

Özgün Araştırma

Fizyoterapi ve Rehabilitasyon Öğrencilerinin İletişim Becerilerinin ve Empati Düzeylerinin Kişisel ve Akademik Özelliklere Göre Karşılaştırılması: Kesitsel Bir Çalışma

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Öz

Amaç: Bu araştırma, fizyoterapi ve rehabilitasyon öğrencilerinin iletişim becerilerinin ve empati düzeylerinin kişisel ve akademik özelliklere göre karşılaştırılmasını amaçladı.

Gereç ve Yöntem: Araştırmaya toplamda 481 fizyoterapi ve rehabilitasyon öğrencisi (yaş ortalaması 20,43±1,85 yıl) dâhil edildi. Öğrencilerin kişisel ve akademik özellikleri, iletişim becerileri ve empati düzeyleri "Google Forms" uygulaması ile yapılandırılmış bir anket formu ile kaydedildi. Yapılandırılmış anket formu, çalışma ve çalışmanın amacı hakkında kısa bir bilgilendirme metninden, öğrencilerin bireysel ve akademik özelliklerine ilişkin sorulardan ve İletişim Becerileri Ölçeği ve Toronto Empati Ölçeği'nde yer alan sorulardan oluşmaktaydı. İki bağımsız grubun ve ikiden fazla bağımsız grubun ortalamalarının karşılaştırılması sırasıyla bağımsız örneklem t-testi ve tek yönlü varyans analizi (ANOVA) ile yapıldı. İkiden fazla grubun ortalamalarının karşılaştırılması sonucunda anlamlı farklılık bulunduğunda bu farklılığa hangi grubun neden olduğunu belirlemek için Bonferroni düzeltmesinden yararlanıldı.

Bulgular: Kız ($p=0,024$), demokratik aile yapısına sahip ($p=0,004$), kişilerarası ilişkilerde zorluk yaşamayan ($p<0,001$) ve algılanan sosyo-ekonomik düzeyi yüksek olan ($p=0,022$) öğrencilerin iletişim becerilerinin daha yüksek olduğu görüldü. Ayrıca, kız öğrencilerin empati düzeylerinin daha yüksek ($p<0,001$), dördüncü sınıf öğrencilerinin ise empati düzeylerinin daha düşük ($p=0,003$) olduğu sonucuna ulaşıldı.

Sonuç: Bu sonuçlar öğrencilerin iletişim becerileri ve empati düzeylerinin bazı kişisel ve akademik özelliklere göre farklılık gösterdiğini ortaya koydu.

Anahtar kelimeler: Farkındalık, iletişim, eğitim, empati

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Original Research

Comparison of Communication Skills and Empathy Levels of Physiotherapy and Rehabilitation Students According to Individual and Academic Characteristics: A Cross-Sectional Study

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Abstract

Objectives: This study aimed to compare the communication skills and empathy levels of physiotherapy and rehabilitation students according to their individual and academic characteristics.

Material and Methods: A total of 481 physiotherapy and rehabilitation students (mean age: 20.43±1.85 years) were included in the study. Students' individual and academic characteristics, communication skills and empathy levels were recorded with a survey form structured with the "Google Forms" application. The structured survey form consisted of a short informational text about the study and its purpose, questions about the individual and academic characteristics of the students, and questions from the Communication Skills Scale and Toronto Empathy Scale. Comparison of two independent groups and more than two independent groups means were performed with the independent samples t-test and one-way analysis of variance (ANOVA), respectively. When a significant difference was found as a result of comparing the means of more than two groups, Bonferroni correction was used to determine which group caused this difference.

Results: It was observed that the communication skills of students who were female ($p=0.024$), had a democratic family structure ($p=0.004$), did not have difficulties in interpersonal relationships ($p<0.001$), and had a high perceived socio-economic level ($p=0.022$) were higher. Also, it was concluded that the empathy levels of female students were higher ($p<0.001$), while the empathy levels of the 4th grade students were lower ($p=0.003$).

Conclusion: These results revealed that students' communication skills and empathy levels differ according to individual and academic characteristics.

Keywords: Awareness, communication, education, empathy.

