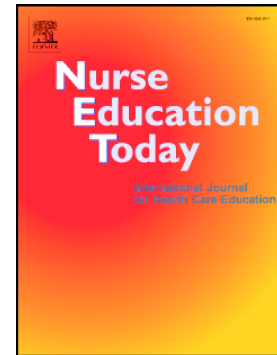


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Developing a measurement tool for evaluating the hidden curriculum in nursing education

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Elsevier Editorial System(tm) for Nurse Education Today Manuscript Draft**Manuscript Number:****Title:** Developing A Measurement Tool For Evaluating The Hidden Curriculum In Nursing Education**Article Type:** Research Paper**Keywords:** nursing education, scale development, hidden curriculum, validity and reliability.**Corresponding Author:** Berna Akçakoca**Corresponding Author's Institution:** Ege University Nursing Faculty**First Author:** Berna Akçakoca**Order of Authors:** Fatma Orgun**Manuscript Region of Origin:** TURKEY**Abstract:**

Background: The investigation of affective awareness in nursing students is important insofar as the results can serve to improve the quality of education provided to them and enhance nursing undergraduate education programs.

Objectives: This study aims to develop a valid and reliable measurement tool for use in determining and evaluating the hidden curriculum of institutions providing nursing education at the level of bachelor's degree.

Setting: University Faculty Nursing

Participants: Nursing students.

Methods: This study was a methodological scale development study. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted for the construct validity of the measurement tool of which content validity and a pilot study were conducted. For predictive validity, Pearson correlation coefficient between total scale and its subdimensions was calculated and the compliance between them was examined. Time invariance of the scale was tested using the test-retest method (test-retest reliability was estimated). Internal consistency reliability of the scale was calculated using Cronbach's alpha internal consistency coefficient.

Results: Factor analyses showed that Hidden Curriculum Evaluation Scale in Nursing Education (HCES-N) included 43 items and three subdimensions and 13 reverse scored items. Cronbach's alpha reliability coefficient of the scale was found to be 0.912.

Conclusions: Institutions that provide nursing education should recognize their own hidden curriculum and the institution's hidden curriculum. Formal program outcomes should correspond with each other to ensure nursing students' graduation outcomes as intended. This

study in which a measurement tool was developed to determine and evaluate the hidden program in nursing education is thought to facilitate the process. The Hidden Curriculum Evaluation Scale in Nursing Education (HCES-N) is a measurement tool providing psychometric characteristics to be used in accordance with its purpose.

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*This study was presented as a verbal notification during Palandoken International Nursing Education Congress and awarded the second prize.

Abstract

Background:

Nursing students graduate with several unintended learning outcomes within the context of professional values, practices, behaviors and socialization. Unintended learning outcomes are addressed by means of a hidden curriculum in the literature. Nursing faculties should recognize and evaluate their own hidden curriculum and integrate it with official curriculum outcomes to achieve the desired nurse profile. This study was conducted due to the lack of a measurement tool for evaluating the hidden curriculum in the literature.

Objective: This study aims to develop a valid and reliable measurement tool for use in determining and evaluating the hidden curriculum of institutions providing nursing education at the level of bachelor's degree.

Method: First, comprehensive literature research was conducted, then a question pool including 59 items was created in the development of the measurement tool. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted for the construct validity of the measurement tool of which content validity and pilot study were conducted. The validity of the scale in CFA was evaluated using Chi-Square Goodness, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR). For predictive validity, Pearson correlation coefficient between total scale and its subdimensions was calculated and the compliance between them was examined. Time invariance of the scale was tested using the test-retest method (test-retest reliability was estimated). Internal consistency reliability of the scale was calculated using Cronbach's alpha internal consistency coefficient. This methodological scale development study was conducted with senior year nursing students from two different universities in Turkey (n=448).

Results: Factor analyses showed that Hidden Curriculum Evaluation Scale in Nursing Education (HCES-N) included 43 items and three subdimensions and 13 reverse scored items. Cronbach's alpha reliability coefficient of the scale was found to be 0.912.

