

The Scale on Community Care Perception (SCOPE) for nursing students: The reliability and validity

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Abstract

Aim: The fact that a great majority of undergraduate nursing students do not prefer to work in the field of community health after graduation is an important issue in terms of community care. This study evaluated the validity and reliability of Turkish adaptation of the Scale on Community Care Perception (SCOPE) for nursing students.

Design: This study is a methodological study.

Methods: The study was conducted in two phases. The sample of the study was composed of 601 undergraduate nursing students studying in a university located in the Central Anatolia region of Turkey. The data were collected using the Descriptive Information Form and "Scale on Community Care Perception for Nursing Students."

Results and Discussion: The content validity index of the Turkish version of the scale was 0.91. The scale consisted of 28 items and 6 subscales and these 6 subscales accounted for 60.297% of the total variance. The Turkish adaptation of the SCOPE is demonstrated validity and reliability and can be used in measuring the community care perception of Turkish nursing students.

KEYWORDS

community health care, nursing students, reliability and validity

1 | INTRODUCTION

Despite the international change in healthcare delivery, nursing students have limited knowledge in community care. Career plans for the community care which has incompetence between the developments in health care and current labor are preferred by nursing students limitedly.^{1,2} For this reason, the number of community health nurses are considerably low in developing countries as in Western countries.³⁻⁵ This is because traditionally, hospitals are perceived as the interesting and eye-catching, highly technological environment and therefore they are a working setting preferred by students.^{6,7} Since the community care includes more chronic care profile and difficulties are experienced due to the health system in Turkey, it is seen less attractive.^{8,9} Due to the challenging roles and responsibilities of the students in community care, there is a need for strategies to increase awareness and understanding in this area. In

addition, the fact that health policymakers make strategy planning by being aware of the role of nurses in community care is also an important step in influencing nursing students' perception. Because internship practices in the community during nursing education will provide experiences that help students to guide themselves for their future careers.⁹ In addition, there is no detailed information available on students' perceptions of community care in their studies. In addition, no measurement tool has been found evaluating the community care perception in Turkish literature. Therefore, the validity and reliability study for the Turkish adaptation of the "Scale on Community Care Perception (SCOPE) for Nursing Students" developed by Van Iersel et al., was conducted. The purpose of this study is to evaluate the validity, reliability, and psychometric properties of Turkish adaptation of the SCOPE for Nursing Students and to determine the community care perceptions of the Turkish nursing students. The aim of this study was to translate the SCOPE

into Turkish and to analyze the reliability and validity of the Turkish version of the SCOPE in nursing students.

2 | METHODS

2.1 | Design

The study was conducted methodologically. Also the study was conducted in two phases: Adaptation of the SCOPE Turkish into and Validation of the psychometric properties of the SCOPE.

2.1.1 | Phase 1: Adaptation of the SCOPE into Turkish

This phase is shown in Figure 1 and was performed in five stages, following different techniques in each phase in accordance with the recommendations of experts in the adaptation of questionnaires.¹⁰ In the Turkish translation of SCOPE from English, the standard back-and-forth procedure was applied. In the first stage, three translator who knows three languages translated independently SCOPE into Turkish. In the second stage, the three translations were synthesized to resolve any discrepancies between them. In the third stage, a backtranslation was prepared by two bilingual professional whose mother tongue is English. Each of them independently created a translation from the predefinitive version of the instrument and these

translations were compared with each other and with the original version. In the fourth stage, the expert committee created the definitive version based on the assessment of semantic equivalence (equivalent meaning of words, grammatical difficulties in the translation), idiomatic equivalence, and conceptual equivalence. Finally (step 5), a pilot test was performed on a sample of 60 nursing students. The pilot test was implemented by two evaluators trained by researchers and provided materials. It was observed that there was no problem in understanding and answering the items in the pilot test.

