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Empathy levels of physical education and sports students

Niveles de empatía de los estudiantes de educación física y deportes

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Abstract
Coaches and physical education teachers are important actors of the sports scene. Considering their responsibilities and contributions to the development of athletes or students, it has aroused curiosity to determine their empathy levels that will shape their behaviors in sports environments, starting from their own sports education. From this point of view, this study was conducted to examine the empathy levels of physical education and sports school students. The sample consisted of 268 students (86 female and 182 male) from Kilis 7 December University School of Physical Education and Sports in Turkey. The data of the study were collected through the "Empathy Quotient Scale" developed by Lawrence et al. (2004) and adapted into Turkish by Kaya and Çolakoğlu (2015). Descriptive statistical tests and non-parametric comparison tests were used in data analysis. The findings of the study revealed that the empathy levels of the students differed in terms of gender, sports participation status, department and class variables. As a result, demographic characteristics are important determinants of students' empathy level.

Keywords: empathy, empathy level, physical education, sports, university students.

Resumen
Los entrenadores y profesores de educación física son actores importantes de la escena deportiva. Teniendo en cuenta sus responsabilidades y contribuciones al desarrollo de los atletas o estudiantes, ha despertado la curiosidad por determinar sus niveles de empatía que conformarán sus comportamientos en entornos deportivos, empezando por su propia educación deportiva. Desde este punto de vista, este estudio se llevó a cabo para examinar los niveles de empatía de los estudiantes universitarios de educación física y deportiva. La muestra estaba formada por 268 estudiantes (86 mujeres y 182 hombres) de la Facultad de Educación Física y Deportes de la Universidad 7 de Diciembre de Kilis (Turquía). Los datos del estudio se recogieron a través de la "Escala de coeficiente de empatía" desarrollada por Lawrence et al. (2004) y adaptada al turco por Kaya y Çolakoğlu (2015). En el análisis de los datos se utilizaron pruebas estadísticas descriptivas y pruebas de comparación no paramétricas. Las conclusiones del estudio revelaron que los niveles de empatía de los estudiantes diferían en función de las variables de género, condición deportiva, departamento y clase. En consecuencia, las características demográficas son importantes determinantes del nivel de empatía de los alumnos.

Palabras clave: empatía, nivel de empatía, educación física, deportes, estudiantes universitarios.

Introduction

Sport, which is based on movement, has become almost synonymous with health. It supports well-being not only physically but also psychologically and socially. Because the goals of sports are to be healthy, to utilize free time efficiently, to reduce stress and restlessness, to create a friendly environment by increasing social communication, to increase awareness, productivity, etc. At the same time, it provides social benefits through

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the values it manages (such as responsibility, self-control, respect) and contributes to psychological foundations such as stress relief, achievement and self-confidence (Shoxrux, 2023). This general perspective reveals the importance of sports participation for the development of the individual. Because participation in sports is effective in terms of understanding others, exhibiting considerate behavior towards them, developing and maintaining interpersonal relationships (Kwon, 2018). The following dynamics are also companions: Perception and performance relationships, an interaction that begins with a focus on movement, collaboration, goal-orientation, empathic processes in which the capacity to understand the intentions of others, to adapt oneself, to understand emotional and cognitive states is activated (Sevdalis & Raab, 2014). In other words, sport contributes to the development of empathy and allows emotions to be revealed and emotional awareness to become a normal part of life (Elena, 2020).

Empathy is the similarity between the feelings one experiences and those shown by others. It involves both automatic emotional experience and controlled cognitive processes (MacIntyre, 2015). It is the process of relating to one another in a way that facilitates the creative processing of mutual understanding and recognition. It is a common language that assumes both commonality and difference, while enabling the development of a shared web of meaning that enables to see beyond pre-existing commonalities and create new ones (Smith, 2017). The ability to infer and share the emotional states of others, which is critical in social interactions (Brett et al., 2023). Similarly, Smith (2006) emphasizes that the purpose of empathy is to understand and predict the behavior of others by encouraging social and cooperative behavior. (Cristov-Moore et al., 2014). Its basis is associated with different forms of social behavior. It is one of the cornerstones of positive social behavior development (Toccaceli et al., 2018) and reduces anti-social behaviors (Kavussanu & Al-Yaaribi, 2021). It is a multidimensional phenomenon, consisting of both cognitive and emotional components, and enables effective social interaction (Lima & Osório, 2021).

