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Therapeutic communication skills level among students undertaking the pediatric nursing course and the associated influencing factors

Aslı Akdeniz Kudubes, RN, PhD [a,*], Dijle Ayar, RN, PhD [b], Hamide Zengin, RN, PhD [a]

[a] Department of Pediatric Nursing, Bilecik Şeyh Edebali University Faculty of Health Sciences, Gülümbe, Bilecik, Turkey
[b] Department of Pediatric Nursing, Alanya Aladdin Keykubat University Faculty of Health Sciences, Alanya, Antalya, Turkey

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ABSTRACT

Aim: The present study to determine the level of therapeutic communication skills among the students undertaking the pediatric nursing course and explore the associated influencing factors.
Methods: This descriptive cross-sectional study was conducted with 140 nursing students who took the pediatric nursing course. Data were collected using a Nursing Student Information Form and the Therapeutic Communication Skills Scale for Nursing Students. The mean and percentage calculations, *t*-test, ANOVA test, and regression analysis were conducted to analyze the correlations between the participants' descriptive characteristics and their mean scores on the scales.
Results: The participants' mean scores obtained on the total Therapeutic Communication Skills Scale for Nursing Students and all of its subdimensions were observed to have a statistically significant correlation with variables such as gender, grade point average, willingness to select the nursing department, satisfaction with the nursing department, difficulty in establishing communication, perceived ability to establish social relations, difficulty in communicating with a child, perception of childhood life, experience with child care, fondness for children, interest in playing therapeutic games with children, and perceived ability to communicate with children. In Model 1, certain descriptive characteristics (satisfaction with the nursing department, difficulty in communicating with a child, experience with child care, interest in playing therapeutic games with children, and perceived ability to communicate with children) explained 52.4% of the therapeutic communication skills scores of the pediatric nursing students and were statistically significantly.
Conclusions: In this study, it was determined that some of the descriptive characteristics of the students who took the pediatric nursing course had a significant effect on their therapeutic communication skills.
Implications for practice: In order to develop the therapeutic communication skills of students undertaking a pediatric nursing course, it is necessary to support these students with a standard curriculum that includes student-centered, innovative, and interactive educational methods, such as role play, case analysis, and video-based learning. It is also recommended to conduct comparative studies on different educational approaches for nursing students undertaking pediatric nursing courses or meta-analyses to evaluate the effectiveness of such approaches.

Introduction

Self-expression is one of the most fundamental requirements of humans as social beings, and it becomes further significant for sick individuals (Donovan & Mullen, 2019). Self-expression is realized mainly through communication (Kourkouta & Papathanasiou, 2014). Therefore, it is necessary for the staff dealing with sick individuals to have effective communication skills, particularly therapeutic communication skills, which comprise techniques for facilitating a comfortable expression of feelings, thoughts, and intentions among both sick and healthy individuals (Bussard & Lawrence, 2019;Donovan & Mullen, 2019; Sanchis-Giménez et al., 2023). The literature in this regard also emphasizes the positive effects of good communication with patients, including improved patient satisfaction, quality care, participation in the treatment/care processes, and overall outcomes (Donovan & Mullen, 2019). In this context, the nurses hold the most powerful treatment tools, i.e., the interpersonal relationship with the patients (Sanchis-Giménez et al., 2023). Evidence suggests that a nurse who uses

* Corresponding author.
E-mail addresses: asliakdeniz@hotmail.com (A.A. Kudubes), dijle.ayar@alanya.edu.tr (D. Ayar), hamide.kupelizengin@gmail.com (H. Zengin).

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therapeutic communication techniques to improve interpersonal relationships with patients plays a significant role in determining the course and outcome of the disease (Donovan & Mullen, 2019; Sanchis-Giménez et al., 2023). Therefore, it is a critical responsibility of nurses to develop their therapeutic communication skills and establish effective communication with their patients (Burgener, 2020; Karaca & Durna, 2019).

Nursing students begin acquiring therapeutic communication skills at the nursing school (Bullington et al., 2019). Consequently, nursing educators play a significant role in imparting these communication skills during nursing education (Bullington et al., 2019). Therapeutic communication skills should be the focus of nursing education to facilitate nurses with the capability of communicating successfully with both patients and healthy individuals (Kalyani et al., 2019). Nursing students must have the opportunity to learn effective approaches to improve their communication skills during their nursing education as it would allow them, in addition to establishing therapeutic relationships with their patients, to become professionals capable of successfully handling any communication scenarios as future nursing staff (Burgener, 2020). Therefore, the concept of therapeutic communication should be emphasized in the nursing curriculum (Burgener, 2020; Sanchis-Giménez et al., 2023). While communication is an indispensable part nursing, the literature reports a lack of adequate therapeutic communication skills among nurses and nursing students (Harris & Panozzo, 2019).

Communication with children is different from that with adults (Osei Appiah et al., 2022). In the treatment process, staff must treat pediatric patients as persons and establish good communication with them (Osei Appiah et al., 2022). An ideal communication model for pediatric nurses comprises a three-party communication involving the nurse, the child patient, and the parents (Osei Appiah et al., 2022). Within the scope of the primary nursing concept in the philosophy of pediatric nursing, it has been emphasized that each child patient should be considered a special individual and must receive continual communication with the nurse who is providing in person care to the child (Christian, 2017; Söyünmez et al., 2020). Family-centered care is another important concept that involves developing a positive relationship with the pediatric patient as well as the family members of the patient, in addition to establishing a suitable communication channel among the health workers, the child patient, and the family (Söyünmez et al., 2020). Therapeutic communication has to be established to ensure the compliance of pediatric patients with the treatment process and the child's acceptance of the illness (Avan et al., 2020; Jones et al., 2015; Osei Appiah et al., 2022). In the pediatric nursing course, skills related to communication with children and therapeutic communication should be taught, both in theory and through laboratory practice (Uhm et al., 2019). In addition, students should receive an opportunity to engage in one-on-one communication with children and their families under the supervision of their nursing educators during their clinical practice (Uhm et al., 2019). This would enhance the communication skills of nursing students with pediatric patients (Ibrahim Mahmoud et al., 2020; Uhm et al., 2019).