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Introduction

The primary duties and responsibilities of physiotherapists are to inform individuals about behaviors that promote/protect their health, to provide individuals with healthy lifestyle behaviors, and to support them in changing unhealthy behaviors (Wloszczak-Szubzda & Jarosz, 2013). However, it is very important that physiotherapists, who serve and direct the health of patients together with many health professionals, have developed individual skills such as communication and empathy. These skills help to develop the skills of understanding the patient, communicating effectively with the patient, producing solutions for problems, and decision-making (Roscoe et al., 2014). Also, to fulfill their duties and responsibilities, physiotherapists need to understand patients' feelings, empathize, communicate effectively, and motivate their patients (Wloszczak-Szubzda & Jarosz, 2013).

Studies have reported that physiotherapists' ability to communicate effectively and empathize with patients positively contributes to the rehabilitation process of patients (Buining et al., 2015; Monaco et al., 2022; Rodríguez-Nogueira et al., 2022). In this sense, communication and empathy are necessary to gain an in-depth understanding of the circumstances surrounding the patient, allowing them to participate more fully in decision-making related to their health (Jeffrey, 2016; Thompson et al., 2022). The empathy of the physiotherapist is one of the most important attributes in achieving a successful therapeutic alliance, both from the theoretical and practical perspectives of physiotherapists and patients (Morera-Balaguer et al., 2018). On the other hand, effective communication is considered to be an essential skill that clinicians need to master in clinical practice to improve the quality and efficiency of care (Mauksch et al., 2008). In order to promote effective communication, it is important that the clinician and patient co-operate and co-ordinate their communication (Street et al., 2007).

The communication skills and empathy levels of individuals can differ according to individual and academic characteristics (Bruno et al., 2022). Therefore, it may be important to examine the communication skills and empathy levels of physiotherapy and rehabilitation (PR) students, who will manage the treatment process of patients after graduation, in terms of these characteristics, and to determine possible differences. Also, considering the positive effects of physiotherapists' skills such as communication and empathy on the treatment and rehabilitation process, it is an important requirement to raise awareness by giving feedback to students on this issue (Schoeb & Hiller, 2018; Rodríguez-Nogueira et al., 2022).

There are many studies examining the communication skills and empathy levels of students studying in health-related departments in the literature (Akgün & Çetin, 2018; Elkin et al., 2016; Brown et al., 2010; Williams et al., 2016). However, academic (different curriculum, etc.) differences between departments may affect the results and inferences obtained from the studies (Özyazıcıoğlu et al., 2009; Akgün & Çetin, 2018). In this context, Özyazıcıoğlu et al. reported that nursing students had higher empathy skills than health officer students (Özyazıcıoğlu et al., 2009). Also, Akgün et al. found that nursing students had better communication and empathy skills than child development students (Akgün & Çetin, 2018). Furthermore, they reported that the reason for this situation may be that nursing students receive more courses on empathy and communication and focus more on these issues in their education (Akgün & Çetin, 2018). Therefore, clearer and more objective inferences can be obtained by excluding these possible differences with studies conducted only on PR students.

To the best of the authors' knowledge, there is no study in the current literature that has been conducted only on PR students and compares the communication skills of PR students according to their individual and academic characteristics. Also, it was seen that few studies are comparing of empathy levels of PR students according to these characteristics and the results varied (Hiok Lim et al., 2022; Bayliss & Strunk, 2015; Yucel & Acar, 2016). Accordingly, Hiok Lim et al. reported that PR students' empathy levels were similar according to gender (Hiok Lim et al., 2022). On the other hand, Bayliss et al. reported that PR students' empathy levels differ according to gender and grade variables (Bayliss & Strunk, 2015). Lastly, Yucel & Acar reported that empathy scores of PR students increased to a significant degree after school entrance and decreased in the final year, and levels of empathy did not change according to gender, specialty interest, or home region (Yucel & Acar, 2016). However, it was observed that PR students' empathy levels were not compared according to other individual (family structure, difficulty in interpersonal relations, and perceived socio-economic level) and academic (practical course/internship, education related to communication/empathy) characteristics.

Therefore, this study aimed to compare the PR students' communication skills and empathy levels according to their individual (gender, family structure, difficulty in interpersonal relations, and perceived socio-economic level) and academic (grade level, practical course/internship, education related to communication/empathy) characteristics. Additionally, our primary and secondary hypotheses were as follows, respectively; “PR students' communication skills and empathy levels would differ according to individual

(gender, family structure, difficulty in interpersonal relations, and perceived socio-economic level) characteristics” and “PR students' communication skills and empathy levels would differ according to academic (grade level, practical course/internship, education related to communication/empathy) characteristics”.

