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The Turkish Version of The Mentor Behavior Scale: Validity and Reliability Study

Mentor Davranış Ölçeği'nin Türkçe Versiyonu: Geçerlik ve Güvenirlik Çalışması

Merve GÜNGÖR[*] (ORCID: 0000-0001-5585-8459)

Nilay ÖZKÜTÜK[**] (ORCID: 0000-0003-1405-4600)

[*]*Ankara Dr. Abdurrahman Yurtaslan Oncology Sample Training and Research Hospital, Ankara, TÜRKİYE*

[**]*Ege University Faculty of Nursing, İzmir, TÜRKİYE*

Corresponding Author: Merve GÜNGÖR, E-Mail: gungurmerve@gmail.com

Abstract

Aim: University is a stressful and worrying period for students who have just started their university education, as it requires struggle on many issues such as the increase in the expectation of academic success from the students, their adaptation to the new social environment, becoming more individual, and the responsibilities of their relations with their same sex and opposite sex. Therefore, students have difficulty in coping with sources of stress. Mentoring practice has an important place in learning new skills, adapting to new behaviors, acquiring new attitudes, establishing connections between practice and theory, and providing psychological and social support and guidance for student nurses. Peer mentoring includes peers with similar conditions supporting each other in the learning process. It is defined as educational and social activities carried out by experienced upper-class students, who are not professional instructors, together with lower-class students, and that enable students to develop in terms of knowledge, attitudes and skills. It has been determined that there are not enough scales to evaluate the behaviors of mentors in the practice of peer mentoring in nursing education in our country. In this study, it was aimed to investigate the validity and reliability of the Turkish version of the Mentor Behavior Scale.

Methods: It was designed as methodological study. It was applied at a nursing faculty in Turkey, which engages in the peer mentorship application. A total of 547 students, who are mentees, participated in the mentorship application study. Data were collected with the "Student Introductory Questionnaire Form", the "Mentor Behavior Scale" and the "Peer Mentor Assessment Scale". The language, scope, criterion and structural validity, invariability and internal consistency reliability analyses were made for providing validity and reliability.

Results: The translation to Turkish and back translation to English of the Mentor Behavior Scale were made for language validity. The Scope Validity Index values varied between 0.80-1.00. Confirmatory Factor Analysis was made for structural validity, and it was found that the model data fit was rather high. The Cronbach's Alpha Coefficient of Reliability was found to be α=0.937. The Cronbach's Alpha Coefficients of Reliability for the sub-dimensions of mentorship relationship structure, participation-relationship, autonomous support and adequacy support were obtained at α=0.976, α=0.957, α=0.860 and

Keywords:
Mentoring, Mentor, Mentee, Peer Mentoring, Validity, Reliability

Anahtar sözcükler:
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α=0.960, respectively. A positive and significant fit was observed according to the Pearson Product-Moment Correlation Coefficient in the test-retest analysis.
Conclusions: The Turkish version of the Mentor Behavior Scale is a valid and reliable tool for the evaluation of mentors by mentees.

Özet
Amaç: *Üniversite eğitimine yeni başlayan öğrenciler için üniversite hayatı, öğrencilerden akademik başarı beklentisinin artması, edinilen yeni sosyal çevreye uyum sağlamaları, daha fazla bireyselleşmeleri, hemcinsleri ve karşı cinsle olan ilişkilerinin sorumlulukları gibi pek çok konuda mücadeleyi gerektirdiği için stresli ve endişe verici bir dönemdir. Bu yüzden öğrenciler stres kaynakları ile baş etmekte zorlanmaktadırlar. Mentorluk uygulaması, öğrenci hemşireler için yeni becerilerin öğrenilmesinde, yeni davranışlara uyumun sağlanmasında, yeni tutumların kazanılmasında, uygulama ve teori arasındaki bağlantıların kurulmasında, psikolojik ve sosyal destek ve rehberlik sağlanmasında önemli bir yere sahiptir. Akran mentorluğu benzer şartlara sahip akranların öğrenme sürecinde birbirine destek olmasını kapsamaktadır. Profesyonel eğitmen olmayan ancak eğitim almış deneyimli üst sınıf öğrencilerinin, alt sınıf öğrencileri ile birlikte gerçekleştirdikleri ve öğrencilerin bilgi, tutum ve beceri yönünden gelişmesini sağlayan eğitimsel ve sosyal etkinlikler olarak tanımlanmaktadır. Ülkemizde hemşirelik eğitiminde akran mentorluğu uygulamasında, mentorların davranışlarını değerlendirecek yeterli sayıda ölçek bulunmadığı saptanmıştır. Bu çalışmada Mentor Davranış Ölçeği'nin Türkçe formunun geçerlik ve güvenilirliğinin araştırılması amaçlanmıştır.*
Yöntem: *Bu çalışma metodolojik bir araştırma olarak tasarlanmıştır. Türkiye'de akran mentorluğu uygulaması yapan bir hemşirelik fakültesinde uygulanmıştır. Mentorluk uygulama çalışmasına mentee olan toplam 547 öğrenci katılmıştır. Veriler "Öğrenci Tanıtıcı Anket Formu," "Mentor Davranış Ölçeği" ve "Akran Mentor Değerlendirme Ölçeği" ile toplanmıştır. Geçerlik ve güvenirliğin sağlanması için dil, kapsam, ölçüt ve yapı geçerliliği, değişmezlik ve iç tutarlılık güvenirlik analizleri yapılmıştır.*
Bulgular: *Dil geçerliliği için Mentor Davranış Ölçeği'nin Türkçe'ye çevirisi ve İngilizce'ye geri çevirisi yapılmıştır. Kapsam Geçerlilik Endeksi değerleri 0.80-1.00 arasında değişmektedir. Yapı geçerliliği için Doğrulayıcı Faktör Analizi yapılmış ve model veri uyumunun oldukça yüksek olduğu görülmüştür. Cronbach Alfa Güvenirlik Katsayısı α=0.937 olarak bulunmuştur. Mentorluk ilişki yapısı, katılım-ilişki, özerk destek ve yeterlilik desteği alt boyutları için Cronbach Alfa Güvenirlik Katsayıları sırasıyla α=0.976, α=0.957, α=0.860 ve α=0.960 olarak elde edilmiştir. Test-tekrar test analizinde Pearson Çarpım-Moment Korelasyon Katsayısı'na göre pozitif ve anlamlı bir uyum gözlenmiştir.*
Sonuç: *Mentor Davranış Ölçeği'nin Türkçe versiyonu, mentorların mentiler tarafından değerlendirilmesi için geçerli ve güvenilir bir araçtır.*