Communication skills are a multidimensional concept that are influenced by several factors (Akçam et al., 2019; Gutiérrez-Puertas et al., 2020; Hendekci, 2020). Certain studies have demonstrated that nursing students' therapeutic communication skills are affected by their sociodemographic characteristics (age, gender, place of residence, etc.), education-related factors (undertaking a communication course, the school year, etc.), and a few personal variables (social media usage, knowledge regarding childhood and children in general, personality traits, etc.) (Akçam et al., 2019; Gutiérrez-Puertas et al., 2020; Hendekci, 2020). While a limited number of studies have been conducted in Turkey regarding the communication skills of nursing students (Akçam et al., 2019; Duru, Denizhan, Güneşli, Yağtu, & Yılmaz, 2022; Duru, Denizhan, Güneşli, Yağtu, Yılmaz, Üniversitesi, et al., 2022; Hendekci, 2020), such studies are lacking for the nursing students who are undertaking a pediatric nursing course. Education on effective communication skills would also guide nursing students during difficult situations they are surely going to encounter in clinical settings (Neilson & Reeves, 2019). In 2014, Turkey established the National Nursing Core Education Program, which emphasized the inclusion of effective communication skills in the core curriculum of nursing education (Hemşirelik Eğitimi Derneği, 2014). Therefore, most nursing institutions in our nation have incorporated a course on communication skills in the curriculum. In the nursing institute where the present study was conducted, a course on interpersonal communication is included in the curriculum. In addition, specialized education on communication with groups is provided in the pediatric nursing curriculum, similar to that in the geriatric nursing course (Gutiérrez-Puertas et al., 2020). However, to enhance the quality of education and improve the curriculum, it is essential to assess the level of communication skills developed specifically among nursing specialties, particularly in nursing students who interact with children (Gutiérrez-Puertas et al., 2020). The factors influencing these skills should also be explored and studied (Gutiérrez-Puertas et al., 2020). This research was planned to determine the therapeutic communication skills of students undertaking the pediatric nursing course and explore the associated influencing factors. The research sought answers to the following questions:

1. What is nursing students' mean score on the therapeutic communication skills scale?
2. What are the defining factors affecting nursing students' therapeutic communication skills?
3. What is the predictive power of nursing students' descriptive characteristics on their communication skills?

Methods

Design

The present study was designed as a descriptive cross-sectional study to determine the level of therapeutic communication skills among students undertaking the pediatric nursing course and explore the associated influencing factors.

Study sample

The study was conducted between March and June 2023 with nursing students studying at the nursing departments of two universities located in two regions of Turkey. The sample size required for the study was determined through a regression analysis, which was conducted on the statistical analysis software GPOWER 3.0 using a significance level of 0.05, a power value of 80%, and an effect size of 0.15 (medium effect size). The determined sample size was 68 people. The study included 140 nursing students aged >18 years who were enrolled in the child health and diseases nursing course at the respective universities, underwent clinical practice training in pediatric clinics, and volunteered to participate in the study.

Data collection

Data collection tools were completed by students who volunteered to participate in the study at their respective universities, where the research was conducted. Written consent was obtained from each of these students. Since the nation's education process was under the impact of the Kahramanmaraş-centered earthquake disaster during the study period, the questionnaire-based survey was conducted online through Google Forms. The students were first requested to select a voluntary participation option [box] on the form, following which the students who consented to participate in the study were provided access to the questionnaire. The students then entered their responses to the items in the questionnaire.

Data collection forms

Nursing student information form

The nursing student information form comprised thirty questions related to the variables that affect therapeutic communication skills, such as age, gender, school year, having siblings, family type, marital status, economic status, place where their childhood was spent, experience with child care, interest in playing therapeutic games with children, and the status of having undertaken courses on communication (Akçam et al., 2019; Çalıkuşu İncekar et al., 2019; Çiftçi et al., 2020; Diğin et al., 2022; Donovan & Mullen, 2019; Duru, Denizhan, Güneşli, Yağtu, & Yılmaz, 2022; Duru, Denizhan, Güneşli, Yağtu, Yılmaz, Üniversitesi, et al., 2022; Hendekci, 2020; Mutlu et al., 2020a, 2020b; Osei Appiah et al., 2022; Sanchis-Giménez et al., 2023; Yilmaz & Akay, 2022).

Therapeutic communication skills scale for nursing students

The therapeutic communication skills scale for nursing students (TCSSNS) was developed by Karaca et al. (2019). It comprises 16 items, none of which are reverse-coded. All items are scored in a seven-point Likert-type manner, with scores ranging from 1 indicating "never" to 7 indicating "always". The TCSSNS has three sub-dimensions – non-therapeutic communication skills (items 2, 6, 7, 9, 14, 15, 16), therapeutic communication skills-I (items 5, 8, 10, 11, 12, 13), and therapeutic communication skills-II (items 1, 3, 4). The Cronbach's alpha coefficient reported for this scale was 0.775 for the whole scale, 0.826 for the non-therapeutic communication skills sub-dimension of the scale, 0.791 for the therapeutic communication skills-I sub-dimension, and 0.601 for the therapeutic communication skills-II sub-dimension. A maximum score of 112 and a minimum score of 16 may be obtained on this scale. High scores on this scale indicate a higher level of therapeutic communication skills. The minimum and maximum scores that may be obtained on each of the sub-dimensions of this scale are 7–49 for the non-therapeutic communication skills sub-dimension, 6–42 for the therapeutic communication skills-I sub-dimension, and 3–21 for the therapeutic communication skills-II sub-dimension. High scores on a sub-dimension indicate that the students use their skills more in that particular dimension (Karaca et al., 2019). The Cronbach's alpha coefficient determined for the entire scale in the present study was 0.883.