Material and Methods

This study was conducted in March 2023. A total of 481 PR students (mean age: 20.43±1.85 years) studying at a governmental university in Turkey were included in the study. There were no courses on communication and empathy in the course curriculum of the PR department, other than basic theoretical and applied courses related to the field. The inclusion criteria of the study were as follows: to be studying in the PR department, willing to participate in the study, and able to read and understand Turkish. Students who filled out the survey incompletely were excluded from the study. Ethical approval was granted by the Social Research Ethics Committee of a governmental university in Turkey (Decision Date: 27.12.2022, Decision Number: 2022/21-02) Students provided written consent through a structured survey. Eligibility screening, including specific tests, was performed simultaneously by the authors (first and second authors of this article).

The “Google Forms” application (Google, Mountain View, California, USA) was used in the study. The survey was delivered to students through messages (WhatsApp, Mountain View, California, USA). The first part of the survey included a brief information text about the study and its purpose. The other parts of the survey included the questions about the individual (gender, family structure, difficulty in interpersonal relations, and perceived socio-economic level) and academic (grade level, practical course/internship, education related to communication/empathy) characteristics of the students, Communication Skills Scale, and Toronto Empathy Scale, respectively. Previous studies were referenced in the classification according to individual and academic characteristics (Çetin & Aytar, 2012; Bekmezci et al., 2015; Akgün & Çetin, 2018; Seğer et al., 2022).

The Communication Skills Scale, which is a valid and reliable measurement tool, was developed by Korkut-Owen and Bugay (Korkut-Owen & Bugay, 2014). This scale is a 5-point Likert-type scale consisting of 25 questions. The lowest score that can be obtained from the scale is 25, the highest score is 125, and a high score indicates that students have high communication skills. Cronbach's alpha coefficient was calculated for the internal consistency

reliability of the scale and the internal consistency coefficient (ICC) was calculated as 0.88 (Korkut-Owen & Bugay, 2014).

Toronto Empathy Scale, which was developed by Spreng et al., adapted into Turkish by Totan, Dogan, and Sapmaz (Spreng et al., 2009; Totan et al., 2012). This scale, which is a valid and reliable measurement tool, is a one-dimensional and 5-point Likert-type scale consisting of 13 questions. The lowest score that can be obtained from the scale is 13, the highest score is 65, and a high score indicates that students have high levels of empathy. The internal consistency coefficient and test-retest reliability coefficient of the scale were 0.79 and 0.73 respectively (Totan et al., 2012).

According to the previous study (mean and standard deviations of the total scores obtained from the empathy scale by male and female students), it was determined that at least 418 students (with type-1 error level 0.05 and power 95%) should be included in the study (Bayliss & Strunk, 2015). Also, according to the post-hoc power analysis performed by taking the mean and standard deviation values of the total scores obtained by male and female students from the Toronto Empathy Scale, the power of the research was found to be 99%. Statistical analysis of the data was performed with the statistical package program IBM SPSS Statistics Standard Concurrent User V 26 (IBM., Armonk, New York, USA). Descriptive statistics were given as number of units (n), percent (%), mean and standard deviation (mean±SD), minimum (min), and maximum (max) values. The normal distribution of data was determined with the Kolmogorov-Smirnov test. Comparison of two independent groups (according to gender, difficulty in interpersonal relations, practical course/internship, education related to communication/empathy) and more than two independent groups means were performed with the independent samples t-test and one-way analysis of variance (ANOVA), respectively. When a significant difference is found as a result of comparing the means of more than two groups, the Bonferroni correction was used to determine which group caused this difference. Type 1 error level was determined as 0.05.

Results

A total of 481 PR students (mean age: 20.43±1.85 years) were included in the study. Since all questions in the structured survey included the "obligatory to fill in" option, there was no missing data in the study. A total of 71.3% of the students were female, 15% of the students had an authoritative, 40.7% had a democratic, and 44.3% had a protective family structure, 23.1% had difficulties with interpersonal relationships, perceived socio-economic level of the

students was low in 15.8%, moderate in 77.8%, and high in 6.4%, 24.7% of the students were in the first-grade, 25.8% in the second-grade, 25.4% in the third-grade, and 24.1% in the fourth-grade, 75.2% of the students took the practical course and 49.4% took the practical internships, 24.3% of the students had received education related to communication and 13.1% education related to empathy. Students' individual and academic characteristics were presented in Table 1.