2.1.2 | Phase 2: Validation of the psychometric properties of the SCOPE

Psychometric study of the reliability and validity of the Turkish version of the SCOPE evaluation tool in a sample of 601 undergraduate nursing students. In this study, primarily confirmatory factor analysis was used to evaluate the suitability of the original SCOPE scale to Turkish culture as 35 items and 3 subscales. Since the obtained goodness-of-fit values did not meet the reference values, construct validity (first internal consistency and then exploratory factor analysis) was applied. Construct validity is related to the ability of the measurement tools to measure the latent traits that are theoretically stated accurately. In other words, construct validity provides evidence regarding how valid the measurement of the target construct is.¹¹ Confirmatory factor analysis, explanatory factor

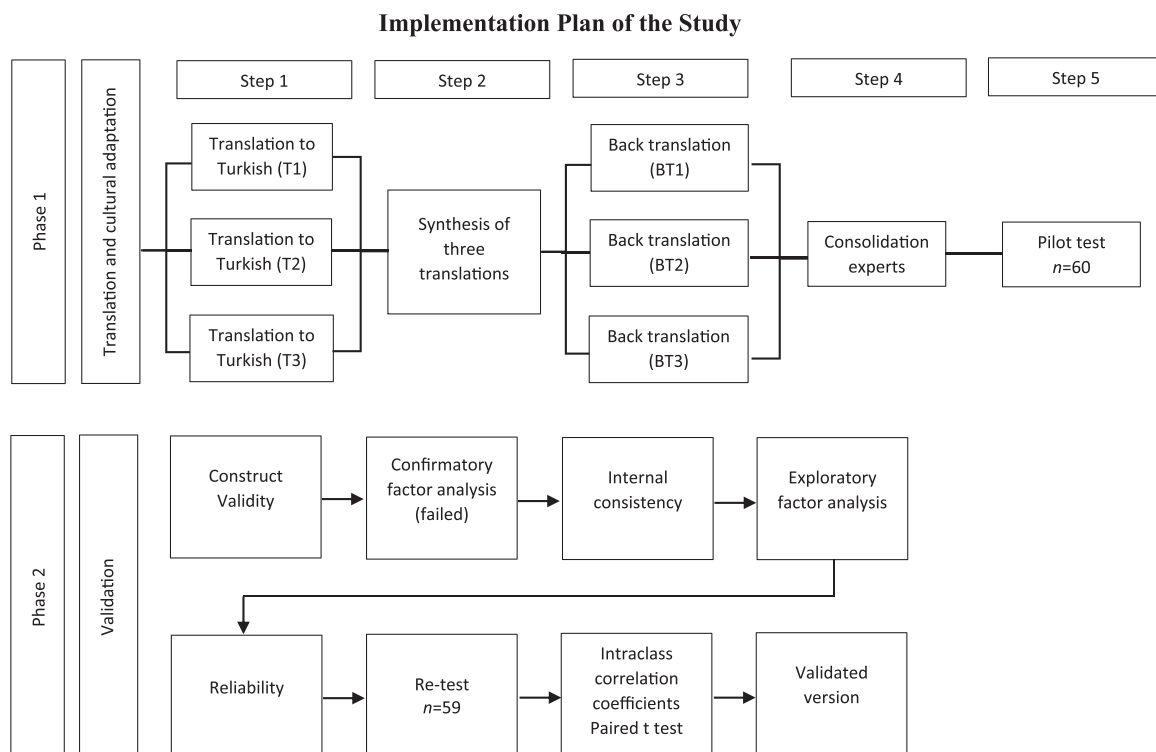


FIGURE 1 General description of the translation, cultural adaptation, and validation algorithm of Turkish Scale on Community Care Perception (SCOPE)

analysis, and reliability analysis can be used to test construct validity in studies. In this study, we primarily used confirmatory factor analysis. Since the values of goodness of fit obtained from our study in confirmatory factor analysis did not meet the reference values, construct validity was tested with reliability analysis and explanatory factor analysis.¹² The reliability of the study was evaluated by item analysis, and time-invariance (test-retest). Repetition of the test was applied to 59 nursing students 3 weeks after the first application (Figure 1).

2.2 | Participants and setting

The study was conducted with the undergraduate students studying in the nursing department of a Faculty of Health Sciences located in the Central Anatolia region of Turkey. Four-year education is applied in the nursing department. First- and second-year undergraduate nursing students receive theoretical information about health protection and promotion services. In order for them to apply this knowledge into practice, "community health internship practice course" is given in the third and fourth years and the students do their internship within the scope of this course in the field of community health practices.