Ethics

The developers of the scales used in the present study were contacted through e-mail to obtain the required permissions. In addition, institutional permission was obtained from two universities where the study was conducted, and ethics committee approval was obtained from the Ethics Committee for Scientific Research and Publication (approval issue date: 23.03.2023, decision number: 3). The principal investigator explained the purpose of the study to all participants and obtained informed consent from all of them via an online form. None of the participants wished to withdraw from the study for any reason. The data collected through Google forms were stored in the form of excel and SPSS files on the researchers' personal computers with pin codes. In addition, identity information was not requested from the students while filling out the questionnaires.

Data analysis

The study data were analyzed using the SPSS version 25.0 (IBM Corp) software package. The *t*-test, ANOVA test, and regression analysis were conducted to analyze the correlations between the participants' descriptive characteristics and their mean scores on the scales. A linear regression analysis was conducted to determine the factors affecting the therapeutic communication skills of nursing students. Tolerance, VIF (variance inflation factor), and condition index values were used to determine which of the independent variables would be included in the model [to determine the existence of multicollinearity]. Independent variables with a VIF value of <10, tolerance value of >0.2, and condition index value of <15 were included in the regression analysis. The significance level of 0.05 was considered acceptable.

Results

The mean age of the nursing students who participated in the present study was 21.56 + 1.24 years. Among all participants, 65.7% were female and 34.3% were male. The descriptive characteristics of the participants are presented in Table 1. The mean scores of the participants on the total TCSSNS, the non-therapeutic communication skills sub-dimension, the therapeutic communication skills-1 sub-dimension, and the therapeutic communication skills-2 sub-dimension of the scale were 60.38 ± 15.21, 22.60 ± 8.43, 23.50 ± 6.91, and 14.28 ± 3.59, respectively.

A statistically significant difference was observed between the participants' mean scores on the total and sub-dimensions of the TCSSNS and the variables of gender, grade point average, willingness to select the nursing department, satisfaction with the nursing department, difficulty in establishing communication, perceived ability to establish social relations, difficulty in communicating with a child patient, perception of childhood, experience with child care, fondness of children, interest in playing therapeutic games with children, and perceived ability to communicate with children ($p < 0.05$, Table 2). On the other hand, no statistically significant difference was observed between the mean scores of the participants on the total and sub-dimensions of the TCSSNS and the variables of high school, family type, perceived income status, employment status, perceived academic success, having undertaken courses on communication, difficulty in communicating with adult patients, the department where the students thought they could best express themselves in clinical practice, place where their childhood was spent, the presence of siblings, the presence of chronic disease, and hospitalization experience ($p > 0.05$, Table 2).

According to the result of the analyses, the variables that affected participants' mean scores on the total TCSSNS (gender, grade point average, willingness to select the nursing department, satisfaction with the nursing department, difficulty in establishing communication, perceived ability to establish social relations, difficulty in communicating with a child patient, perception of how the childhood was spent, experience with child care, fondness of children, interest in playing therapeutic games with children, and perceived ability to communicate with children) were included in the subsequent regression analysis, and a regression model was created (Table 3).

According to Model 1, satisfaction with the nursing department, not having difficulty in communicating with a child patient, having experience with child care, being fond of children, interest in playing therapeutic games with children, and perceived ability to communicate well with children increased the therapeutic communication skills scores of the participants. In addition, for Model 1, certain descriptive characteristics explained the therapeutic communication skills scores of 52.4% of the pediatric nursing students and exerted a statistically significant effect on their communication skills ($p < 0.001$, Table 3).

Participants' satisfaction with the nursing department, difficulty in establishing communication with pediatric patients, experience with child care, fondness of children, interest in playing therapeutic games with children, and perceived ability to communicate with children increased their therapeutic communication skills scores by 0.243 ($\beta = 0.243$), 0.263 ($\beta = 0.263$), 0.886 ($\beta = 0.886$), 0.661 ($\beta = 0.661$), 0.642 ($\beta = 0.642$), and 0.286 ($\beta = -0.286$) times, respectively ($p < 0.05$, Table 3).

Discussion

Nurses are in constant communication with patients due to the nature of their profession (Aydoğan & Özkan, 2020). Therefore, nurses

Table 1
Descriptive characteristics.