Table 1. Individual and academic characteristics of the students

	Min/Max	Mean±SD
Age (year)	17.00/27.00	20.43±1.85
	n	%
Individual Characteristics		
Gender		
Female	343	71.3
Male	138	28.7
Family structure		
Authoritative	72	15.0
Democratic	196	40.7
Protective	213	44.3
Difficulty in interpersonal relations		
Yes	111	23.1
No	370	76.9
Perceived socio-economic level		
Low	76	15.8
Moderate	374	77.8
High	31	6.4
Academic Characteristics		
Grade level		
First-grade	119	24.7
Second-grade	124	25.8
Third-grade	122	25.4
Fourth-grade	116	24.1
Practical Course		
Yes	362	75.2
No	119	24.8
Practical internship		
Yes	238	49.4
No	243	50.6
Education related to communication		
Yes	117	24.3
No	364	75.7
Education related to empathy		
Yes	63	13.1
No	418	86.9

Min: Minimum, Max: Maximum, SD: Standard deviation, n: Number.

Comparison of the Communication Skills Scale total scores according to students' individual and academic characteristics were presented in Table 2. It was seen that female students and students with a democratic family structure, who do not have difficulties in interpersonal relationships, and with a high perceived socio-economic level had higher communication skills ($p=0.024$, $p=0.004$, $p<0.001$, $p=0.022$, respectively). The Communication Skills Scale total scores were similar in terms of students' academic characteristics (grade level, practical course/internship, education related to communication/empathy) ($p>0.050$).

Table 2. Comparison of Communication Skills Scale total scores according to students' individual and academic characteristics

	Mean±SD	p
Individual Characteristics		
Gender		
Female (n=343)	99.05±9.66	0.024*
Male (n=138)	96.79±10.51	
Family structure		
Authoritative (n=72)	96.34±12.59	0.004 [†] p1:p2=0,015 p1:p3=0,662 p2:p3=0,020
Democratic (n=196)	100.14±9.37	
Protective (n=213)	97.51±9.25	
Difficulty in interpersonal relations		
Yes (n=111)	93.30±10.70	<0.001*
No (n=370)	99.94±9.20	
Perceived socio-economic level		
Low (n=76)	97.39±12.25	0.022 [†] p1:p2=0,780 p1:p3=0,021 p2:p3=0,026
Moderate (n=374)	98.23±9.33	
High (n=31)	103.03±10.16	
Academic Characteristics		
Grade level		
First-grade (n=119)	99.72±9.65	0.422
Second-grade (n=124)	98.10±9.51	
Third-grade (n=122)	98.03±8.75	
Fourth-grade (n=116)	97.78±11.77	
Practical Course		
Yes (n=362)	98.33±10.04	0.641
No (n=119)	98.98±9.42	
Practical internship		
Yes (n=238)	98.28±10.58	0.828
No (n=243)	98.48±9.56	
Education related to communication		
Yes (n=117)	98.82±11.44	0.601
No (n=364)	98.27±9.44	
Education related to empathy		
Yes (n=63)	97.87±13.29	0.647
No (n=418)	98.49±9.37	

SD: Standard deviation; p*: comparison between two groups; p[†]: comparison between more than two groups, Bonferroni correction was used for pairwise subcomparisons. * $p<0.050$, [†] $p<0.050$

Comparison of the Toronto Empathy Scale total scores according to students' individual and academic characteristics were presented in Table 3. It was concluded that the empathy levels of the female students were higher, and the empathy levels of the 4th grade students were lower. ($p<0.001$, $p=0.003$, respectively). The Toronto Empathy Scale total scores were similar in terms of students' other individual (family structure, difficulty in interpersonal relations, perceived socio-economic level) and academic (practical course/internship, education related to communication/empathy) characteristics ($p>0.050$).