Conclusion: The HCES-N is a measurement tool providing psychometric characteristics to be used in accordance with its purpose.

Keywords: nursing education, scale development, hidden curriculum, validity and reliability.

Introduction

Education has varied purposes such as providing learners' intellectual and individual development, educating learners who are beneficial to society, and improving social

production. These purposes cannot be totally achieved with the formal education program that is provided in schools. The graduate profile of universities illustrates that not all intended learning outcomes are achieved. Additionally, students also graduate with several unintended learning outcomes. These unintended learning outcomes are addressed within the scope of the hidden curriculum (Yüksel, 2002a; Flinder & Thornton, 2004).

The hidden curriculum is transmitted consciously or unconsciously. It continues inherently within a school culture by affecting both instructors and students. The hidden curriculum is known for giving powerful messages about political socialization, promoting values, maintaining traditional classroom structures, authority, control, obedience and hierarchy (Takala et al., 2001; Siktberg, 2012; Orgun et al., 2019).

Nursing, which is viewed as a trustworthy profession with high moral standards, is affected by the hidden curriculum throughout nursing education (Allar & Smith, 2011; Karimi et al., 2014; Ranjbar et al., 2017; Orgun et al., 2019). The International Council of Nurses (ICN) Code of Ethics for Nurses states that the necessity for nursing is universal, and nursing is about value and respect for human life and rights, regardless of nationality, language, religion, race, age, political view, and social status (ICN, 2012). Qualified nursing care includes characteristics such as caring, being kind, friendly, encouraging, empathetic, compassionate and understanding (Straughair et al., 2019). Although formal curricula are planned with certain goals, the hidden curriculum has a significant influence on forming the professional identities of nursing students (Hopkins et al., 2016). Therefore, institutions should create their own hidden curriculum and regulate it in accordance with the formal curriculum to enable competent nurses to acquire these characteristics.

Background

Although courses and course content at universities are fundamentally similar, some universities become prominent in terms of recognition in society and the quality of the graduate students. Researchers have identified factors responsible for these differences: university standards, academic staff, students' social class and level of academic success, social and academic life at the university, in other words, hidden curriculum (Skelton, 1997; Yüksel, 2002b; Wilkinson, 2016).

The hidden curriculum is an informal, unwritten curriculum that includes knowledge, opinion, perception, practice and values which students have other than the goals and activities described in the official curriculum practices. Literature also characterizes hidden curriculum with concepts such as unspecified curriculum, secret curriculum, non-academic outcomes of

schooling, and embedded curriculum (Eisner, 1992; Pinar et al., 1995; Flinders & Thornton, 2004; Demirel, 2015.).

Each school or society has their own hidden curriculum and this curriculum may vary by living area, situation, people, age, and culture. An unwritten system directing education practices are hidden under these practices. This system is carried out with the effects of a hidden curriculum as well as the formal curriculum (Hemmings, 2000; Yüksel, 2002b; Karimi et al., 2014).

Behaviors and attitudes such as professional ethics, professionalism, communication, empathy skills, and creating professional identity are indispensable elements for nurses working in close relationship with human and human life as part of their profession. Studies have indicated that these characteristics improve by being cultivated from the educational environment, learning climate, language and strategies used by academics in the classroom, textbooks, ideological structure and atmosphere rather than the official curriculum administered in the schools, which means improvement within the scope of the hidden curriculum (Lempp & Seale, 2004, Allan et al., 2011; Siktberg, 2012; Karimi et al., 2014, Hopkins et al., 2016). In addition to the time spent in school, the dominant professional culture that students are exposed to during practice makes an impression on them, especially in vocational education (Lempp & Seale, 2004; Allan et al., 2011). From this assessment, nursing students are affected by faculty, academic members, nurses supporting clinical education, mentors, nurse managers and nursing students who are seen as role models. These effects are seen mostly in professional behaviors, professional practices, positive and negative attitudes during education and practice, the way of perceiving profession and professional socialization (Allan, 2011; Karimi et al., 2014; Wilkinson, 2016; Raso et al., 2019). Therefore, limiting study to the official curriculum and trying to improve the official curriculum are not enough to educate qualified nurses. Institutions providing education at the bachelor level seeking to improve the quality of graduates should research their hidden curriculum and determine the effects embedded in the education and manage them according to the goals of the education program.