In the light of this information, the empathic processes in the relationship between the environments created by sports, which is an important phenomenon that provides physiological, psychological and sociological support in people's lives, creates many common norms and unites individuals in a common feature (Yılmaz, 2023), and its

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contributions to the development of mental resilience and social-emotional skills (Sepdanius et al., 2024). Many actors are involved in the sports scene. Coaches and teachers responsible for physical education are just two of them. Determining the empathy levels of these actors, who have a great importance in the development of athletes or students, which will shape their behaviors both in the environments where they themselves continue their active sports lives and in the sports environments they will share with the individuals whose education they will be responsible for after graduation, is considered important and arouses curiosity. From this point of view; answers were sought for the following questions:

1. What are the empathy levels of physical education and sports college students?

2. Do the empathy levels of physical education and sports school students differ in terms of gender, sports participation status, department and grade variables?

Methods

The Sample of The Study: In this descriptive and quantitative study; 86 females (32.1%), 182 males (67.9%); 182 (67.9%) studying in the department of coaching education, 86 (32. 1) studying in the department of physical education teaching; 57 (21.3%) 1st grade, 59 (22%) 2nd grade, 65 (24.3%) 3rd grade, 87 (32.5%) 4th grade; 200 (74.6%) sportsmen and 68 (25.4%) nonsportsmen students from Kilis 7 December University Physical Education and Sports School in Turkey who were selected from the students of Kilis 7 December University School of Physical Education and Sports through convenient sampling and who participated in the study voluntarily constituted the sample.

Data Collection Tool: The data of the study were collected with the "Empathy Quotient Scale" developed by Lawrence et al. (2004) and adapted into Turkish by Kaya and Çolakoğlu (2015). The scale is a 5-point Likert-type scale with 13 items in three sub-dimensions (social skills, emotional response and cognitive empathy). The reliability values of the scale are .61 in the social skills sub-dimension, .75 in the emotional response sub-dimension, .74 in the cognitive empathy sub-dimension and .86 in the whole scale (Kaya & Çolakoğlu, 2015). The reliability value of the study is .76 in the whole scale.

Data Analysis: In the analysis of the data, normality distributions were determined according to skewness and kurtosis values and Kolmogorov-Smirnov normality test

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(Skewness-Kurtosis > ±1 and Kolmogorov-Smirnov p<0.05). Descriptive statistical tests, Mann-Whitney U test, Kruskal-Wallis H test and manual Mann-Whitney U test were performed to determine the source of the difference.

Results

The findings obtained as a result of the analysis of the data related to the questions of the study are given below:

Table 1. Descriptive Statistics on Empathy Level

Empathy Quotient	N	$\overline{X}$	sd
Cognitive Empathy	268	19.00	3.93
Emotional Reactivity		16.48	2.66
Social Skills		14.07	2.86
Total		49.55	7.43

In Table 1, which shows the empathy levels of the students, it is seen that the total scores are high and the cognitive empathy level scores are very high in terms of sub-dimensions.

Table 2. Analysis Results of Empathy Level Scores According to Gender

Empathy Quotient	Gender	N	Mean Rank	Sum of Ranks	U	p
Cognitive Empathy	Male	182	136.55	24852.00	7453.00	.527
	Female	86	130.16	11194.00		
Emotional Reactivity	Male	182	134.34	24450.50	7797.50	.961
	Female	86	134.83	11595.50		
Social Skills	Male	182	143.24	26070.00	6235.00	.007**
	Female	86	116.00	9976.00		
Total	Male	182	138.42	25192.00	7113.00	.228
	Female	86	126.21	10854.00		

*p<0.05, **p<0.01

There is no significant difference in the cognitive empathy, emotional reactivity sub-dimensions and total empathy level scores of the participants according to gender variable (p>0.05). In the social skills sub-dimension, there is a difference in favor of male participants (p<0.01).