		n	%
Gender	Female	92	65.7
	Male	48	34.3
High school that was graduated	Health vocational high School	14	10
	Other high schools	126	90
Family type	Core family	113	80.7
	Extended family	27	19.3
Perceived economic status	Good	11	7.9
	Middle	110	78.6
	Poor	19	13.6
Employment status	Yes	15	10.7
	No	125	89.3
Grade point average	≤75	49	35
	>75	91	65
Perceived academic achievement	Very good	2	1.4
	Good	49	35
	Moderate	84	60
	Poor	4	2.9
	Very poor	1	0.7
Status of choosing the nursing department willingly	Yes	86	61.4
	No	54	38.6
Satisfaction with studying in the nursing department	Yes	71	50.7
	Undecided	53	37.9
	No	16	11.4
Status of taking communication courses	Yes	109	77.9
	No	31	22.1
Difficulty communicating with people	Yes	33	23.6
	No	107	76.4
Perception of the ability to establish social relationships	Very good	13	9.3
	Good	70	50
	Moderate	51	36.4
	Poor	5	3.6
	Very poor	1	0.7
Methods used when having difficulty communicating with people	Positive coping	102	72.9
	Negative coping	38	27.1
Difficulty communicating with adult patients in clinical practice	Yes	23	16.4
	No	117	83.4
Difficulty communicating with pediatric patients in clinical practice	Yes	47	33.6
	No	93	66.4
The department that he/she thinks that he/she expresses himself/herself best in clinical practice	Emergency department	46	32.9
	Internal units	18	12.9
	Surgical units	14	10
	Pediatric units	7	5
	Intensive care unit	25	17.9
	Other	30	21.4
Place where their childhood was spent	With family	129	92.1
	Single parent	6	4.3
	Boarding school/dorm	5	3.6
Having brother or sister	Yes	135	96.4
	No	5	3.6
Perception of how childhood was passed	Very well	24	17.1
	Well	57	40.7
	Moderately	47	33.6
	Badly	8	5.7
	Very badly	4	2.9
Experience with child care	Yes	74	52.9
	No	66	47.1
Liking children	Yes	117	83.6
	No	23	16.4
Liking to play games with children	Yes	113	80.7
	No	27	19.3
Perceived ability to communicate with children	Very good	33	23.6
	Good	66	47.1
	Moderate	37	26.4
	Poor	3	2.1
	Very poor	1	0.7
Presence of chronic disease	Yes	14	10
	No	126	90
Hospitalization experience	Yes	48	34.3
	No	92	65.7

must possess effective communication skills to provide care services in the best way possible (Aydoğan & Özkan, 2020). The theoretical and practical learning of these effective communication skills begins during nursing education (Hendekcï, 2020). Therefore, the curriculum of nursing must be designed in a manner that would improve the communication skills of nursing students (Hendekcï, 2020). Communication is further difficult and significant in pediatric clinics as children in different developmental stages are more vulnerable and in requirement of better care (Avan et al., 2020). However, the literature reports that nursing students usually experience communication difficulties during practice in pediatric clinics (Sanchis-Giménez et al., 2023). This could be attributed to several factors, personal, professional, or specific to the nature of the child. It is, therefore, important to define these factors to achieve effective therapeutic communication in pediatric clinics (Alkan & Hüsna Özyıldız, 2021). While previous studies have evaluated the therapeutic communication skills of nursing students to a certain extent (Akçam et al., 2019; Duru, Denizhan, Güneşli, Yağtu, Yılmaz, Üniversitesi, et al., 2022; Gutiérrez-Puertas et al., 2020; Hendekcï, 2020), the present study pioneers in investigating the therapeutic communication skills scores of the students currently undertaking a pediatric nursing course.

In the present study, the mean scores obtained for the participants on the total TCSSNS and the non-therapeutic communication skills, therapeutic communication skills-1, and therapeutic communication skills-2 sub-dimensions of the scale were 60.38 ± 15.21, 22.60 ± 8.43, 23.50 ± 6.91, and 14.28 ± 3.5, respectively. Certain previous studies have also the same scale. For instance, Duru, Denizhan, Güneşli, Yağtu, Yılmaz, Üniversitesi, et al., 2022 used TCSSNS for nursing students and reported mean scores values of 20.24 ± 6.84, 26.99 ± 6.00, and 16.78 ± 2.87 for the non-therapeutic communication skills, therapeutic communication skills-1, and therapeutic communication skills-2 sub-dimensions of the scale, respectively (Duru, Denizhan, Güneşli, Yağtu, & Yılmaz, 2022; Duru, Denizhan, Güneşli, Yağtu, Yılmaz, Üniversitesi, et al., 2022). Diğin et al. (2022) used TCSSNS and reported a mean score of 66.76 ± 13.66 for the whole scale (Diğin et al., 2022). Therefore, the mean scores obtained in the present study were consistent with those reported in the literature. Since the maximum score attainable on this scale is 112, the mean score obtained for the nursing students undertaking the pediatric course was considerably low, which was attributable to their difficulty in communicating with children and negative perceptions regarding the difficulty of pediatric nursing. The literature reports that nursing students experience the highest level of anxiety in the clinical practice of the "Child Health and Disease Nursing" course during their education, and this anxiety exerts a negative impact on their communication skills (Bultas et al., 2023; Mutlu et al., 2020a, 2020b). Another report stated that nursing students experienced anxiety due to a lack of adequate experience in communicating with a child patient, and this anxiety led to a negative cycle of refraining from communicating with pediatric patients during practice (Mutlu et al., 2020a, 2020b). Mutlu et al. (2020a, 2020b) reported that 26.8% of nursing students experienced difficulty in communicating with pediatric patients (Mutlu et al., 2020a, 2020b). The results of the present study are quite similar to the above findings reported in the literature.

In the present study, when the effect of the descriptive characteristics of the participating students on their therapeutic communication skills scores was analyzed, it was revealed that the students who were female, had a grade point average (GPA) of ≤75, had selected the nursing department willingly, did not have difficulty in establishing communication, thought that they had good social interaction skills, did not have difficulty in establishing communication with pediatric patients, thought they had quite a good childhood, had experience in child care, thought their ability to communicate with children was considerably good, were fond of children, and had an interest in playing therapeutic games with children possessed better therapeutic communication skills scores (Table 2). According to relevant literature, several factors, such as gender, family structure, academic success, communication-oriented

Table 2
Effects of the descriptive characteristics of nursing students on their therapeutic communication skills.