The population of the study was composed of first second third, and fourth-year students (1000) studying in the Nursing Department in the 2019–2020 academic year. It was determined that the sample size should be at least 175. In the literature, it is stated that at least five times the number of items should be sampled in scale adaptation studies. Since the number of items is 35, we have taken five times this number.¹³ Since the third and fourth-year students had Community Health internship practice, there were included from the sample, sample selection was not used and it was aimed to reach all of these students.^{14–17} The study was completed with a total of 601 students.

2.3 | Data collection

Data were collected at extracurricular times. Data collection was carried out between November 2018 and January 2019.

2.3.1 | Descriptive information form

It is composed of eight questions prepared for the descriptive data (gender, age, academic success, and marital status, etc.).

2.3.2 | The SCOPE for nursing students (original)

The SCOPE for nursing students is a scale which was developed by Van Iersel et al.¹⁸ whose validity and reliability was conducted, whose original language was English, and which was a 10-point Likert type scale with 35 items and 3 subscales. (The first 33 questions of

the scale are 10-point Likert type and the last two questions are an open-ended question). SCOPE is a 35-item scale containing:

Eleven measuring the affective component, 5 measuring community care perception as a placement, 17 as a future profession, and 2 on the reasons underlying student preference.

Principal axis factoring yielded two factors in the affective component scale reflecting "enjoyment" and "utility," two in the placement scale reflecting "learning possibilities" and "personal satisfaction," and four in the profession scale: "professional development," "collaboration," "caregiving," and "complexity and workload." Six points are assigned to blank items and the Items 2, 5, 7, 8, and 10 are reversely coded. High total score indicates that the community perception is high. Van Iersel et al.¹⁸ applied this scale to nursing students and found the Cronbach's α values as .892 in overall scale and as .862, .696, and .810 in all subscales, respectively. These values have indicated that the scale is worth adapting to Turkish.

2.4 | Statistical method

Data analyses were performed using IBM SPSS Statistics Standard Concurrent User V 25 (IBM Corp.) ve *Statistica v.12* (StatSoft Inc.). Whether the original scale was suitable for Turkish culture was primarily evaluated by confirmatory factor analysis. The model goodness of fit was measured by means of χ^2 of the likelihood ratio test, the standardized root mean squared residual (SRMR), the root mean square error of approximation (RMSEA), the comparative fit index (CFI), Joreskog goodness-of-fit (GFI), Joreskog adapted goodness-of-fit (AGFI), Bentler–Bonett Normed Fit Index (NFI), Bentler–Bonett Non-Normed Fit Index (NNFI). The reference values used are described in the Section 3, in addition to the values obtained in the confirmatory factor analysis.¹⁹ (Since the values obtained from the study do not meet the reference values) to analyze the construct validity, an exploratory factor analysis was performed using the principal components and varimax rotation method. The evaluation for the validity of the scale was conducted with internal consistency Cronbach's α coefficient between items, corrected item-total correlation, and the scale's Cronbach's α values when the item is deleted. Analysis of variance with Tukey's Test for nonadditivity for evaluating whether or not the scale items are summable. The following sampling adequacy measurements were examined: Kaiser–Meyer–Olkin and Bartlett's test of sphericity. The scale reliability was assessed by using test-retest, intraclass correlation coefficients, and paired samples *t* test. The value of $p < .05$ was accepted as statistically significant.

2.5 | Ethical considerations

For the Turkish adaptation of the scale, permission to use the scale was obtained from Van Iersel et al., who is the original designer of SCOPE. For the study, institutional permission from the Faculty of Health Sciences and approval from the Social and Human Sciences Ethics Committee (27/11/2018-91) were obtained. By explaining the

purpose and benefits of the study, written and verbal consents of all the participants were obtained.

3 | RESULTS

3.1 | Phase 1

After the language adaptation of the scale, content (scope) validity was conducted with expert opinion method to evaluate the validity. Nine academicians specialized in the field of Public Health Nursing (two professors, three associate professors, and four assistant professors) analyzed the applicability of the scale content to the local Turkish culture and the linguistic clarity of the items. Davis' evaluation technique for content validity index (CVI) was used.^{20,21} Nine experts were asked to rate whether or not each scale item measured community care perception and the comprehensibility of items of the scale between 1 and 4 points on a scale. They were asked to score four-point Likert-type scale varying between 1 "not suitable" and 4 "very suitable" on a scale, CVI was found as 0.97 and the scale was put into final form according to the expert opinion. When the final, semantically adapted version was available, the pilot test was performed on a sample of 60 nursing students, with the participation of two evaluators.