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Table 3. Analysis Results of Empathy Level Scores According to Sports Participation Status

Empathy Quotient	Sports Participation Status	N	Mean Rank	Sum of Ranks	U	p
Cognitive Empathy	Sportsmen	200	140.54	28108.00	5592.00	.028*
	Nonsportsmen	68	116.74	7938.00		
Emotional Reactivity	Sportsmen	200	139.62	27923.00	5777.00	.061
	Nonsportsmen	68	119.46	8123.00		
Social Skills	Sportsmen	200	142.53	28505.00	5195.00	.003**
	Nonsportsmen	68	110.90	7541.00		
Total	Sportsmen	200	141.37	28273.00	5427.00	.013*
	Nonsportsmen	68	114.31	7773.00		

*p<0.05, **p<0.01

According to the results of the analysis in Table 3, a significant difference was found in the empathy level scores of the participants according to their sport participation status, except for the emotional reactivity sub-dimension. The differences are in favor of those who are sportsmen in total and cognitive empathy sub-dimension (p<0.05) and social skills sub-dimension (p<0.01).

Table 4. Analysis Results of Empathy Level Scores According to Department

Empathy Quotient	Department	N	Mean Rank	Sum of Ranks	U	p
Cognitive Empathy	Coaching Education	182	120.66	21960.00	5307.00	.000**
	Physical Education Teaching	86	163.79	14086.00		
Emotional Reactivity	Coaching Education	182	126.90	23095.00	6442.00	.018*
	Physical Education Teaching	86	150.59	12951.00		
Social Skills	Coaching Education	182	130.68	23784.50	7131.50	.237
	Physical Education Teaching	86	142.58	12261.50		
Total	Coaching Education	182	122.66	22324.00	5671.00	.000**
	Physical Education Teaching	86	159.56	13722.00		

*p<0.05, **p<0.01

A significant difference was found in the empathy level scores of the students according to their departments, except for the social skills sub-dimension. This difference is in favor of physical education teaching students in the cognitive empathy sub-dimension, total (p<0.01) and emotional reactivity sub-dimension (p<0.05).

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Table 5. Analysis Results of Empathy Level Scores According to Grade

Empathy Quotient	Grade	N	Mean Rank	df	χ2	p
Cognitive Empathy	1st	57	136.34	3	13.023	.005**
	2nd	59	103.31			
	3rd	65	144.38			
	4th	87	147.06			
Emotional Reactivity	1st	57	132.26	3	5.367	.147
	2nd	59	117.71			
	3rd	65	134.19			
	4th	87	147.52			
Social Skills	1st	57	125.67	3	9.153	.027*
	2nd	59	114.62			
	3rd	65	153.76			
	4th	87	139.38			
Total	1st	57	132.28	3	11.593	.009**
	2nd	59	106.06			
	3rd	65	145.72			
	4th	87	146.86			

*p<0.05, **p<0.01

In Table 5, while there was no significant difference in the emotional reactivity sub-dimension (p>0.05), there was a significant difference in the social skills sub-dimension (p<0.05) and in the cognitive empathy sub-dimension and total scores (p<0.01). Mann-Whitney U test was performed manually to determine the source of the difference and the results are presented in Tables 6-8.