INTRODUCTION

Mentorship, which is used in the fields of health, administration and education, is defined as a process based on an experienced mentor who is a role mode to a mentee who has less experience and in which consulting, and guidance are performed (1,2).

The objective of the mentorship process is to provide for mentees to discover their potential by developing their capabilities, with the knowledge, recommendations and support of mentors for the targets that mentees want to attain (3).

The most important role of mentors is to guide and encourage, provide psychological support and to mentees in the learning of new skills, in providing compliance to new behaviors, in obtaining new attitudes and in establishing connections between practice and theory. Consequently, it is rather important for mentors to be from experienced peers, from instructors, from educated personnel and from graduates in the related field (3-5). It is expected for mentors to be experienced in the related field, to have academic and social competence, for their

communication skills to be strong, for them to display supportive behaviors and attitudes, for them to have the skill of forming an environment of trust, for them to be able to establish empathy and for them to have personality compliance with the mentee (6-8).

In the present-day, the number of students at many universities are increasing and the teachers have difficulty in taking an individual interest in students. Peer mentorship presents an additional teaching opportunity to students (8). Peer mentorship is the fact of students in the upper year, who have similar conditions, supporting the process of learning to students in the lower year. Mentorship and peer mentorship in nursing education, which has cognitive, sensory and psychomotor learning fields, has an important place and forms the foundation of professional knowledge and skills (3,9).

The primary target of peer mentorship is related to being a guide and supporting with experiences for developing the potential of the mentee (3,10). Peer mentorship, which is applied in an effective manner in nursing education, and which is based on this target, is beneficial, both for the mentor and for the mentee (11).

The greatest advantage of peer mentorship is the fact that it is established on a social interaction where students can easily request assistance (8). Peer interaction, which is a part of social interaction, since it is easier than interaction with instructors, students can share their problems with self-confidence and by feeling at ease and they can reach easier solutions through mentors (2,8).

According to the research studies conducted, it was determined that the mentorship application facilitates the adaptation to school, increases the satisfaction and supports the successes of mentees (3,12), increases the motivation of student nurses or nurses who just started to work and develops the adequacy of the coping skills towards negative feelings, self-respect, self-confidence, comfort and professional skills of mentees (5,9).

Whereas in a study conducted by Douglass et al. (2013) it determined that the peer mentorship programs teach university students how they could work in an effective manner in learning in courses based on preparing written homework and that it presented a significant potential in obtaining positive academic results (8).

Besides all these positive results obtained from studies, it was determined that there were not enough scales that would evaluate the behaviors of mentors in the peer mentorship application in nursing education in Turkey. In this context, the objective of this research is to test the validity and reliability of the Turkish version of the Mentor Behavior Scale (MBS), which was developed by Brodeur et al. (2015) and to fill the existing void related to the evaluation of the mentorship applications.

METHODS

In this study, the validity and reliability of the Turkish version of the Mentor Behavior Scale was researched and verified.

Design

This study was designed as methodological study for conducting the validity and reliability of the Turkish version of the Mentor Behavior Scale.

Participants

The study was realized with students receiving education in the nursing department of a university in a western region of Turkey. The criteria for being included in the study were to be a student in the nursing department, to participate in the peer mentorship application program and to be a mentee. Consequently, the students (n: 871) in the first, second and third years were included in the study. Since the fourth-year students had not been mentees, they could not evaluate the behavior of mentors and were not taken into the population and sampling. The data were collected from November 2018 to June 2019.