Consequently, this study aims to develop a measurement tool to increase understanding of the hidden curriculum in nursing departments. This study will contribute to the accreditation studies of the institutions providing nursing education at the bachelor level and enrichment of the relevant literature.

Method

The stages of the development study of the Hidden Curriculum Evaluation Scale in Nursing Education (HCES-N) and the characteristics of the study group are presented below.

Research Design

The design is a methodological scale development study in which scope validity and psychometric characteristics of the HCES-N were tested (Table 1).

The study sample included senior nursing students in the nursing faculties of two universities in Turkey in the 2018 academic year who agreed to participate in the study (n=448). Senior nursing students understand and evaluate the structure of the institution, academic and administrative employees, and practice environment more effectively, which is why they constituted the sample group. Studies on hidden curriculum have shown that institutions prefer experienced groups or students experiencing a clinical environment (Ercan et al., 2009; Allan et al., 2011; Karimi et al., 2014).

Participants' Socio-demographic Characteristics

This section includes the socio-demographic characteristics of the participants in the study. Of the participants, 78.1% were female, 21.9% were male, and 84.8% were between the ages of 21 and 23. Participants were asked about their academic achievements and 7.1% regarded their level of success as excellent, 44.4% as good, 45.3% as moderate, and 3.1% as poor. They were asked about their knowledge of a hidden curriculum and 6.5% said that they knew, 12.7% said that they did not know and 80.8% said that they had partial knowledge regarding the hidden curriculum (Table 2).

Development of the scale

In the first stage of the scale development study, the scope of the hidden curriculum was determined by undertaking a comprehensive literature review. A theoretical base of the scale was created as an item pool of 59 questions based on three basic resources as 'administrative and organizational tool arrangements of the school, interactions between school and environment, and classroom atmosphere' which are accepted as factors that hidden curriculum items are affected most (Eisner, 1992; Myles & Simpson, 2001; Yüksel, 2004; Allan et al., 2011; Ercan et al., 2009; Karimi et al., 2014; Jafree et al., 2015; Akbulut & Aslan, 2016; Tuncel, 2008). In order to provide scope validity of the draft form which included 59 items, it was introduced to 11 academic members (one from the Department of Education curriculum and instruction, four from the Nursing education/training, one from Medical education and five from other nursing fields). Experts were asked to evaluate scale items in terms of scope, language appropriateness, clarity and intelligibility. According to Lynn's (1986) ratio of content validity criteria, questions for which the content validity index (CVI)

was 0.83 or higher were selected and the second validity test was conducted by revising the questions, if necessary.

Finally, no items were excluded, and all items were slightly edited based on the suggestions of the experts. Each item in the form was scored on a 5-point Likert type scale where “Always=5”, “Often=4”, “Sometimes=3”, “Rarely=2”, and “Never=1”.

In terms of the reliability of the draft form prepared for the pilot practice, the scale was administered to 40 nursing students matching the inclusion criteria from another faculty. To test the clarity, lucidity, and functionality of the items in this form, students were informed verbally and in writing regarding the reason for this practice. Finally, no change was made in the form.

Data Collection

The test form was presented and completed in face-to-face meetings which lasted 15-20 minutes on average. The sample included 30 students matching the inclusion criteria and voluntarily participating in the study while collecting test-retest data. The time interval between the performance of the two tests was three weeks.

Data analysis

The psychometric characteristics of the measurement tool were tested based on the collected data (n=448). Exploratory Factor Analysis (EFA) was performed using principal components analysis with varimax rotation to determine the construct validity of the scale. Confirmatory Factor Analysis (CFA) was performed to test the accuracy of the structure revealed with EFA (Büyüköztürk, 2015; Williams et al., 2010; Bryant & Yarnold, 1995). Cronbach’s alpha coefficient was calculated for the subdimensions and total reliability of the scale (Cronbach, 2004). For predictive validity, the correlation coefficient between the total scale score and subscales of the scale was calculated through the Pearson Product-Moment Correlation Coefficient. To test the consistency of the measurement tool based on time, the test-retest analysis was performed (Cronbach, 2004; Büyüköztürk, 2015).