Table 6. Analysis Results to Determine the Source of Difference in Cognitive Empathy Sub-dimension

Empathy Quotient	Grade	N	Mean Rank	Sum of Ranks	U	p
Cognitive Empathy	1st	57	66.05	3765.00	1251.00	.017*
	2nd	59	51.20	3021.00		
	1st	57	59.67	3401.00	1748.00	.590
	3rd	65	63.11	4102.00		
	1st	57	68.62	3911.50	2258.50	.364
	4th	87	75.04	6528.50		
	2nd	59	52.28	3084.50	1314.50	.002**
	3th	65	71.78	4665.50		
	2nd	59	59.83	3530.00	1760.00	.001**
	4th	87	82.77	7201.00		
	3rd	65	75.49	4907.00	2762.00	.807
	4th	87	77.25	6721.00		

*p<0.05, **p<0.01

According to the statistical values in Table 6, it was determined that there was a significant difference between 1st and 2nd grade students in favor of 1st grade students (p<0.05), between 2nd and 3rd grade students in favor of 3rd grade students (p<0.01) and between 2nd and 4th grade students in favor of 4th grade students (p<0.01).

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Table 7. Analysis Results to Determine the Source of the Difference in the Social Skills Sub-dimension

Empathy Quotient	Grade	N	Mean Rank	Sum of Ranks	U	p
	1st	57	60.86	3469.00		
	2nd	59	56.22	3317.00	1547.00	.454
	1st	57	54.55	3109.50		
	3rd	65	67.59	4393.50	1456.50	.040*
	1st	57	68.25	3890.50		
Social	4th	87	75.28	6549.50	2237.50	.318
Skills	2nd	59	53.17	3137.00		
	3th	65	70.97	4613.00	1367.00	.005**
	2nd	59	65.23	3848.50		
	4th	87	79.11	6882.50	2078.50	.050*
	3rd	65	81.20	5278.00		
	4th	87	72.99	6350.00	2522.00	.249

*p<0.05, **p<0.01

According to Table 7, the source of the difference in the social skills sub-dimension was found to be in favor of the students who were in the 3rd grade between the 1st and 3rd grades (p<0.05), in favor of the students who were in the 3rd grade between the 2nd and 3rd grades (p<0.01), and in favor of the students who were in the 4th grade between the 2nd and 4th grades (p<0.05).

Table 8. Analysis Results to Determine the Source of the Difference in Total Empathy Level Scores

Empathy Quotient	Grade	N	Mean Rank	Sum of Ranks	U	p
	1st	57	64.20	3659.50		
	2nd	59	52.99	3126.50	1356.50	.072
	1st	57	58.03	3307.50		
	3rd	65	64.55	4195.50	1654.50	.309
	1st	57	68.05	3879.00		
Total	4th	87	75.41	6561.00	2226.00	.300
	2nd	59	52.73	3111.00		
	3th	65	71.37	4639.00	1341.00	.004**
	2nd	59	60.34	3560.00		
	4th	87	82.43	7171.00	1790.00	.002**
	3rd	65	75.80	4927.00		
	4th	87	77.02	6701.00	2782.00	.865

*p<0.05, **p<0.01

In Table 8, it is seen that the source of the difference in total scores is in favor of 3rd grade students in 2nd and 3rd grade students and in favor of 4th grade students in 2nd and 4th grade students (p<0.01).

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Discussion

The findings of the study, which was conducted to examine the empathy levels of physical education and sports school students, revealed that the empathy levels of the students were generally high. When we look at the sub-dimensions, the level of cognitive empathy draws attention. Because it stands out with its higher level compared to the emotional reactivity and social skills sub-dimensions. Therefore, it can be said that students can evaluate situations and emotions from the perspective of others and have an objective and rational behavior (Shima et al., 2021); they try to understand them from the perspective of others (Spaulding, 2017).

In the comparisons made in terms of demographic characteristics, while there was a significant difference in favor of males in the social skills sub-dimension according to the gender of the students, the fact that there was no significant difference in the cognitive empathy, emotional reactivity sub-dimensions and total empathy level indicates that this variable has a determining role only in social skills. Considering that empathy facilitates cooperation and the development of positive social behaviors (Toccaceli et al., 2018), it is possible to understand this difference in social skills. Although the level of empathy in terms of gender differences emphasizes women (Muncer & Ling, 2006; Toccaceli et al., 2018), the findings of this study differ at this point. The fact that women's social expectations contribute to gender differences in empathy ability (Pang et al., 2023) suggests the opposite in this study. Similarly, Köroğlu et al. (2023) found that the empathy levels of physical education and sports school students were in favor of male students. On the other hand, Aktaş and Sezen-Balçıkanlı (2018) found that the empathy levels of female physical education teacher candidates were significantly higher than male students.