It is necessary in scale study activities for the

size of the sampling to be 5-10-fold the number of items for making factor analysis (13). Therefore, the research sampling was composed of 547 students who participated in the mentorship application program and who voluntarily participated in the study.

The pilot application of the study was conducted with 30 students who participated in peer mentorship applications and who were receiving education in the nursing department of a university in the Marmara region of Turkey. The views were determined about the reading and comprehension of the scale by making a pre-application, and by making changes according to the proposals, the final form was given to the scale prior to its application.

Instruments

The individual introductory form, the Mentor Behavior Scale and the Peer Mentor Assessment Scale were used in the data collection form. There are three questions asking the sociodemographic attributes of students in the individual introductory form. The Mentor Behavior Scale, which targets to measure the attributes of supportive mentor behaviors, was developed by Brodeur et al. in 2015 (17). The original of the scale is composed of 15 items and four sub-dimensions with the mentorship relationship structure (first 8 items), participation-relationship (9th and 10th items), autonomy support (11th and 12th items) and competence support (13th, 14th and 15th items). The Mentor Behavior Scale is scored with a five-point Likert-type scaling (1- it does not fit my situation at all; 5- it fits my situation). The Peer Mentor Assessment Scale, which was developed by Arkün Kocadere 2015, is composed of 10 items and three sub-dimensions of contributions to the mentee, attributes of the mentor and the peer relationship (2). The scale is scored with the seven-point Likert-type scaling (1- I strongly disagree, 7- I strongly agree. The Cronbach's Alpha value of the scale is .95.

Statistical Analysis

The SPSS version 18.0 was used for making the descriptive statistics for mean, standard deviation, frequency, percentage, Pearson correlation coefficient and Cronbach's Alpha analyses. The Mplus Version 7.4 Program was used for the validity and reliability scales [14]. Confirmatory Factor Analysis (CFA) was made for the structural validity analyses of the scale. The Pearson Correlation Coefficient was used to determine the criterion-dependent validity and the Cronbach's Alpha and test-re-test were used for internal consistency reliability. The level of significance was taken as 0.01.

Ethics

Written permission was obtained from The Scientific Research and Publication Ethics Board-Ege University dated 02 January 2019 and No. 01/02-89 and from the institutions where the application was made for being able to implement the research. Furthermore, permission was obtained via e-mail from Lorose and Arkün Kocadere for use of the scales and informed consent was obtained from the students who accepted to participate in the study.

RESULTS

Demographic Data

547 students participated in the study. The mean age of the students was 21.06±1.364, 87.2% female, 37.5% 1st grade, 18.5% 2nd grade, and 44.1% 3rd grade year. Students in the 4th grade were not included in the study since they are not eligible as mentees according to the mentoring practice.

Psychometric Properties

Findings Related to The Validity of the Mentor Behavior Scale

Language and Scope Validity

Studies were conducted during the first stage of the research for the language validity of the scale for the Turkish version and the translation-

back translation method was used. The translation to Turkish was made independently by five nurse academicians whose English level is good and by comparing the translations made, it was formed with the most understandable sentences for language. The text formed was once again translated to English by two independent linguists, who had not seen the original form of the questionnaire, but who were given information about the subject and whose native language was Turkish. The form translated to English was compared with the original items of the scale and it was considered whether there was a difference in meaning and the Turkish form was composed for expert opinion.

The Davis technique was used for scope validity. The expert opinions were obtained from ten lecturers, who were experts in different branches in the field of nursing, and the Scope Validity Index (SCI) points were calculated. It is proposed that index points should be 0.80 and above [15,16] and the SCI values of the items in the study were between 0.80 and 1.00. According to the proposals, a sample scale form was prepared for the pilot application and was implemented on 30 students from the Nursing Department who were engaged in the peer mentor application. The students did not make suggestions and the final form of the scale was composed that would be applied to the sampling group.

Structural Validity of the Mentor Behavior Scale

A model was defined composed of 15 items and four dimensions, just like the original scale, for the structural validity of the Mentor Behavior Scale. It was determined whether there was model data fit with the CFA of this hypothetical model established. At the end of the analysis, it was found that the Comparative Fit Index (CFI)=0.965, Tucker-Lewis Index (TLI)=0.956, Root Mean Square Error of Approximation (RMSEA)=0.071 and Standardized Root Mean Square Residual (SRMR)=0.018.

The factor loads of the item-scale of the scale were between 0.857 and 0.930 for mentorship relationship structure, 0.949 and 0.967 for participation-relationship, 0.793 and 0.947 for autonomy support and 0.937 and 0.951 for competence support. The R2 values were varying between 0.628 and 0.936 and the p values in response to the item factor loads obtained because of the CFA and all the factor loads were found to be significant at the level of $p<0.001$. The parameters estimated to belong to the CFA of the Mentor Behavior Scale have been given in the Figure 1 diagram.