The Statistical Package for the Social Sciences (SPSS 20.0) and Linear Structural Equations Model Language (LISREL 8.80) package programs were used in the statistical evaluation of the measurement tool development study.

Validity: Factor analysis was performed to reveal the construct validity of the scale and size items by determining their factor loads. The Principal Components Analysis method was used as an extraction method. Principal Components Analysis result indicated that there were 14 components with eigenvalues above 1. These 14 components explained 59.015% of the total variance.

To understand if the correlation matrix was extractable based on the results obtained from principal components analysis, values belonging to the KMO (Kaiser Meyer Olkin) value and Bartlett's Sphericity test were examined. KMO value was found to be 0.899 and Bartlett's Test of Sphericity value was found to be 10034.606. This statistic was found to be significant at the level of $p < 0.001$. These findings indicated that the data matrix had a sufficient variability for factor analysis and the item sample was sufficient.

Core values-component graphic of the scale obtained as a result of the Principal Components Analysis (PCA) indicated that the slope flattens as from the third component; however, the other 11 components did not differentiate from each other. This situation indicated that the scale could be triaxial. In accordance with this result, the number of components (factor, dimension) was determined to be three for factor analysis. The PCA indicated that the scale reflected a structure with three factors.

Later, factor loads of 59 items were examined and items having a factor load below 0.40 and providing load to more than one dimension were extracted from the scale. Exploratory Factor Analysis (EFA) was performed so that the factor number was 3 for the data matrix including 43 items determined to remain in the scale after this process. Exploratory Factor Analysis results were obtained for the data matrix of 43 items using principal axis factoring extraction method and varimax method as a spinning method.

According to the EFA, the relevant 3 dimensions explained 40.617% of the total variability. Dimensions were separately explained, and the variance value was observed as above 5%. The first dimension explaining 19.212% of the total variance included 21 items, the second dimension explaining 13.171% of the total variance included 12 items and the third dimension explaining 8.324% of the total variance included 10 items.

Confirmatory Factor Analysis was performed to obtain more evidence regarding factorial construct validity. For this purpose, a theoretical model was formed and tested based on EFA. Goodness of fitness statistics values obtained as a result of the analysis were Chi-square/df (2647.62/816)=3.24, RMSEA=0.074, SRMR=0.071, RMR=0.080, GFI=0.94 and AGFI=0.93. According to the CFA results, item-dimension factor loads in the first dimension varied between 0.43 and 0.70, item-dimension factor loads in the second dimension varied between 0.42 and 0.75 and item-dimension factor loads in the third dimension varied between 0.34 and 0.86 (Table 3).

The correlation coefficient between total scale score and subdimensions of the scale was calculated through the Pearson Product-Moment Correlation Coefficient and these coefficients varied between 0.501 and 0.898.

Reliability: Test-retest analysis was performed to evaluate the time invariance of the scale and the Pearson Product-Moment Correlation Coefficient was found to be $r_{xy}=0.973$.

Cronbach's alpha internal consistency coefficient was calculated for the reliability of the 43 items in the scale. Cronbach's alpha values of the first subdimension including 21 items, the second subdimension including 12 items and the third subdimension including 10 items were found to be 0.913, 0.888 and 0.765, respectively. Cronbach's alpha value of the entire scale was found to be 0.912.

Discussion

This study tested the scope validity and psychometric characteristics of the measurement tool developed for the evaluation of the hidden curriculum in nursing education.