Variables		The Therapeutic Communication Skills Scale for Nursing Students			
		Nontherapeutic communication skills	Therapeutic communication skills-I	Therapeutic communication skills-II	Total score
		X ± *SD*	*X* ± *SD*	*X* ± *SD*	*X* ± *SD*
Gender	Female	21.33 ± 8.12	23.47 ± 6.65	14.59 ± 3.25	59.42 ± 14.00
	Male	25.02 ± 8.56	20.47 ± 6.65	11.68 ± 4.14	52.25 ± 17.31
	Test value	t: −2.457	t: 2.050	t: 2.324	t: 2.980
	**p*	p: 0.016*	p: 0.041*	p: 0.009*	p:0.030*
High school that was graduated	Health vocational high School	25.85 ± 10.81	23.64 ± 7.73	14.28 ± 3.62	63.76 ± 18.04
	Other high schools	22.23 ± 8.09	23.48 ± 6.85	14.28 ± 3.60	60.00 ± 14.90
	Test value	t: −1.214	t: 0.074	t: 0.765	t: 0.755
	**p*	p: 0.244	p: 0.935	p: 0.990	p: 0.462
Family type	Core family	22.51 ± 8.44	23.26 ± 6.96	14.43 ± 3.48	60.21 ± 15.61
	Extended family	22.96 ± 8.55	24.48 ± 6.73	13.66 ± 4.02	61.11 ± 13.65
	Test value	t: −0.246	t: 0.837	t: 0.911	t: 0.298
	**p*	p: 0.807	p: 0.408	p: 0.368	p: 0.767
Perceived economic status	Good	20.36 ± 11.28	27.27 ± 10.04	14.63 ± 3.04	62.27 ± 20.97
	Middle	22.53 ± 8.14	23.08 ± 6.49	14.31 ± 3.55	59.92 ± 14.44
	Poor	24.38 ± 8.40	23.77 ± 6.93	13.88 ± 4.25	62.05 ± 16.68
	Test value	F: 0.793	F: 1.880	F: 0.164	F: 0.240
	**p*	p: 0.455	p: 0.156	p: 0.849	p:0.787
Employment status	Yes	27.66 ± 8.59	23.93 ± 6.95	13.2 ± 3.93	64.80 ± 16.82
	No	21.99 ± 8.24	23.44 ± 6.93	14.41 ± 3.54	58.85 ± 14.99
	Test value	t: 1.428	t: 0.256	t: 1.143	t: 1.087
	**p*	p: 0.066	p: 0.801	p: 0.269	p: 0.292
Grade point average	≤75	22.57 ± 9.04	22.00 ± 7.30	13.40 ± 3.80	57.97 ± 18.00
	>75	25.61 ± 8.13	20.30 ± 6.59	11.75 ± 3.41	51.68 ± 13.41
	Test value	t: −2.028	t: 2.844	t: 2.076	t: 2.263
	**p*	p: 0.047*	p: 0.049*	p: 0.041*	p: 0.011*
Perceived academic achievement	Very good	22.00 ± 7.07	26.50 ± 3.53	16.00 ± 1.41	64.50 ± 4.94
	Good	21.67 ± 6.79	25.22 ± 6.65	15.14 ± 3.48	62.04± 13.22
	Moderate	22.89 ± 9.22	22.57 ± 6.82	13.90 ± 3.53	59.36 ± 15.98
	Poor	27.50 ± 11.56	21.25 ± 11.05	12.25 ± 5.12	61.00 ± 27.48
	Very poor	25.00 ± 12.36	20.00 ± 10.65	9.00 ± 4.15	54.00 ± 22.36
	Test value	F: 0.526	F: 1.423	F: 1.957	F: 0.314
	**p*	p: 0.717	p: 0.230	p: 0.105	p:0.868
Status of choosing the nursing department willingly	Yes	23.24 ± 8.22	24.22 ± 6.56	15.04 ± 3.30	62.51 ± 14.25
	No	25.57 ± 8.73	22.35 ± 7.35	13.07 ± 3.73	57.00 ± 16.20
	Test value	t: −1.126	t: 1.525	t: 3.266	t: 2.051
	**p	p: 0.013*	p: 0.030*	p: 0.001*	p: 0.043*
Satisfaction with studying in the nursing department	Yes	23.18 ± 9.12	25.00 ± 7.00	15.35 ± 3.18	62.53 ± 15.25
	Undecided	21.39 ± 6.83	22.49 ± 5.44	13.81 ± 3.16	58.98 ± 12.48
	No	20.68 ± 9.13	20.18 ± 9.22	11.12 ± 4.58	52.00 ± 19.68
	Test value	F: 4.593	F: 4.266	F: 11.188	F: 4.490
	**p*	p: 0.045*	p: 0.016*	p: 0.000*	p:0.013*
Status of taking communication courses	Yes	22.49 ± 8.36	23.70 ± 6.93	14.23 ± 3.51	60.44 ± 14.68
	No	22.96 ± 8.79	22.77 ± 6.90	14.45 ± 3.92	60.19 ± 17.20
	Test value	t: −0.267	t: 0.663	t: −0.273	t: 0.073
	**p*	p: 0.791	p: 0.511	p: 0.786	p: 0.942

(*continued on next page*)

Table 2 (*continued*)