3.2 | Phase 2

3.2.1 | Construct validity

Kaiser–Meyer–Olkin value was obtained as 0.926 and it was decided that the sample was adequate, and 28 items can be factorable according to Bartlett's sphericity test ($\chi^2 = 7236$; $p < .001$).

3.2.2 | Confirmatory factor analysis

In this study, primarily confirmatory factor analysis was used to evaluate the suitability of the original SCOPE scale to Turkish culture

as 35 items and 3 subscales. As seen in Table 1, the goodness-of-fit values obtained in the study did not meet the reference values (RMSEA = 0.094; CFI = 0.713; GFI = 0.762; AGFI = 0.730). Therefore, internal consistency and then exploratory factor analysis were applied for construct validity (Figure 1).

3.2.3 | Internal consistency

The items with "Corrected Item-Total Correlation" values less than .30 were omitted from the scale step by step from the smallest to the highest. This procedure continued until all items were higher than .30. The Items 18, 26, 27, 28, and 31 with corrected item-total correlation value less than .30 were omitted from the scale. Table 2 shows the statistics for the remaining 28 items.

The scale developed with the purpose of evaluating the validity, reliability, and psychometric properties of Turkish adaptation of the scale used to measure the community care perception (SCOPE) of nursing students is composed of 28 items and 6 subscales (Table 2). These are "Working Perception," "Professional Practices," "Attractiveness," "Learning Environment," "Care Giving Perception," and "Personal Satisfaction" subscales. The following items are included in the scope of the subscales; Items 4, 5, 6, 7, 8, 9, and 11 in "Working Perception"; Items 16, 17, 19, 20, 22, 24, and 32 in "Professional Practices"; Items 1, 2, 3, and 10 in "Attractiveness"; Items 13, 14, and 15 in "Learning Environment"; Items 12, 21, 23, and 25 in "Care Giving Perception"; and Items 29, 30, and 33 in "Personal Satisfaction" (Table 2). Since the scale has a summable feature, general total and subscale scores can be calculated.

3.2.4 | Exploratory factor analysis

According to the factor analysis, it consisted of 28 items and 6 subscales and these 6 subscales accounted for 60.297% of the total variance. The total Cronbach's α value for 28 items was found as .914. In addition, according to the analysis of variance (Analysis of

TABLE 1 Threshold values for several fit indexes and the values obtained in a Turkish sample of 601 nursing students

Statistics	Abbreviation	Threshold	Results
Chi-squared/degrees of freedom	χ^2/df	<3	5.36
Probability value for the model	p	>0.05	<0.0001
Standardised root mean squared residual	SRMR	< 0.05	0.172
Root mean square error of approximation	RMSEA	< 0.06	0.094
Comparative fit Index	CFI	≥ 0.90	0.713
Joreskog goodness-of-fit	GFI	≥ 0.95	0.762
Joreskog adapted goodness-of-fit	AGFI	≥ 0.90	0.730
Bentler–Bonett Normed Fit Index	NFI	≥ 0.95	0.670
Bentler–Bonett Non-Normed Fit Index	NNFI	≥ 0.97	0.694