The factor analysis method is often used in the examination of the construct validity in validity reliability studies. The PCA was used as an extraction method. Principal components analysis is a method aimed at decreasing variables and obtaining meaningful conceptual constructs and is often used (Büyüköztürk, 2015). To understand whether the correlation matrix was extractable based on the results obtained from principal components analysis, values belonging to the Kaiser-Meyer Olkin (KMO) test and Bartlett's Sphericity test were examined. Kaiser-Meyer Olkin value ranged between 70 and 79, which showed that sample competence was at a good level for the analysis (Williams et al., 2010). In the present study, KMO value was found to be 0.899, which indicated that the sample was suitable for the factor analysis. Bartlett's test of this study was significant, which indicated that the items' correlation matrix was suitable for the factor analysis.

Harrington (2009) stated that factor loads should not be below 0.30. Factor loads above 0.71 are perfect. Factor loads which are 0.63 are very good, 0.55 are good, 0.45 are good/acceptable and 0.32 are weak. Items where the factor loads were below 0.40 were excluded from this study and the scale included 43 items in total. The factor number of the measurement tool was found to be three. According to the EFA, the relevant 3 dimensions explained 40.617% of the total variability. It has been stated that it is sufficient for the variance explained for multi-dimensional scales to be higher than 30% (Büyüköztürk, 2002). The literature emphasizes that naming of the subdimensions that are revealed as a result of the factor analysis is based on expectations, and interpretations and opinions of experts in the subject field should be utilized (Bryant & Yarnold, 1995). The subdimensions of this scale were named "school atmosphere, professional acquisitions and student-teacher-school interaction" in accordance with the theoretical structure based on the study.

Confirmatory Factor Analysis was performed in addition to EFA to obtain more evidence regarding factorial construct validity. For this purpose, a theoretical model was created and tested based on EFA, and these values were obtained as a result of the analysis and were found to have high model-data compliance (Bryant & Yarnold, 1995; Wang & Wang, 2012).

The goodness of Fit Indices (GFI) were used in DFA and normal values were accepted as follows: normal value for χ^2 and p values were found to be $p > 0.05$; normal value and acceptable value for GFI were found to be > 0.95 and > 0.90 , respectively; normal value and acceptable value for AGFI were found to be > 0.95 and > 0.90 , respectively; normal value and acceptable value for CFI were found to be > 0.95 and > 0.90 , respectively; normal value and acceptable value for RMSEA were found to be < 0.05 and < 0.08 , respectively; normal value and acceptable value for RMR were found to be < 0.05 and < 0.08 , respectively; normal value and acceptable value for SRMR were found to be < 0.05 and < 0.08 , respectively (Simsek, 2007; Wang & Wang, 2012).

The CFA indicated that all items had high R^2 values and all t values showing whether factor loads are statistically significant were significant at $p < 0.001$ level.

For predictive validity, the correlation coefficient between total scale score and subdimensions of the scale was calculated through the Pearson Product-Moment Correlation Coefficient and predictive validity was provided ($p < 0.001$).

Test-retest analysis was performed to indicate that the scale was time-invariant. Correlation between two measurements should show a positive and high-level relationship to be able to say that the scale is time-invariant (Cronbach, 2004). The analysis indicated that this test had test-retest reliability and was time-invariant ($r = .70$).

There are various techniques and formulas to determine internal consistency statistically. However, Cronbach's alpha value is used if the number of item options is three and above in the scale. This coefficient is the measurement of internal consistency, in other words, homogeneity. In literature, the significance of Cronbach's alpha reliability coefficient indicating the internal consistency is as follows: If Cronbach's alpha coefficient is $0.00 < \alpha < 0.40$, it is not a reliable scale. If Cronbach's alpha coefficient is $0.40 < \alpha < 0.60$, it is a low reliable scale. If Cronbach's alpha coefficient is $0.60 < \alpha < 0.80$, it is a quite reliable scale. If Cronbach's alpha coefficient is $0.80 < \alpha < 1.00$ it is a highly reliable scale (Cronbach, 2004). Cronbach's alpha coefficient of this measurement tool was calculated as $\alpha = 0.912$.