The Mentor Behavior Scale and the Criterion-Dependent Validity of the Sub-Dimensions

The correlation between the sub-dimension points of the scale and the sub-dimension points of the Peer Mentor Assessment Scale, which was used as the criterion scale, were calculated for determining the criterion-dependent validity of the Mentor Behavior Scale (Table 1). The correlation coefficients at the level of $p<0.001$ were statistically significant and rather high and it was determined that the criterion-dependent validity of the scale adapted was at a sufficient level.

Findings Related to the Reliability of the Mentor Behavior Scale

Analysis of İnternal Consistency Reliability

The Cronbach's Alpha Reliability Coefficient of the Mentor Behavior Scale and sub-dimensions was calculated to be $\alpha=0.937$. The Cronbach's Alpha Reliability Coefficients for the sub-dimensions of mentorship relationship structure, participation-relationship, autonomy support and competence support of the Mentor Behavior Scale were obtained at $\alpha=0.976$, $\alpha=0.957$, $\alpha=0.860$ and $\alpha=0.960$, respectively. The Cronbach's Alpha Reliability Coefficients for the entire scale and all sub-dimensions were found to be rather high. Whereas all the correlation coefficients were found to be

statistically significant at the level of p<0.001. It was observed that the autonomy support sub-dimension scale total and with the other sub-dimensions gave a negative and rather high correlation. It was determined that the other sub-dimensions had a positive high correlation with each other and with the total of the scale (Tables 2 and 3).

Test-re-test Analyses

To determine the test-re-test reliability of the adapted scale, it was applied two times to a sampling group composed of 30 persons and the Pearson Product-Moment Correlation Coefficients between the total points for both applications were calculated to be 0.948. The test-re-test reliability coefficients were found to be rather high as desired (Table 4).

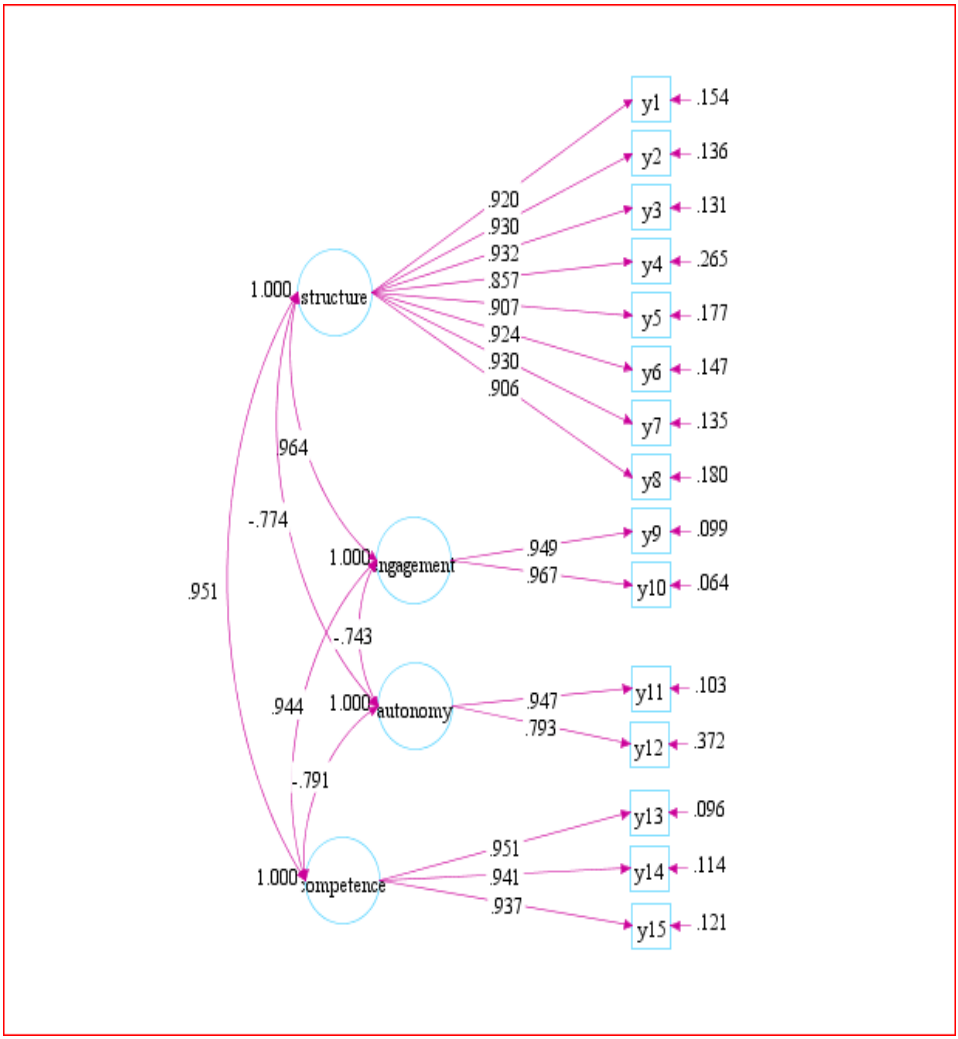

Figure 1. Path Diagram of Confirmatory Factor Analysis Result of Mentor Behavior Scale

