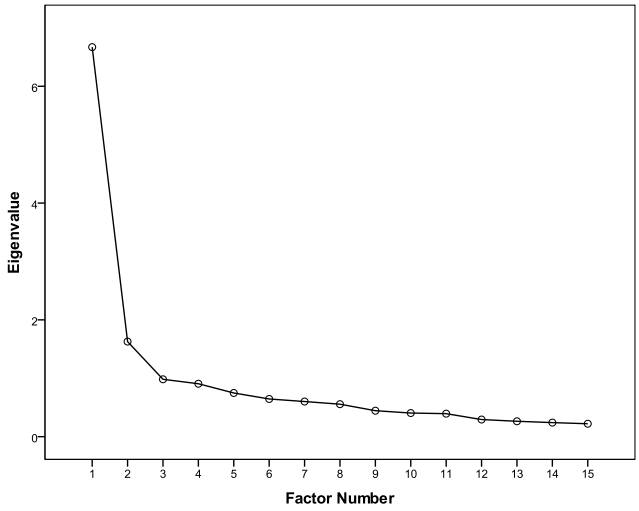

Figure 1: The Scree Plot of the final EFA model (EFA2)

The remaining 6 items from 15 were loaded on the second factor. This factor was named as personal expectations ([kişisel beklentiler] - KB). The second factor explained 8.09% of the total variance and the eigenvalue of this factor was 1.21. The value of Cronbach alpha for the items under this factor was .84. Under this factor the values of the factor loading were between .40 (item 14) and .96 (item 12). Promax rotation allows factors to be correlated. Based on the final EFA results the correlation between the two factors was .62.

Confirmatory Factor Analysis

In order to test the accuracy of the structure resulting from the EFA, a different dataset was utilized for a CFA. For the CFA model, MLR estimation method was considered with Mplus 5.1 program. Based on the result of CFA, chi-square value was 137.78 (p-value < .05, df = 88, Scaling Correction Factor = 1.38). For a good model data fit Hu and Bentler (1999) recommended that the values of Comparative Fit Index (CFI) should be greater than .90, Root Mean Square Error of Approximation (RMSEA) should be less than .06 and Standardized Root Mean Square (SRMR) should be less than .08.

Based on the results, it was found that CFI was equal to .95, SRMR was .06 and RMSEA was .05. Therefore, it can be said that the data fitted to the model. All the factor loadings indicated in the model was significant. Standardized estimates of the model parameters were given in figure 2. These estimated factor loadings were raged between .45 and .80.

Table 1: The Result of Final Explanatory Factor Analysis (AFA2)

	Factor 1	Factor 2
M1: Üniversite eğitimi iyi ücretli bir iş elde etmeme imkan sağlayacak. **O1:** A college education will allow me to obtain a well-paying job.	.54	
M2: Üniversite eğitimi yapmaktan hoşlandığım bir iş elde etmeme imkan sağlayacak. **O2:** A college education will allow me to obtain a job I like doing.	.71	
M3: Üniversite eğitimi sayesinde, diğer insanlardan saygı göreceğim. **O3:** With a college education, I will be respected by others.	.36	
M4: Üniversite eğitimi yeteneğimi ve yaratıcılığımı kullanabileceğim bir işe sahip olmama imkan sağlayacak. **O4:** A college education will allow me to get a job where I can use my talents and creativity.	.72	
M5: Üniversite eğitimi ailemle, arkadaşlarımla ve uğraşlarımla geçirebileceğim yeteri kadar zaman sağlayacak.	.63	

O5: A college education will leave me enough time to have things like a family, friends, and leisure time.		
M6: Üniversite eğitimi istediğim bir hayat tarzı sağlayacak. **O6:** A college education will give me the kind of lifestyle that I want.	.78	
M7: Üniversite eğitimi sayesinde, kariyer hedeflerime daha iyi bir şekilde ulaşabileceğim **O7:** With a college education, I will be better able to achieve my career goals.	.83	
M8: Üniversite eğitimi kariyer fırsatlarımı artıracak. **O8:** A college education will increase my career opportunities.	.77	
M9: Eğer üniversite eğitimi alırsam hayatımdaki gelecekle alakalı hedeflere daha iyi ulaşabileceğim. **O10:** If I get a college education, then I will be better able to achieve my future goals in life.	.56	
M10: Üniversite eğitimi bilgi seviyemi artıracak. **O11:** A college education will increase my knowledge base.		.57
M11: Eğer üniversite eğitimi alırsam yaşamımda başarılı olacağım. **O13:** If I get a college education, then I will do well in life.		.68
M12: Eğer üniversite eğitimi alırsam hayatımda doğru kararlar vermek için bilmem gerekenleri öğreneceğim. **O15**: If I get a college education, then I will learn what I need to know to make good decisions in my life.		.96
M13: Üniversite eğitimi aldığım derslerde sırasında farklı kariyer alanlarını keşfetmem için zaman tanıyacak. **O16:** A college education will give me the time to explore different career interests in my college courses.		.42
M14: Üniversite eğitimi çeşitli arkadaşlar edinme fırsatı sağlayacak. **O17**: A college education will give me an opportunity to make several friends.		.40
M15: Eğer üniversite eğitimi alırsam hayata daha iyi hazırlanacağım. **O18:** If I get a college education, then I will be better prepared for life.		.87
Eigenvaleus	6.21	1.21
Variances (%)	41.40	8.09