Interpretation of Scale Scores

The measurement tool developed to determine and evaluate the hidden curriculum in nursing education included three subdimensions and 43 items. Thirteen reverse scored items were included. The highest and lowest scores obtainable from the scale were as follows:

“The lowest and highest scores were 21 and 105 for the “school atmosphere” subdimension, the lowest and highest scores were 12 and 60 for the “professional acquisitions” subdimension, the lowest and highest scores were 10 and 50 for the “student-teacher-school interaction” subdimension and the lowest and highest scores were 43 and 215 for the total scale. As the score from the scale increased, compliance between the hidden curriculum and the official curriculum increased and students nearly achieved the desired graduate profile.

Limitations

The hidden curriculum does not have any specific limits and varies by university, faculty and even institution. Therefore, the study was conducted on the basis of three sources which hidden curriculum items are accepted to be affected most. This is the limitation of the measurement tool.

Results: When the scale titled “Hidden Curriculum Evaluation Scale in Nursing Education” was developed, expert opinions were obtained for content validity, a pilot scheme was administered to the test scale form, predictive validity, construct validity, time invariance of the scale and internal consistency analyses were conducted. Eventually, this scale included 43 items and three subdimensions, which were ‘school atmosphere, professional acquisitions and student-teacher-school interaction’. Cronbach’s alpha value of the scale was found to be 0.912.

Conclusion

Institutions that provide nursing education should recognize their own hidden curriculum and the institution’s hidden curriculum. Formal program outcomes should correspond with each other to ensure nursing students’ graduation outcomes as intended. This study in which a measurement tool was developed to determine and evaluate the hidden program in nursing education is thought to facilitate the process. The Hidden Curriculum Evaluation Scale in Nursing Education (HCES-N) is a measurement tool providing psychometric characteristics to be used in accordance with its purpose.

Declaration of Competing Interest

The authors declare no competing interests.

Ethical Consideration

Necessary ethical permissions were obtained for the study and ethical suitability. Participants signed documents of participation indicating that they agreed to participate in the study and collected data would only be used in the scope of the study. In addition, participants' personal information was kept confidential.

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Tables

Table 1. Steps for Improving Measurement Tools

Methods	Processes/Analyses
Scope / Content Validity	
<ul style="list-style-type: none"> • Constituting an item pool (Draft form) • Expert Opinion • Pilot Scheme 	<ul style="list-style-type: none"> • Writing items qualified to the content and scope of the study subject • Calculating Content Validity Index (CVI) and Content Validity Rates (KGu) • Giving a pilot scheme to the 40 students excluded from the sample; testing clarity, comprehensibility, and operability of the scale and making necessary changes
Predictive Validity	<ul style="list-style-type: none"> • Calculating the correlation coefficient between total scale score and scale subscales
Construct Validity	<ul style="list-style-type: none"> • Exploratory Factor Analysis • Confirmatory Factor Analysis
Time Invariance Test-Retest Method	<ul style="list-style-type: none"> • Calculation of Pearson Moments Multiplication Correlation Coefficient
Internal Consistency	<ul style="list-style-type: none"> • Calculation of Cronbach Alpha Coefficient

Table 2. Students' Socio-Demographic Characteristics

VARIABLES	Number (n)	Percentage (%)
Gender		
Female	350	78.1
Male	98	21.9
Age (years)		
21-23	378	84.4
24 and above	70	15.6
Academic success		
Very Good	32	7.1
Good	199	44.4
Moderate	205	45.3
Poor	14	3.1
Information regarding the hidden curriculum		
Yes	29	6.5
No	57	12.7
Partial	362	80.8
Total	448	100