Table 1. Correlation of Mentor Behavior Scale and its Sub-Dimensions and Peer Mentor Assessment Scale and its Sub-Dimensions

PMAS* / MBS**	Structure	Engagement	Autonomy	Competence	Sum of MBS
Contribution to Mentee	0,877	0,859	-0,638	0,859	0,884
Mentor's Characteristics	0,856	0,851	-0,6141	0,840	0,867
Peer Relationship	0,846	0,835	-0,634	0,828	0,851
Sum of PMAS	0,876	0,863	-0,642	0,858	0,884

*PMAS: Peer Mentor Assessment Scale, ** PMS: Peer Mentor Scale

Table 2. Correlations of the Mentor Behavior Scale and its Sub-Dimensions on Cronbach Alpha Reliability

Scale/Sub-Dimensions	Total Scale	Structure	Engagement	Autonomy	Competence
Structure	0.987**	1.00			
Engagement	0.954**	0.931**	1.00		
Autonomy	-0.641**	-0.710**	-0.665**	1.00	
Competency	0.948**	0.922**	0.902**	-0.722**	1.00

**p<0.001 Significany Level

Table 3. Cronbach's Alpha Reliability Analysis Results of Mentor Behavior Scale and Its Sub-Dimensions

Scale/Items	Mean of Sub-Dimension without the Item	Variance of Sub-Dimension without the Item	Correlation of the Item with Sub-Dimension	Reliability of Sub-Dimension if Item is Removed	Cronbach α
Structure					**0,976**
My mentor gives me useful advices when I tell him my needs, my worries, and my difficulties	20.99	79.053	0.906	0.972	
My mentor likes to give me constructive advices on what I initiate	21.01	78.726	0.916	0.972	
My mentor gives me information to help me in my actions and in solving my problems	20.95	78.627	0.916	0.972	
My mentor and I are working towards mutually agreed upon goals	21.39	80.679	0.851	0.975	

Scale/Items	Mean of Sub-Dimension without the Item	Variance of Sub-Dimension without the Item	Correlation of the Item with Sub-Dimension	Reliability of Sub-Dimension if Item is Removed	Cronbach α
Structure					**0,976**
We have established a good understanding of the kind of changes that would be good for me	21.23	80.005	0.898	0.972	
My mentor and I agree about the things I will need to do to help improve my situation	21.21	79.481	0.914	0.972	
I believe the way we are working on my situation is correct	21.15	79.307	0.918	0.971	
My mentor understands my needs, my worries, and my problems	21.03	79.955	0.886	0.973	
Engagement					**0.957**
My mentor listens attentively to the needs, worries, and achievements I share with him	3.12	1.930	0.918	-	
When meeting, my mentor talks more than I do	3.11	1.885	0.918	-	
Autonomy					**0.860**
When meeting, my mentor talks more than I do	3.71	1.568	0.754	-	
Often, my mentor takes decisions for me	3.43	1.586	0.754	-	
Competence					**0.960**
My mentor values me even after I experience failures	5.99	7.295	0.917	0.941	
My mentor often tells me what I do well	6.01	7.2340	0.920	0.938	
My mentor congratulates me when I do something right	5.92	7.032	0.911	0.946	
MENTOR BEHAVIOR SCALE Cronbach Alpha Coefficient of Confidence					**0.937**

Table 4. Findings of Test-Retest Reliability Analysis

Scale/Sub-Dimensions	Test-Retest Confidence Coefficient r_{tt}
Structure	0.892
Engagement	0.924
Autonomy	0.900
Competence	0.927
Sum of Mentor Behavior Scale	0.948

DISCUSSION

The mentorship programs occupy a rather important place in nursing education. Peer mentorship programs by upper year student nurses guiding lower year student nurses, provide for them to become accustomed to the school process, for them to increase their course successes and to develop their nursing skills. Mentors support mentees socially and academically. Thanks to these programs, the mentors are also developing their leadership skills, become active socially and can also find the opportunities to develop themselves academically. A very slight number of these programs are carried out in Turkey. Unfortunately, there are a very slight number of scales that could evaluate the outputs of these programs. In this sense, the Mentor Behavior Scale scale would provide contributions in the field.

In this study, the Mentor Behavior Scale, by using the translation-back translation method, provided language validity. The CFA and criterion-dependent validity analyses and the reliability analyses were made with the structural validity and the Cronbach's Alpha and the test-re-test method for the scope validity, by receiving expert opinions. The final condition of the form was given after the pilot study. It was determined that the results complied with the original scale developed by Brodeur et al. (17).