Sports participation status is another variable considered in the study. It has shown that it is a determinant in cognitive empathy and social skills sub-dimensions and total empathy level. Sports make positive contributions to social skills and cognitive empathy (Shima et al., 2021). The fact that sports environments allow for socialization and communication contributes positively to social skills; and in line with the competition and winning focus of sports, understanding the emotions of others in the shared environment, how they feel, making predictions about what they will do, solving the

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complexity of the environment, and sensing the strangeness and differences within the group contribute positively to cognitive empathy. The admission requirements of the students to the departments and the aptitude exams they take, especially for those who will receive coaching education, emphasize the active sportsmen in certain branches. In addition, the intensive courses they have taken for their branches during their education differentiate them from other students. It should not be forgotten that empathy in sport supports the development of social behaviors at higher levels of education (Sepdanius et al., 2024). For this reason, it is possible to explain the high level of empathy with the sports history for their branches, the intensive sports training they received, being in a sports environment more often, and the motivation to compete and succeed inherent in sports. Hajek and König (2022) found that high levels of empathy were associated with sportive activity; Garcı´a-Lo´pez and Gutie´rrez (2015) found that the sports education model provided an increase in students' empathy levels; Erduran and Bozkuş (2020) found that students who played sports in the science faculty had higher empathy skills; Atan (2017) and Dursun (2024) found that there was no difference in the empathy levels of university students who played sports.

The study shows that the empathy levels of the students studying in physical education teaching differed according to the department variable, except for the social skills sub-dimension. It is possible to think that the differentiation of empathy levels of the students of this department, where teachers in the field of sports are trained, is a result of the education they receive. Because; although both departments basically deal with sports, pedagogical trainings differentiate the students of the physical education teaching department from the coaching education department. Therefore, it can be thought that the students in the physical education teaching department cause this differentiation in line with the knowledge they acquire from the courses they take. In addition, empathy is learnable (MacIntyre, 2015). Considering the close and positive relationship between teachers' empathy level and student performance (Sree Durga & Sangeetha, 2024), its importance in the quality of teacher-student interaction (Aldrup et al., 2022), and the fact that teacher feedback in physical education class affects students' empathy development (Shima & Suzuki, 2024), and since one of the main goals in education is student achievement and development, it is an expected finding that the empathy levels of future

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educators will differ significantly. The study of Köroğlu et al. (2023) also supports this finding.

In the comparison made according to the grade variable, there is a difference in cognitive empathy, social skills sub-dimensions and total empathy level. It is possible to state that this difference generally tends to increase towards the upper grades. The grade variable plays a determining role in students' empathy levels. It is known that empathy changes according to age. In addition, developmental normative psychological changes are also effective in this change (Huang & Tran-Chi, 2020). This suggests that it may be associated with the differences in the social skills sub-dimension and total empathy levels of the students. In addition, it is possible to explain the difference in the cognitive empathy sub-dimension in favor of the 1st grade students with the fact that they have just started university and that it is a critical period transition in the lives of the students. Similarly, Gençoğlu and Namlı (2020) found in their study that 1st grade students of physical education and sports department had higher social skills sub-dimension than 2nd grade students. However, Musa et al. (2021) stated that the empathy levels of physical education and sports school students who are engaged in team sports do not differ according to their grades. Ceviker et al. (2024) also stated that the difference in the total empathy level of coaching education department students in the context of grades was not significant in multiple comparisons.

Conclusions and Recommendations

As a result, it was concluded that physical education and sports school students who understand others, share their feelings, have developed social skills; in terms of demographic characteristics, males, those who are active in sports, those who study in the physical education teaching department and those who are in higher grades in general have high empathy levels.

According to this result; it can be recommended that variables that were not addressed in this study, parameters that can be associated, and different methods and samples should be studied.

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