TABLE 2 Statistics for 28 items in the scale

SCOPE items	Mean	SD	Verified item total correlation	Cronbach α if item deleted
Item 1	6.94	2.46	.680	.908
Item 2	6.11	2.12	.488	.911
Item 3	7.20	2.36	.667	.908
Item 4	7.81	2.24	.645	.909
Item 5	7.84	2.27	.384	.913
Item 6	7.24	2.26	.542	.910
Item 7	8.48	2.16	.496	.911
Item 8	8.30	2.06	.586	.910
Item 9	8.34	2.15	.610	.909
Item 10	6.99	2.44	.575	.910
Item 11	7.70	2.12	.674	.908
Item 12	5.82	2.55	.494	.911
Item 13	5.51	2.60	.351	.914
Item 14	6.06	2.70	.611	.909
Item 15	4.92	2.45	.347	.913
Item 16	6.20	2.47	.498	.911
Item 17	6.21	2.64	.548	.910
Item 19	5.98	2.83	.449	.912
Item 20	6.09	2.69	.509	.911
Item 21	5.91	2.85	.324	.914
Item 22	6.82	2.43	.532	.910
Item 23	6.12	2.65	.529	.910
Item 24	7.23	2.32	.522	.911
Item 25	6.92	2.33	.365	.913
Item 29	5.92	2.29	.507	.911
Item 30	6.95	2.17	.435	.912
Item 32	6.11	2.54	.408	.912
Item 33	4.93	2.27	.373	.913

Abbreviation: SCOPE, Scale on Community Care Perception.

Variance with Tukey's Test for Nonadditivity), 28 items were seen to be summable ($F = 133.997$; $p < .001$). (Tables 3 and 4).

3.2.5 | Reliability–retest–intraclass correlation coefficients paired t test

Table 5 shows the test retest results. According to the table, the Cronbach's α values between the first measurement and the last measurement were close to each other. Because all of the intraclass correlation coefficients were found as .999, there was a high agreement between two measurements. According to the results

obtained from Paired t test, there was no difference between measurements. According to these results, the validity and reliability of the scale were provided.

Evaluation of two open-ended questions in the scale

When the preferences of the students about the internship were asked, the field they wanted was determined as community health institution by 37.4%, general hospital by 31.5%, mental health center by 15.8%, institution for mentally disabled by 7.2%, elderly nursing home by 4.7%, and rehabilitation center by 3.5%.

The reasons why students preferred community health internship were determined as the presence of enjoyable conversation with patients (26.9%) (Item 17), having less physically challenging works (12%) (Item 18), and requiring less technical nursing skills (9.2%) (Item 21).

3.2.6 | Validated version

Turkish adaptation of the scale used to measure the community care perception (SCOPE) of nursing students is a 30-item scale containing (28 likert items, 6 subscale, and 2 open-ended questions): seven measuring the working perception, seven measuring the professional practices, four measuring the attractiveness, three measuring the learning environment, four measuring care giving perception, three measuring the personal satisfaction, and two on the reasons underlying student preference.

Each item can be scored from 1 to 10. The respondents are asked to mark a single option for each item. Six points are assigned to items that are not marked by the participant. Items 2, 5, 7, 8, and 10 are reversely coded after the empty items are assigned. Total score of the scale is calculated by adding the scores of the answers given to all items. The lowest total scale score is 28 and the highest score is 280. High scores indicate a high community care perception. There are also two open-ended questions on the scale. These two questions are about the reasons underlying of student preference.

4 | DISCUSSION

Despite international changes in healthcare services, nursing students are less interested in community health care and prefer community care for career plans limitedly. Students tend to prefer acute care including medical prone and technical applications.^{22–24} Determining the community health care perception of the nurses while they are students and conducting changes in the education curriculum for this purpose may increase the students' interest on community health, develop perspective where the diversity of the profession is richer, and solve the discrepancy between the health services and the current labor. For this reason, it is important to adopt a measurement tool to evaluate the community health perceptions of nursing students.

This study aims to adapt the SCOPE developed by Van Iersel et al.²⁵ into Turkish and to conduct validity and reliability studies of