Table 3. Comparison of Toronto Empathy Scale total scores according to students' individual and academic characteristics

	Mean±SD	p
Individual Characteristics		
Gender		
Female (n=343)	55.81±5.77	<0.001*
Male (n=138)	50.68±7.54	
Family structure		
Authoritative (n=72)	54.44±7.39	0.982
Democratic (n=196)	54.37±6.78	
Protective (n=213)	54.28±6.49	
Difficulty in interpersonal relations		
Yes (n=111)	53.62±6.44	0.196
No (n=370)	54.56±6.81	
Perceived socio-economic level		
Low (n=76)	53.84±7.75	0.698
Moderate (n=374)	54.48±6.29	
High (n=31)	53.90±9.03	
Academic Characteristics		
Grade level		0.003[†]
First-grade (n=119)	55.41±6.68	p1:p2=0,998
Second-grade (n=124)	55.25±6.87	p1:p3=0,431
Third-grade (n=122)	54.11±6.04	p1:p4=0,005
Fourth-grade (n=116)	52.52±7.00	p2:p3=0,534
		p2:p4=0,009
		p3:p4=0,025
Practical Course		
Yes (n=362)	54.27±6.75	0.522
No (n=119)	54.87±6.67	
Practical internship		
Yes (n=238)	54.01±6.35	0.393
No (n=243)	54.55±6.96	
Education related to communication		
Yes (n=117)	53.76±7.59	0.287
No (n=364)	54.53±6.43	
Education related to empathy		
Yes (n=63)	53.88±8.52	0.563
No (n=418)	54.41±6.43	

SD: Standard deviation; p*: comparison between two groups; p[†]: comparison between more than two groups; Bonferroni correction was used for pairwise subcomparisons. * $p<0.050$, [†] $p<0.05$

Discussion and Conclusion

This study aimed to compare the PR students' communication skills and empathy levels in terms of their individual and academic characteristics. Our results suggested that female students and students with a democratic family structure, who do not have difficulties in interpersonal relationships, and with a high perceived socio-economic level had higher communication skills. Also, the empathy levels of the female students were higher, and the empathy levels of the 4th grade students were lower.

Fulfilling physiotherapists' duties and responsibilities requires effective communication skills (Wloszczak-Szubzda & Jarosz, 2013). Therefore, it is important to examine the communication skills of the PR students, who will serve in the field of health after their graduation, compare these skills according to their individual and academic characteristics, and raise awareness of the students in this regard. To the best of the authors' knowledge, this is the first study that was conducted only on PR students and compared communication skills according to individual and academic characteristics. As a result of the study, it was concluded that the communication skills of the students did not differ according to their academic characteristics (grade level, practical course/internship, education related to communication/empathy). In the current literature, the absence of a study conducted only on PR students prevents the discussion of the results obtained in this study. However, there are many studies examining the communication skills of students studying in different health fields and comparing these skills according to different individual and academic characteristics in the current literature (Kyaw et al., 2019; Geoffroy et al., 2020; Bullington et al., 2019).

From the results we obtained; female students had higher communication skills than male students, students who do not have difficulties in interpersonal relations had better communication skills, and students studying in different grades had similar communication skills were similar to the results of many studies in the literature conducted on students studying in health-related departments (Akgün & Çetin, 2018; Elkin et al., 2016; Gül et al., 2022; Irak et al., 2017). Within this scope, female students' communication skills are higher than male students, may be due to the fact that female students can use their speaking and listening skills more effectively, and they have to express themselves better in various social environments (Elkin et al., 2016). Also, the better level of communication skills of the students who do not have difficulties in interpersonal relations shows that they can use the right communication techniques in the face of possible problems in interpersonal relations and thus they do not experience difficulties in relations (Akgün & Çetin, 2018). Lastly, the fact that the

communication skills of the students studying in health-related departments have not developed during their undergraduate education suggests that the curricula of health-related departments may be insufficient in terms of practices aimed at improving the communication skills of the students.

Moreover, it was concluded that students with a high socio-economic level and a democratic family structure had higher communication skills in this study. It is thought that the high level of self-confidence, comfort, and purchasing power provided by the high-income level of the students or their families and, in parallel, the high socio-economic level perceived by the students, were effective in the students' ability to communicate more easily and maintain communication. Also, it is thought that the democratic attitude displayed by the students' families allows the students to express themselves freely, and this reflects positively on the students' communication skills (Elkatmış, & Ünal, 2014). Contrary to these results, there were also studies reporting that the communication skills of students studying in health-related departments do not differ according to the perceived socio-economic level and family structure (Elkin et al., 2016; Erigüç, & Eriş, 2013). This difference in the results may be due to the fact that the perceived socio-economic level and family structure of the students were not evaluated with any standardized scale or survey within the scope of these studies.