Variables		The Therapeutic Communication Skills Scale for Nursing Students			
		Nontherapeutic communication skills	Therapeutic communication skills-I	Therapeutic communication skills-II	Total score
		$X \pm SD$	$X \pm SD$	$X \pm SD$	$X \pm SD$
Difficulty communicating with people	Yes	21.21 ± 8.59	24.92 ± 6.91	14.70 ± 3.53	61.84 ± 15.48
	No	23.60 ± 7.68	22.12 ± 6.83	12.93 ± 3.52	55.66 ± 13.47
	Test value	t: −1.656	t: 1.322	t: 2.508	t: 2.219
	$^{**}p$	p: 0.013*	p: 0.012*	p: 0.015*	p: 0.030*
Perception of the ability to establish social relationships	Very good	17.76 ± 9.55	27.84 ± 8.85	16.76 ± 2.73	64.38 ± 17.55
	Good	23.54 ± 8.37	23.62 ± 7.01	14.54 ± 3.87	61.71 ± 15.72
	Moderate	22.25 ± 8.23	23.21 ± 5.26	13.88 ± 2.78	59.35 ± 12.91
	Poor	19.80 ± 9.20	14.00 ± 7.01	9.40 ± 3.28	43.35 ± 12.25
	Very poor	22.60 ± 9.26	13.68 ± 6.96	9.00 ± 2.86	44.00 ± 11.96
	Test value	F: 4.759	F: 4.068	F: 5.207	F: 5.121
	$^{*}p$	p: 0.004*	p: 0.004*	p: 0.001*	p:0.002*
Difficulty communicating with adult patients in clinical practice	Yes	21.95 ± 7.32	21.52 ± 6.38	12.39 ± 3.85	55.86 ± 12.06
	No	22.72 ± 8.65	23.88 ± 6.97	14.65 ± 3.43	61.27 ± 15.65
	Test value	t: −0.447	t: −1.601	t: −2.620	t: −1.861
	$^{**}p$	p: 0.658	p: 0.119	p: 0.014*	p:0.070
Difficulty communicating with pediatric patients in clinical practice	Yes	23.74 ± 8.30	21.89 ± 6.61	13.51 ± 3.51	57.14 ± 14.13
	No	21.03 ± 8.50	24.31 ± 6.95	14.67 ± 3.59	62.02 ± 15.55
	Test value	t: −1.859	t: 2.008	t: 1.840	t: 1.862
	$^{**}p$	p: 0.039*	p: 0.047*	p: 0.049*	p:0.046*
The department that he/she thinks that he/she expresses himself/herself best in clinical practice	Emergency department	22,04 ± 8.57	22.50 ± 6.92	13.63 ± 3.99	58.17 ± 14.93
	Internal units	23.88 ± 8.95	24.00 ± 7.55	15.61 ± 2.87	63.50 ± 17.25
	Surgical units	22.28 ± 8.27	25.92 ± 7.09	14.85 ± 2.50	63.07 ± 14.49
	Pediatric units	25.42 ± 9.60	30.85 ± 4.94	17.57 ± 4.64	73.85 ± 12.74
	Intensive care unit	21.24 ± 7.08	22.76 ± 7.22	13.64 ± 3.18	57.32 ± 10.00
	Other	23.30 ± 9.10	22.44 ± 5.15	14.00 ± 3.59	60.06 ± 15.21
	Test value	F: 2.448	F: 2.450	F: 2.339	F: 2.484
	$^{*}p$	p: 0.014	p: 0.037	p: 0.045	p:0.020
Place where their childhood was spent	With family	22.66 ± 8.53	23.68 ± 7.02	14.37 ± 3.61	60.72 ± 15.55
	Single parent	20.50 ± 9.93	19.33 ± 3.07	13.50 ± 3.27	53.33 ± 10.51
	Boarding school/ dorm	23.40 ± 3.36	23.80 ± 6.14	14.28 ± 3.59	60.20 ± 9.52
	Test value	F: 0.210	F: 1.142	F: 0.496	F: 0.673
	$^{*}p$	p: 0.811	p: 0.322	p: 0.610	p:0.512
Having brother or sister	Yes	22.81 ± 8.45	23.62 ± 6.96	14.28 ± 3.62	60.71 ± 15.28
	No	16.80 ± 5.97	20.20 ± 4.60	14.40 ± 3.20	51.40 ± 10.71
	Test value	t: 2.172	t: 1.596	t: −0.081	t: 1.875
	$^{**}p$	p: 0.087	p: 0.175	p: 0.939	p: 0.124
Perception of how childhood was passed	Very well	25.29 ± 8.99	24.79 ± 9.31	14.75 ± 4.29	64.83 ± 18.94
	Well	22.42 ± 7.83	24.84 ± 5.98	14.68 ± 3.77	61.94 ± 13.60
	Moderately	22.10 ± 8.56	22.04 ± 5.61	13.95 ± 2.65	58.10 ± 13.66
	Badly	21.25 ± 10.71	23.37 ± 8.26	14.00 ± 3.92	58.62 ± 18.11
	Very badly	17.50 ± 5.91	14.00 ± 5.94	10.25 ± 4.57	41.75 ± 12.03
	Test value	F: 2.077	F: 3.335	F: 2.676	F: 2.563
	$^{*}p$	p: 0.030*	p: 0.011*	p: 0.043*	p:0.041*

(*continued on next page*)

Table 2 (*continued*)