TABLE 3 Factor loads for six subscales

Subscales	Items	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI
Working Perception	Item 7. Important	0.811	0.099	0.023	0.061	0.043	-0.005
	Item 9. Useless	0.792	0.187	0.07	0.1	0.154	0.045
	Item 8. Good	0.787	0.15	0.234	0.031	0.048	0.003
	Item 11. Fun	0.711	0.18	0.333	0.05	0.163	0.131
	Item 4. Agreeable	0.697	0.142	0.318	0.1	0.081	0.183
	Item 6. Modern	0.687	0.066	0.099	0.106	0.126	0.23
	Item 5. Comfortable	0.565	0.221	0.247	-0.084	-0.161	-0.065
Professional Practices	Item 22. Freedom of action	0.286	0.670	0.03	-0.006	0.166	0.023
	Item 32. Contact with family/kin	0.018	0.594	0.203	0.054	0.012	0.136
	Item 20. Collaboration with other disciplines	0.21	0.593	-0.065	0.186	0.212	0.107
	Item 19. Collaboration with colleagues	0.1	0.571	-0.035	0.197	0.137	0.192
	Item 24. Occupational health work-environment	0.184	0.561	0.206	-0.054	0.121	0.266
	Item 16. Plan own learning activities	0.087	0.559	0.204	0.361	0.141	-0.077
	Item 17. Enjoyable relationships with patients	0.244	0.490	0.126	0.379	0.118	0.026
Attractiveness	Item 2. Fascinating	0.205	0.088	0.814	0.105	0.066	0.051
	Item 10. Attractive	0.406	0.068	0.722	0.151	0.062	0.086
	Item 1. Interesting	0.478	0.201	0.647	0.023	0.158	0.19
	Item 3. Pleasant	0.539	0.155	0.600	0.078	0.119	0.171
Learning Environment	Item 15. Mentor evaluation	0.044	0.182	0.124	0.770	-0.04	0.043
	Item 13. Contact with mentor	0.071	0.08	0.009	0.715	0.16	0.165
	Item 14. Opportunity to learn new things	0.128	0.339	0.338	0.417	0.408	0.08
Care Giving Perception	Item 21. Technical nursing skills	0.018	0.042	0.174	0.075	0.704	0.054
	Item 25. Individual responsibility	0.231	0.272	-0.122	-0.141	0.661	0.028
	Item 23. Diversity in caregiving	0.05	0.394	0.104	0.259	0.537	0.179
	Item 12. Variety in the care	0.093	0.243	0.115	0.312	0.500	0.237
Personal Satisfaction	Item 33. Opportunity for advancement	0.048	0.05	0.107	0.296	0.086	0.740
	Item 29. Work with high status	0.125	0.297	0.184	0.062	0.145	0.687
	Item 30. The possibility of health recovery	0.235	0.413	-0.019	-0.114	0.092	0.509
Explained variance (%)		17.175	11.794	9.631	7.184	7.115	6.399
Cumulative variance explained (%)		17.175	28.969	38.600	45.784	52.899	60.297

TABLE 4 Statistics for total scale and subscales (n = 601)

	Item	Cronbach α	p	Mean	SS	Min	Max
Total Scale	28	.914	<.001	186.63	37.10	64	268
Working Perception	7	.887	<.001	55.70	11.78	9	70
Professional Practices	7	.780	<.001	44.63	11.78	7	70
Attractiveness	4	.874	<.001	27.24	7.99	4	40
Learning Environment	3	.640	<.001	16.48	5.91	3	30
Care Giving Perception	4	.644	<.001	24.77	7.23	4	40
Personal Satisfaction	3	.617	<.001	17.79	5.06	3	30

TABLE 5 Reliability analysis (n = 59)

	Item	Cronbach α -1	Cronbach α -2	SKK	p	First test	Retest	t	p
Total Scale	28	.937	.937	0.999	<.001	180.76 \pm 43.50	180.61 \pm 43.46	1.272	.209
Working Perception	7	.927	.930	0.999	<.001	53.27 \pm 13.87	53.23 \pm 13.92	1.351	.182
Professional Practices	7	.792	.793	0.999	<.001	45.03 \pm 12.26	45.01 \pm 12.26	1.000	.321
Attractiveness	4	.956	.956	0.999	<.001	25.16 \pm 9.73	25.18 \pm 9.74	1.000	.321
Learning Environment	3	.648	.652	0.999	<.001	16.15 \pm 6.31	16.13 \pm 6.30	1.763	.083
Care Giving Perception	4	.698	.692	0.999	<.001	24.54 \pm 7.72	24.52 \pm 5.22	0.814	.419
Personal Satisfaction	3	.635	.627	0.999	<.001	16.59 \pm 5.33	16.55 \pm 5.28	1.427	.159

the Turkish version. In the validity study of the scale, language validity and structure validity methods were used.