O: Original item number, M: Translated item number

Besides, the correlation between the factors was .67. Also, the modification indices indicated an error correlation between item 2 and 4 in the model. The value of the error correlation was .25. Finally, Cronbach alpha values of the factors were .86 and .84 respectively. Since the correlation value between the factor was high, one factor model where all 15 items loaded on one factor was also tested $\chi^2 = 262.29, p - value < .05, df = 89$, Scaling Correction Factor = 1.39). In comparison of one and two factor models, Satorra-Bentler scaled chi-square different test (($\Delta\chi^2 = 76.85$ and Δdf = 1) indicated that more parsimonious (one factor) model was worse than two factor model. Therefore, two-factor model was preferred.

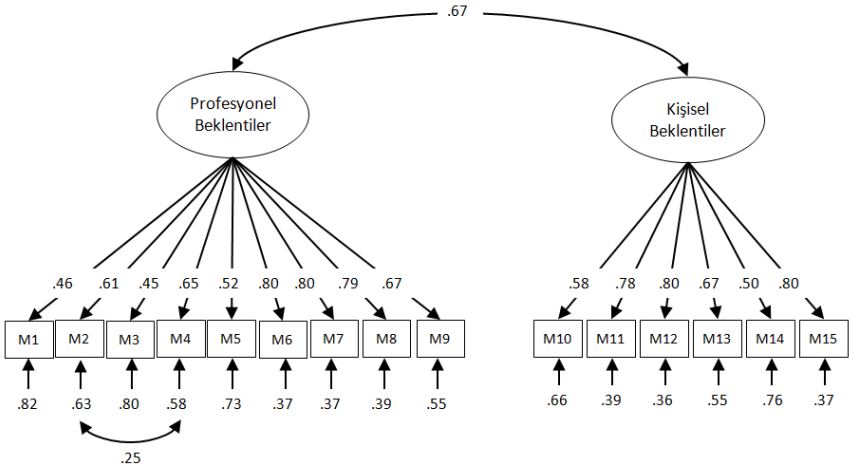

Figure 2: Standardized Factor Loading for CFA Model

Discussion

It is almost crucial to have a college education to have a job/future. In addition to the quality of college education, employment opportunities have gained importance for the students to reach both family and individual goals. Therefore, the expectations of the students from college education, in other words, how they see themselves in the future after graduation from college are an important issue. Besides, the COE scale can be used to study relationships between general life expectations, depression or school grades and so on. This may help researchers to better understand students' collage related problems. For this purpose, Flores et al. (2008) developed the College Outcome Expectation Questionnaire (COE). In this study, COE was adapted to the Turkish. There were 19 items in the original scale. For the adaptation, first the items were translated to Turkish. Then, a sample of college students was applied and the data were analyzed with EFA using SPSS. As a result of the analysis, it was determined that 4 items did not contribute to the scale due to different reasons. For example, it was expected that the last item in the original questionnaire (If I get a college education, then it will cause problems in my family) do not contribute to the scale due to its negative meaning. As it was expected the item was removed from the Turkish version. After removing all four items from the analysis stepwise, a two-factor structure was formed. These factors are called professional expectations and personal expectations.

There were a total of 9 items in the professional expectations factor. The items under this factor were gathered around professional life or career expectations after graduation. For example, the first item (M1) refers to the possibility of getting a job from university education. Likewise, it can be said that the other items were also career-oriented. Only the fifth item (M5) seemed different from the others. However, it was thought that this item takes place in terms of showing the balance between the work of the person and his family in professional life. In addition, the internal consistency coefficient of these nine items was determined as .89 and .86 according to the results of EFA and CFA.

The personal expectations factor consisted of six items. The items under this factor were seen to be gathered around university students' expectations of personal development after graduation. For example, the first item under this factor (M10) expressly refers to the development of the person. Again, item 14 in this factor looked different from the rest of items. It can be considered that this item emphasizes the social environment, while at the same time expresses the social development of the individual. Similarly, subtraction of the item did not increase the internal consistency coefficient.

The correlation coefficient between PB and BP factors were .62 and .67 for EFA and CFA, respectively. These values indicate a high correlation between PB and BP factors (Field, 2008). Since these factors indicated expectations from college graduation, it was expected that the correlation will be high. On the other hand, since the correlation coefficient between the factors could be considered as high, one and two factor models were compared via chi-square difference test. The test results also supported a two-factor structure. In addition, the correlation between items 2 and 4 was added according to the CFA result. Since these two items emphasize a job that the individual wants to do, the correlation between the error terms of the items was seen as significant.

To conclude, this structure was revealed by exploratory factor analysis and its accuracy was tested with a confirmatory factor analysis. The translation process is an important step in scale adaptation studies. A discrepancy can change the structure of the scale. Differences in the structure may also occur due to cultural differences. When these are taken into consideration, it is critical to run an EFA first and then a CFA in adaptation studies (Orçan, 2018). In this study COE scale was adapted to Turkish.

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