The variables, which examined the CFA with the objective of evaluating structural validity, aimed to determine the relationship among the hidden variables and how and to what degree it explains them (18). The CFA goodness-of-fit statistics are made, and it is necessary for the values calculated as the result of these statistics to be at a certain level. These show that there is a good fit when the Root Mean Square Error of Approximation (RMSEA) is equal to or smaller than 0.08 and the p value from 0.05, when the Standardized Root-Mean Square Residual (SRMR) is from 0.10, the Tucker-Lewis Index (TLI) or the Non-Normed Fit Index (NNFI) and the Comparative Fit Index (CFI) are equal to 0.90 or above (13, 19).

The MSB, just like the original scale, is defined as a model composed of 15 items and 4 dimensions. At the conclusion of the analyses made for determining whether there was a model data fit with the CFA, it was determined that the CFI=0.965, TLI=0.956, RMSEA=0.071 and the SRMR=0.018. When the model data fit indices and the error indices were treated together, it was observed that data tested of the model data fit was rather high (20, 21).

The factor load value is an explanatory coefficient correlation, which is the sub-dimensions/factors of the items. It is accepted that a factor load value of 0.60 and above is high; and between 0.30 and 0.59 is at a medium level size. A decision is made whether to remove items by considering these variables (22).

When the factor loads of the scale are considered, the item-scale factor loads of the items belonging to the mentorship relationship structure sub-dimension varies between 0.857 and 0.930, the participation-relationship between 0.949 and 0.967, the autonomy support between 0.793 and 0.947 and the competence support varies between 0.937 and 0.951. The item reliabilities (R2) values receive values between 0.628 and 0.936. It was determined in the study at the end of the CFA that all the item factor loads obtained were significant at the level of $p<0.001$. At the conclusion of the analyses, it was determined that the scale had a model-data fit at a good level, that the item factor loads at all sub-dimensions were above the desired level and that it provided for the structural validity of the scale.

The Mentor Behavior Scale was examined in the PATH diagram (Figure 1). The PATH diagram used by the CFA presents visually the correlation between the examined and the hidden variables. The variables (scale items) are

determined by rectangles found on the diagram, whereas the oval shapes show the hidden variables (sub-dimensions) (13, 23).

To provide for criterion validity, a standard scale, which has been accepted as a valid criterion in the same field and that was developed previously in the area worked and the scale worked, is at the same time, applied to individuals participating in the research and the correlation coefficients are calculated according to the scores received from the scales by individuals (24). It is necessary for criterion validity to receive high values, such as .70 to .80 of the correlation coefficients with the criterion used (25).

The correlation coefficients between the Mentor Behavior Scale and sub-dimensions and between the Peer Mentor Assessment Scale and sub-dimensions was found to be statistically significant at a high level of $p<0.001$ and it provides evidence at a high level on the criterion-dependent validities of the sub-dimensions of the Mentor Behavior Scale (Table 3).

The fact that reliability is consistent with each other for the results given in the measurements made one after each other by the measurement tool, is that the scale is sensitive and resolute and purified from random mistakes (26). The selection of statistical tests used for the evaluation of reliability can change connected to the thing, which is aimed to be measured (27). The three important reliability criteria for researchers are invariability, internal consistency and fit among observers (28).

It is considered whether one measurement tool measures in a noncontradictory manner a certain conceptual structure of items for internal consistency reliability. Whereas no matter how high the internal consistency among items, the scale is reliable to that degree (25).

The Cronbach's Alpha values are used in the determination of internal consistency in Likert-type scales, in semantic differential scales and in psychometric scales based on average points. Cronbach's Alpha gives information about changeability in the hidden conceptual structure that remains in the background. It is the reliability index value found in the mathematical calculations and becomes definite in whether a hypothetical variable of items is measured (25, 29). In general, the value accepted for the coefficient that is found by calculating is 0.70 and above [30]. The Cronbach's Alpha reliability coefficients for the entire scale and all the sub-dimensions were found to be rather high.

In the reliability studies in this research, the test-re-test reliability method was used from the methods for providing invariability criteria. It is the reapplication to the same group at different times with the objective of being able to measure the scale pure from mistakes, of being able to collect data in a correct manner and to show that it is a scale that can be continuously repeated. The time intervals between measurements affect the interpretation of the test-re-test reliability. There is a tendency for a decrease in attaining correct data when the time between two tests gets longer. Consequently, a time interval of 10 to 14 days is accepted as sufficient for the test-re-test (27, 28). However close to 1 the reliability coefficient is, the scale reliability is that high. It is acceptable for it to be at the level of 0.70 for scales with few items (25, 26).

It was determined in this study that the test-re-test reliability coefficients were high.

The limitation of this study is that the results are based on the perceptions of peer counseling of students attending the nursing department in only one region and that it could be applied in Turkey as a whole. Consequently, it is proposed that researchers from different schools, clinical environments and outside of nursing, who would work related to the subject could make studies, which cover the peer mentor experiences of more participants.