Variables		The Therapeutic Communication Skills Scale for Nursing Students			
		Nontherapeutic communication skills	Therapeutic communication skills-I	Therapeutic communication skills-II	Total score
		X ± *SD*	*X* ± *SD*	*X* ± *SD*	*X* ± *SD*
Experience with child care	Yes	21.64 ± 8.92	23.47 ± 7.44	14.89 ± 3.88	60.01 ± 16.25
	No	26.66 ± 7.77	23.55 ± 6.31	13.60 ± 3.13	54.07 ± 1.73
	Test value	t: −1.430	t: 3.049	t: 2.164	t: 3.308
	**p*	p: 0.050*	p: 0.006*	p: 0.032*	p: 0.050
Liking children	Yes	22.52 ± 8.43	23.99 ± 6.50	14.68 ± 3.34	61.20 ± 14.62
	No	23.95 ± 8.61	21.00 ± 8.40	12.26 ± 4.18	56.21 ± 17.71
	Test value	t: −2.218	t: 1.614	t: 2.169	t: 1.668
	**p*	p: 0.009*	p: 0.018*	p: 0.014*	p:0.015*
Liking to play games with children	Yes	22.73 ± 8.54	23.98± 6.58	14.79 ± 3.15	61.42 ± 14.85
	No	24.94 ± 8.07	21.85 ± 8.08	12.14 ± 4.52	56.03 ± 15.83
	Test value	t: 2.876	t: 2.273	t: 2.834	t: 2.676
	**p*	p: 0.019*	p: 0.009*	p: 0.032*	p:0.021*
Perceived ability to communicate with children	Very good	24.87 ± 10.61	25.65 ± 8.41	15.84 ± 4.08	66.37 ± 19.59
	Good	21.41 ± 7.58	23.59 ± 5.75	14.10 ± 3.35	59.11 ± 12.91
	Moderate	22.45 ± 7.52	21.70 ± 6.72	13.75 ± 2.51	57.91 ± 13.29
	Poor	29.33 ± 6.42	23.00 ± 6.08	11.33 ± 7.37	56.91 ± 13.20
	Very poor	21. 51 ± 7.48	21.50 ± 6.45	11.46 ± 7.83	56.89 ± 13.48
	Test value	F: 3.684	F: 3.108	F: 4.285	F: 3.192
	*p	p: 0.017*	p: 0.018*	p: 0.003*	p:0.015*
Presence of chronic disease	Yes	21.85 ± 7.47	23.35 ± 6.14	13.92 ± 2.52	59.14 ± 8.63
	No	22.68 ± 8.55	23.51 ± 7.01	14.32 ± 3.70	60.52 ± 15.79
	Test value	t: −0.346	t: −0.090	t: −0.390	t: −0.321
	**p*	p: 0.704	p: 0.929	p: 0.603	p:0.614
Hospitalization experience	Yes	23. 87 ± 8.71	23.06 ± 7.12	13.85 ± 4.23	60.79 ± 16.22
	No	21.93 ± 8.24	23.72 ± 6.82	14.51 ± 3.21	60.17 ± 14.75
	Test value	t: 1.273	t: −0.532	t: −0.942	t: 0.220
	**p*	p: 0.206	p: 0.596	p: 0.349	p:0.826

SD: Standard Deviation.
* One-Way ANOVA Test.
** Student t-Test.

education, etc., affect the communication skills of nursing students (Akçam et al., 2019; Diğin et al., 2022; Hendekcï, 2020). However, when therapeutic communication skills in pediatric clinics were considered, factors related to children were particularly influential (Osei Appiah et al., 2022). Factors such as fondness of children, interest in playing games with children, being female, and having good social relation skills were important in influencing this variable (Çalıkuşu İncekar et al., 2019; Mutlu et al., 2020a, 2020b; Osei Appiah et al., 2022). However, contrary to the literature, the present study revealed that students with a grade point average of ≤75 had higher therapeutic communication skills. In a previous study, the perception of academic success was reported to have no effect on therapeutic communication (Arifoğlu & Sala Razı, 2011). In another study, the mean non-therapeutic communication skills scores reportedly decreased as students' grade point average increased (Duru, Denizhan, Güneşli, Yağtu, & Yılmaz, 2022; Duru, Denizhan, Güneşli, Yağtu, Yılmaz, Üniversitesi, et al., 2022; Shah et al., 2020). In yet another study conducted with university students, it was concluded that the communication skills of students did not have a statistically significant effect on their academic achievement (Shah et al., 2020). Varied conclusions are reported on the effect of academic achievements on the therapeutic or non-therapeutic communication skills of nursing students (Osei Appiah et al., 2022; Shah et al., 2020). These differences are attributed to the additional influences of social, psychological, and environmental factors on the communication skills scores of students (Arifoğlu & Sala Razı, 2011; Osei Appiah et al., 2022; Shah et al., 2020).

According to Model 1 of the present study, certain descriptive characteristics explained the therapeutic communication skills scores of 52.4% of pediatric nursing students. The satisfaction with the nursing department, not having difficulty in communicating with a child patient, having experience with child care, fondness of children, interest in playing therapeutic games with children, and perception of having good communication skills increased the therapeutic communication skills scores of students ($p < 0.001$, Table 3). Yilmaz and Akay (2022) emphasized that students with a high degree of fondness for children did not have difficulty communicating with a child patient and that their communication skills were also better (Yilmaz & Akay, 2022). Another study stated that healthcare professionals who did not have difficulty communicating with children in their social life could also communicate effectively with a child patient in their professional life (Osei Appiah et al., 2022). In another study, people with the experience of caring for their siblings or nephews were accustomed to the nature of children and

Table 3
The predictive power of nursing students' descriptive characteristics in determining the level of their therapeutic communication skills.