Lastly, our results suggested that the communication skills of the students who received and did not receive education related to communication were similar. Contrary to these results, the results of some studies in the literature emphasize that the communication skills of the students who receive any education related to communication were higher (Akgün & Çetin, 2018; Elkin et al., 2016; Gül et al., 2022). This difference in the results obtained may be due to the possible differences in the content and duration of the communication education received by the students. Unlike the previous studies, students' communication skills were also compared according to their practical course/internship status in this study. However, our results showed that the communication skills of PR students with and without practical course/internship experience were similar. This result is consistent with our result showing that students' communication skills did not improve during their undergraduate education. However, it is thought that longitudinal studies are needed to test these results.

It is an important requirement for physiotherapists to have developed empathy levels in order to communicate effectively with patients during their rehabilitation process (Yucel, 2022). Also, as a result of a recent Delphi study, it was reported that the most important communication skill was determined as empathy and its importance level was 85% (Almeida

Santos et al., 2022). The empathy levels of PR students were also compared according to individual and academic characteristics, similar to their communication skills in this study. Accordingly, our results revealed that female students' empathy levels were higher, and 4 th grade students' empathy levels were lower.

In the current literature, there are some studies examining the empathy levels of PR students (Hiok Lim et al., 2022; Bayliss & Strunk, 2015; Yucel & Acar, 2016; Yucel, 2022; Yazıcı, & Terzioğlu, 2019). It was seen that the empathy levels of the students were compared mostly in terms of gender and grade level, and the results obtained were largely similar to the results of the present study. Accordingly, Yazıcı et al. reported that female students had higher empathy levels and students' empathy levels did not develop during their undergraduate education (Yazıcı, & Terzioğlu, 2019). Yucel et al. found that empathy levels of PR students were lower in the first grade, increased in the second and third grades, and decreased again in the fourth grade (Yucel & Acar, 2016). Also, as a result of a four-year longitudinal study, Yucel concluded that students' empathy levels gradually decreased throughout their undergraduate education and female students' empathy levels were higher than male students (Yucel, 2022). Lastly, Bayliss et al. concluded that 1st grade students had higher empathy levels, students' empathy levels gradually decreased throughout their undergraduate education, and female students' empathy levels were higher than male students (Bayliss & Strunk, 2015). Interestingly, the results of our study and other studies showed that PR students' empathy levels gradually decrease throughout undergraduate education, while female students' empathy levels are higher. Although students act emotionally in the first years of their undergraduate education, perhaps they prefer to take a more calm and professional approach towards patients, being aware of their duties and responsibilities in the final year clinical practice phase. Lastly, this result obtained for gender suggested that female attach importance to developing interpersonal relationships with patients, while male adopt a more rational approach rather than an emotional one.

Unlike the literature, the empathy levels of the PR students were also compared according to various individual (family structure, difficulty in interpersonal relations, perceived socio-economic level) and academic characteristics (practical course/internship, education related to communication/empathy) in this study. However, our results suggested that students' empathy levels did not differ according to different individual and academic characteristics. Especially, students' empathy levels do not change according to their practical course/internship status is consistent with our result, showing that students' empathy levels do not develop during

their undergraduate education. Considering these results obtained from the studies, the fact that female students have a higher level of empathy than male students can be explained by the fact that female's roles and duties in social life are more active in the socialization process and their duties and roles are higher in this process (Pekel, 2019). Lastly, considering that empathy is a fundamental value required for PR practices and makes an important contribution to the provision of patient-centered care, ensuring that students develop awareness and skills about empathy during their undergraduate education, will contribute to providing high-quality health services after graduation.

This study had some limitations. Firstly, the numbers of some groups formed in terms of individual characteristics are not similar. Secondly, the inclusion of only students studying in the government university limits the generalizability of the results obtained. Thirdly, students' undergraduate success levels were not questioned and their communication and empathy levels were not compared according to their success levels. Fourthly, communication and empathy skills can be affected by professional experience (total years of experience). Not taking into account/evaluating this situation is another limitation. Lastly, factors and outcomes were investigated simultaneously in this study. Therefore, longitudinal studies are needed with a high level of evidence in order to test our results. It is recommended that these details be taken into account in future studies on this subject.

Our results suggested that female students and students with a democratic family structure, who do not have difficulties in interpersonal relationships, and with a high perceived socio-economic level had higher communication skills. Also, it was concluded that the empathy levels of the female students were higher and the levels of empathy of the students studying in the 4th grade were lower. These results revealed that students' communication skills and empathy levels differ according to individual and academic characteristics.

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