CONCLUSIONS

The Turkish version of the Mentor Behavior Scale is composed of 15 items and four sub-

dimensions of mentorship relationship structure, participation-relationship, autonomy support and competence support. The scoring of the Five-Point Likert-type scale is in the form increasing directly from 1) does not apply my situation at all, towards 5) applies very well to my situation. Items 11 and 12 included in the autonomy support sub-dimension are negative elements, which require reverse scoring. While the highest score that could be obtained from the scale is 75, the lowest score is 15. A high score shows that mentors have positive behaviors.

At the conclusion of the validity and reliability analyses conducted for the adaptation to Turkish of the Mentor Behavior Scale, it was determined that the scale was a valid and reliable tool for the nurse students. This tool can be used with the objective of evaluating the mentorship process and mentor behaviors continued in the nursing education programs.

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Conflict of Interest

The authors declare no potential conflicts of interest with respect to the research to the study, authorship, and/or publication of this article. Moreover, the submitted work ws not carried out in the presence of any personal, Professional or financial relationships that could potentially be construed as a conflict of interest.

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REFERENCES

1.Crisp, G., Cruz, I. Mentoring college students: A critical review of the literature between 1990 and 2007. Research in Higher Education 2015;50(6):525-545. https://doi.org/10.1007/s11162-009-9130-2

2.Arkün Kocadere, S. The development of a scale on assessing peer mentoring at the college level. Mentoring and Tutoring: Partnership in Learning. 2015;23(4):328-340. https://doi.org/10.1080/13611267.2015.1090283

3.Collier, P. Why peer mentoring is an effective approach for promoting college student success. Metropolitan Universities. 2017;28 (3):9-19. https://doi.org.10.18060/21539

4.Christie, H. Peer mentoring in higher education: Issues of power and control. Teaching in Higher Education. 2014;19(8):955-965. https://doi.org/10.1080/13562517.2014.934355

5.Gazaway, S., Gibson, R. W., Schumacher, A., Anderson, L. Impact of mentoring relationships on nursing professional socialization. Journal of Nursing Management. 2019;27(6):1182-1189. doi: 10.1111/jonm.12790

6.Heirdsfield, A. M., Walker, S., Walsh, K., Wilss, L. A. Peer mentoring for first year teacher education students: The mentors' experience. Mentoring and Tutoring: Partnership in Learning. 2008;16(2):109-124. https://doi.org/10.1080/13611260801916135

7.Terrion, J. L., Leonard, D. A taxonomy of the characteristics of student peer mentors in higher education: Findings from a literature review. Mentoring and Tutoring. 2007;15 (2):149-164. https://doi.org/10.1080/13611260601086311

8.Douglass, A. G., Smith, D. L., Smith, L. J. An exploration of the characteristics of effective undergraduate peer-mentoring relationships. Mentoring and Tutoring: Partnership in Learning. 2013;21(2):219-234. https://doi.org/10.1080/13611267.2013.813740

9.Evans, M. M., Kowalchik, K., Riley, K., Adams, L. Developing nurses through

mentoring: It starts in nursing education. The Nursing Clinics of North America. 2020;55(1):61-69. https://doi:10.1016/j.cnur.2019.10.006

10.Yirci, R., Özalp, U., Kocabaş, İ. Relationship between mentor teachers' mentoring functions and beginning teachers' subjective happiness / Danışman öğretmen mentorluk fonksiyonları ile aday öğretmenlerin öznel mutluluk düzeyi arasındaki ilişki. Kuram ve Uygulamada Eğitim Yönetimi. 2018;24(2):387-435. https://doi.org/10.14527/kuey.2018.010 (English / Turkish).

11.Botma, Y., Hurter, S., Kotze, R. Responsibilities of nursing schools with regard to peer mentoring. Nurse Education Today. 2013;33(8):808-813. https://doi.org/10.1016/%20j.nedt.%202012.02.021

12.Joung, J., Kang, K. I., Yoon, H., Lee, J., Lim, H., Cho, D., Cha, M., Choi, B. Peer mentoring experiences of nursing students based on the caring perspective: A qualitative study. Nurse Education Today. 2020;94. https://doi.org/10.1016/j.nedt.2020.104586

13.Esin, N. M. Veri Toplama Yöntem Araçları & Veri Toplama Araçlarının Güvenirlik ve Geçerliği (Data Collection Method Tools & Reliability and Validity of Data Collection Tools). Içinde S. Erdoğan, N. Nahcivan, & N. M. Esin (Ed.), Hemşirelik Araştırma Süreç, Uygulama ve Kritik (Nursing Research Process, Practice and Critical). 2014; (2. Baskı, ss. 193–232). İstanbul. (In Turkish).

14.Muthén, L. K., Muthén, B. O. Mplus User's Guide, 6th ed. Muthén & Muthén, Los Angeles, CA. 1998-2010.