In the adaptation study of a scale, first, the language adaptation is conducted and then it is tested whether or not the scale is valid and reliable for the adapted society.^{15,17} In this study, confirmatory factor analysis was used to evaluate the suitability of the original SCOPE scale (35 items and 3 subscales) to Turkish culture. Goodness-of-fit values obtained from our study did not meet reference values (Table 1). Therefore, in this study, the validity of the SCOPE for Nursing Students was evaluated with Factor analysis and construct validity and its reliability was evaluated with item-total score correlation, internal consistency, and time invariance methods (Figure 1).

The validity can be defined as the degree of service to which a measuring tool is developed. Although there are different methods used in the evaluation of the validity of a scale, factor analysis, and content validity are the most commonly used methods.^{16,20,26} In this study, factor analysis and content validity were used to evaluate the validity of the scale. In this study, the Items 18, 26, 27, 28, and 31 whose item-total correlation values less than 0.30 in the original version were omitted from the scale. The fact that the item-total correlation values of the remaining 28 scale items were higher than 0.30 showed that the distinctive power of the items was good (Table 2). In other words, it can be asserted that the scale items distinguished the community care perceptions of the nursing students.

As a result of the analysis conducted to determine the factor structure, it was observed that the items were grouped under six factors reflecting the community care perceptions (Table 3). These factors were composed of "Working Perception," "Professional Practices," "Attractiveness," "Learning Environment," "Care Giving Perception," and "Personal Satisfaction" subscales. In this study, the expert opinion was obtained from the content validity, it was determined as a result of the evaluation that there was a consensus between the experts and the items in the scale were appropriate for our culture and represented community care perceptions of the nursing students.

For a measuring tool, reliability is the ability to conduct measurement without errors. The most commonly used method to test reliability is item analysis, internal consistency and time

invariance.^{17,27} In a scale, Cronbach's α reliability coefficient less than .40 refers to unreliable, those between .40 and .59 refer to low reliability, those between .60 and .79 refer to quite reliable, and those between .80 and 1.00 refer to highly reliable.^{28,29} The Cronbach's α coefficient of the SCOPE for Nursing Students were found to be .914 and highly reliable (Turkish adaptation). According to the subscales of the scale, Cronbach's α values are between .617 and .88 in nursing students and have a good degree of reliability (Table 4). The Cronbach's α values of the total and subscales of the original scale varied between .69 and .89 and were similar to this study.

In order for a scale to be reliable, it should give consistent results in repeated measures. The most commonly used method for this is the test-retest method. The results of the two applications are evaluated by correlation analysis. The closer the correlation coefficient is to 1, the better the time invariance of that test is.¹⁷ In this study, the correlation coefficient obtained by the test-retest method was found as .99 (Table 5). This result showed that there was a strong correlation between the measurements conducted in two different times of the SCOPE for Nursing students and it was decided that the scale was time invariance.

5 | CONCLUSION

According to the results of this study, the SCOPE for Nursing Students is a valid and reliable tool to measure the community care perceptions of the nursing students.

The existing image needs to be changed to increase the popularity/attractiveness of community care and to enable undergraduate nursing students to choose community health in their career choice. For this reason, community health nurses and nursing instructors should act together and draw attention to the neglected important role of nurses in community care. Thus, it is recommended to make encouraging changes in nursing education curricula and community health internship practices and also to plan health protection/promotion projects which will attract the attention of students and in which they take an active role. In addition, it is suggested to carry out exemplary practices, especially in home-nursing care, which provide cooperation among institutions and in which independent roles of public health nurses are at the forefront.

AUTHOR CONTRIBUTIONS

All authors contributed to the conception and design of the study. Betül Ozen and Gokce Demir performed data collection. Betül Ozen and Gokce Demir made substantial contributions to analysis and interpretation of data. Betül Ozen drafted the manuscript. Betül Ozen, Gokce Demir, and Umit Sevig critically reviewed the manuscript and supervised the whole study process. All authors read and approved the final version of the manuscript.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in the OSF repository at https://osf.io/usv8e/?view_only=9e5e892aa3094cc899fdb6940268e475

ETHICS STATEMENT

Social and Human Sciences Ethics Committee (27/11/2018-91) were obtained. By explaining the purpose and benefits of the study, written and verbal consents of all the participants were obtained.

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