Table 3: Loading of HCES-N items on the EFA and the CFA

ITEMS***	Factor 1		Factor 2		Factor 3		R ²	t** value
	EFA*	CFA**	EFA	CFA	EFA	CFA		
School Atmosphere								
1.Courses meet the personal development needs of students.	.68	.61					.35	38.41
2.There is a good sense of cooperation at school.	.66	.69					.46	43.45
3.The instructor's approaches increases my desire to like the profession.	.64	.66					.36	41.78
4.There is a good sense of cooperation between the instructors and students at school.	.63	.65					.31	41.11
5.The learning environment in the class facilitates my learning.	.61	.67					.37	41.82
6.The school management and instructors care about socio-cultural activities as well as the courses.	.61	.57					.20	29.88
7.I felt that I was a part of school during my education there.	.58	.45					.17	29.05
8.Homework given by the instructors contributes to my professional development and creativity.	.57	.43					.17	27.05
9.Rules and regulations in the school are applied to everyone equally.	.56	.56					.24	31.41
10.The school environment increases my life motivation.	.56	.75					.47	46.70
11.The exams involve questions that require thinking and reasoning.	.55	.66					.38	41.66
12.Instructors are role models with their attitudes and behaviors.	.54	.52					.24	33.41
13.The materials used in the courses are associated with a certain point of view.	.54	.62					.44	39.30
14. Instructors support students in the fields in which they are interested.	.53	.49					.24	31.60
15.I can report my recommendation/complaints about the teaching methods or exams to the instructors.	.52	.66					.36	41.74
16.The staff at the school are helpful and friendly.	.51	.58					.33	36.82
17.The architectural characteristics of the school are appropriate for nursing education.	.50	.69					.50	43.33

18. There are activities such as banners, brochures and seminars aimed at making someone adopt a certain idea, opinion and ideology in or out of school.	.44	.62	.32	39.06	
19. Instructors specify the evaluation criteria about the course and practice before an exam or a homework.	.43	.68	.41	42.86	
20. Activities such as banners, brochures and seminars promoting the profession are held at the school or near the school.	.42	0.70	.37	43.73	
21. Students use the materials and equipment of the school carefully.	.41	0.45	.19	29.15	
Professional Acquisitions					
22. I have learned the importance of the nursing profession in life.		.74	.42	.19	23.52
23. I have learned to respect other people's values, beliefs and opinions throughout my education.		.68	.75	.59	4.56
24. I have learned to establish good communication with the patient and patient relatives throughout my education.		.66	.71	.52	38.48
25. I have realized that using learning and teaching activities is important in nursing practices.		.66	.77	.53	41.72
26. I have learned that I should be proud to be a nurse.		.65	.52	.29	28.42
27. I have learned that nurses can enhance their knowledge by participating in scientific meetings or following the literature.		.55	.53	.37	29.11
28. The education I received at school taught me the necessity of team work.		.55	.61	.41	33.29
29. The education I received at school improved by empathy skills.		.55	.62	.35	33.77
30. The education I received at school increased my sensitivity toward social changes.		.53	.71	.47	38.58
31. I have learned that professional ethical principles are important in nursing practices.		.53	.67	.38	36.16
32. The education I received at school improved by scientific perspective.		.51	.64	.34	35.12
33. Nursing is a valuable and valid profession in society.		.46	.53	.30	29.05

Student-Teacher-School Interaction

34. The behaviors of instructors negatively affect my feelings about my life.	.58	.34	.11	1.98
35. Instructors are insistent on making students agree with their ideas.	.58	.58	.26	24.52
36. We experience gender discrimination at school.	.57	.46	.16	19.89
37. The school management and instructors demonstrate an oppressive attitude about respecting them.	.50	.38	.12	1.28
38. There is gender discrimination among students in clinical practices.	.50	.39	.12	12.15
39. School management and instructors force students to adopt a certain perspective.	.48	.57	.27	23.85
40. Instructors treat students they feel close to with more understanding and kindness.	.45	.80	.47	32.75
41. Instructors criticize the people and books that do not adhere to their opinions.	.43	.94	.45	36.25
42. Discriminatory attitudes are exhibited toward students from different cultures or ethnic groups	.43	.54	.25	22.66
43. The hierarchy is very obvious between school personnel and instructors.	.41	.86	.40	34.06

Factors	Eigenvalues	Total Variances (%)	Cronbach Alpha Values
School Atmosphere	8.261	19.212	0.913
Professional Acquisitions	5.663	32.383	0.888
Student-Teacher-School Interaction	3.540	40.617	0.765

*Significant at the level of $p < 0.01$.

**Significant at the level of $p < 0.001$.

***Original language of items is Turkish & that the instrument has been validated only in this country.