15.Davis, L. L. Instrument review: Getting the most from a panel of experts. Applied Nursing Research. 1992;5(4):194-197. https://doi.org/10.1016/S0897-1897(05)80008-4

16.Yurdugül, H. Ölcek geliştirme çalışmalarında kapsam geçerliği için kapsam geçerlik indekslerinin kullanılması (The use of scope validity indices for scope validity in scale development studies). XIV. Ulusal Eğitim Bilimleri Kongresi (National Educational Sciences Congress), Pamukkale Üniversitesi Eğitim Fakültesi 28-30 Eylül 2005, Denizli, 1, 771-774 (in Turkish, abstract in English).

17.Brodeur, P., Larose, S., Tarabulsy, G., Feng, B., Forget-Dubois, N. Development and construct validation of the Mentor Behavior Scale. Mentoring and Tutoring: Partnership in Learning. 2015;23(1):54-75. https://doi.org/10.1080/13611267.2015.1011037

18.Çapık, C. Geçerlik ve güvenirlik çalışmalarında doğrulayıcı faktör analizinin kullanımı (Use of confirmatory factor analysis in validity and reliability studies). Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi. 2014;17(3):196-205 (in Turkish, abstract in English).

19.Kılıç, A. F., Koyuncu, İ. Ölçek uyarlama çalışmalarının yapı geçerliği açısından incelenmesi (Examination for structural validity of the scale adaptation studies) pp. 415-438. In: Demirel, Ö., Dinçel, S. (Eds), Küreselleşen Dünyada Eğitim (Education in the Globalizing World). Pegem Akademi, Ankara, Turkey. 2017. https://doi.org/10.14527/9786053188407.27

20.Baumgartner, H., Homburg, C. Applications of structural equation modeling in marketing and consumer research: A review. International Journal of Research in Marketing. 1996;13(2):139-161. https://doi.org/10.1016/0167-8116(95)00038-0

21.Yaşlıoğlu, M. M. Sosyal bilimlerde faktör analizi ve geçerlilik: Keşfedici ve doğrulayıcı faktör analizlerinin kullanılması (Factor analysis and validity in social sciences: Application of exploratory and confirmatory factor analysis). İstanbul Üniversitesi İşletme Fakültesi Dergisi. 2017;46, Special Issue/Özel Sayı:74-85 ISSN: 1303-1732 – http://dergipark.ulakbim.gov.tr/iuisletme (in Turkish, abstract in English).

22.Büyüköztürk, Ş. Faktör analizi: Temel kavramlar ve ölçek geliştirmede kullanımı (Factor analysis: Basic concepts and using to development scale). Kuram ve Uygulamada Eğitim Yönetimi. 2002;32(32):470-483 (in Turkish, abstract in English).

23.Evci, N., Aylar, F. Derleme: Ölçek geliştirme çalışmalarında doğrulayıcı faktör analizinin kullanımı (Use of confirmatory factor analysis in scale development studies). Sosyal Bilimler Dergisi. 2017;4(10):389-412. DOI: 10.16990/SOBIDER.3386 (in Turkish, abstract in English).

24.Ercan, İ., Kan, İ. Ölçeklerde güvenirlik ve geçerlik (Reliability and validity in the scales). Uludağ Üniversitesi Tıp Fakültesi Dergisi. 2004;30(3):211-216 (in Turkish, abstract in English).

25.Çam, M. O., Baysan-Arabacı, L. Tutum ölçeği hazırlamada nitel ve nicel adımlar (Qualitative and quantitative steps on attitude scale construction). Hemşirelikte Araştırma Geliştirme Dergisi. 2010;12(2):64-71 (in Turkish, abstract in English).

26.Kan, A. Ölçme araçlarında bulunması gereken nitelikler (Characteristics needed in measurement tools) pp. 42-102. In: Atılgan, H. (Ed), Eğitimde Ölçme ve Değerlendirme (Measurement and Evaluation in Education), 10th ed. Anı Yayıncılık, Ankara, Turkey (in Turkish). 2017.

27.Keszei, A. P., Novak, M., Streiner, D. L. Introduction to health measurement scales. Journal of Psychosomatic Research. 2010;68(4):319-323. http://DOI:10.1016/j.jpsychores.2010.01.006

28.de Souza, A. C., Alexandre, N. M. C., Guirardello, E. B. Psychometric properties in instruments evaluation of reliability and validity. Epidemiologia e Servicos de Saúde. 2017;26 (3):649-659. DOI: 10.5123/S1679-4942017000300022 (English/Portuguese).

29.Çakmur, H. Araştırmalarda ölçme-güvenilirlik-geçerlilik (Measurement-reliability-validity in research). TAF Preventive Medicine Bulletin. 2012;11(3):339-344. https://doi.org/10.5455/pmb.1-1322486024 (in Turkish, abstract in English).

30.Şeker, H., Gençdoğan, B. Test güvenirliği ve geçerliği (Test reliability and validity), pp. 39-56. In: Şeker, H., Gençdoğan, B. (Eds), Psikolojide ve Eğitimde Ölçme Aracı Geliştirme (Developing an assessment tool in psychology and education), 2nd ed. Nobel Akademi Yayıncılık, Ankara, Turkey (in Turkish). 2014.