MODEL 1	The Therapeutic Communication Skills Scale for Nursing Students						
	Unstandardized Beta	Standart Error	Standardized Beta β	t	p	95% CI	
						Lower	Upper
Constant	70.439	8.460		8.326	0.000	53.698	87.179
Gender[a]	−2.117	2.877	−0.066	−0.736	0.463	−7.809	3.575
Grade point average[b]	−5.369	2.979	−0.169	−1.802	0.074	−11.263	0.526
Status of choosing the nursing department willingly[c]	−1.197	3.366	−0.038	−0.356	0.723	−7.858	5.464
Satisfaction with studying in the nursing department[d]	5.397	2.338	0.243	2.308	**0.023**	6.024	10.771
Difficulty communicating with people[e]	−2.784	3.658	−0.078	−0.761	0.448	−10.021	4.454
Perception of the ability to establish social relationships[f]	0.908	2.291	0.044	0.396	0.692	−3.626	5.442
Difficulty communicating with pediatric patients in clinical practice[g]	12.532	3.572	0.263	2.709	**0.008**	−4.537	9.600
Perception of how childhood was passed[h]	−0.994	3.165	−0.031	−0.314	0.754	−7.256	5.268
Experience with child care[i]	11.343	3.816	0.886	2.683	**0.006**	2.890	15.696
Liking children[j]	9.491	4.308	0.661	2.578	**0.004**	−6.034	11.016
Liking to play games with children[k]	11.596	4.203	0.642	2.380	**0.005**	6.913	9.720
Perceived ability to communicate with children[l]	10.343	3.716	0.286	2.783	**0.006**	2.990	17.696
R	**0.604**						
R^2	**0.524**						
F	**85.846**						
p	**0.023**						
Durbin Watson (1.5–2.5)	**1.823**						

CI: Confidence Interval; R: correlation; R2: correlation coefficient (explained variance ratio); F: model statistics; p: level of significance.
[a]While coding, the woman was coded as 1 and the man was coded as 0; [b]While coding, the 75 ≤ was coded as 1 and the 75 > was coded as 0; [c,d,e,g,i,j,k] While coding, the yes was coded as 1 and the no was coded as 0; [f,h,l] While coding, the very well was coded as 1 and the others degrees were coded as 0.

were, therefore, able to communicate comfortably with pediatric patients in professional scenarios (Çalıkuşu İncekar et al., 2019). DeCourcey et al. (2021) emphasized that play was important in initiating effective communication, and people who had experience with playing children's games did not have difficulty initiating effective communication with pediatric patients (DeCourcey et al., 2021). In previous studies, however, these factors affecting the therapeutic communication skills of nursing students and staff have been evaluated separately (Çalıkuşu İncekar et al., 2019; DeCourcey et al., 2021; Yilmaz & Akay, 2022). In the present study, several of the descriptive factors affecting the therapeutic communication skills scores of nursing students were evaluated together, which was significant. The literature also supports the findings of Model 1.

Limitations

Randomly selected nursing students from two regions of Turkey were included in this study, which may affect the generalizability of the study results. In addition, while the study demonstrated that certain descriptive characteristics of the students exerted a significant effect on their therapeutic communication skills, one must remember that therapeutic communication skills are affected by familial, environmental, cultural, social, and professional factors as well.

Implications for practice

Pediatric units necessitate their staff to possess effective therapeutic communication skills. Nursing students should, therefore, receive education on communication skills during their nursing school courses. Topics such as communication with pediatric patients are recommended for such courses.

In order to develop the therapeutic communication skills of students undertaking a pediatric nursing course, it is necessary to support these students with a standard curriculum that includes student-centered, innovative, and interactive educational methods, such as role play, case analysis, and video-based learning. In addition, variables affecting therapeutic communication with children, such as fondness for children, therapeutic play, etc., should be included in the undergraduate/graduate curriculum of nursing education.

Future studies on this subject could focus on implementing and exploring case-based training programs for therapeutic communication for nursing students undertaking pediatric nursing courses. In addition, with advancements in technology, studies on achieving simulation-based improvement of therapeutic communication skills must be planned to enrich the pediatric nursing curriculum. It is also recommended to conduct comparative studies on different educational approaches for nursing students undertaking pediatric nursing courses or meta-analyses to evaluate the effectiveness of such approaches. In addition, it may be recommended to prepare guidelines to improve the communication skills of nursing students taking pediatric nursing courses and to conduct studies evaluating the effectiveness of these guidelines. Another suggestion is to plan qualitative studies to evaluate the therapeutic communication skills of nursing students with the child and the affecting factors.

Conclusions

The level of therapeutic communication skills among the nursing students undertaking a pediatric nursing course was evaluated in the present study. It was revealed that students who were female, had a GPA of ≤75, had selected the nursing department willingly and were satisfied with the nursing profession study, experienced no difficulty in establishing communication, thought that they had good social relation skills, did not have difficulty in establishing communication with pediatric patients, thought that they had quite a good childhood, had experience with child care, thought that their ability to communicate with children was considerably good, were fond of children, and had an interest in playing games with children possessed better therapeutic communication skills scores. It is, however, recommended to repeat the study with a larger sample to identify other factors affecting the therapeutic communication skills of the nursing working in a pediatric clinic. This study will contribute to the revision of the pediatric nursing course in the nursing education curriculum and will guide nursing students to evaluate their own communication skills. Nursing educators must empower students to reach their full potential as future professionals. It is recommended to develop students' therapeutic communication skills from the beginning of their vocational training. It is necessary to enrich the pediatric nursing course, which is included in the nursing education curriculum, in terms of communication with the child, to conduct the course contents with interactive methods for applications, and to create

training programs to strengthen communication skills. In addition, other familial, environmental, cultural, social, and occupational factors that could affect the therapeutic communication skills of nursing students and staff should be explored.

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To carry out the research, the ethical approval of the Scientific Research and Publication Ethics Committee of a university (date: 23.03.2023 and decision number: 3) and institutional permissions of the faculty management of four universities were obtained.

CRediT authorship contribution statement

Aslı Akdeniz Kudubes: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Dijle Ayar:** Data curation, Funding acquisition, Investigation, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Hamide Zengin:** Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

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