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ON THE PATH TO BECOMING A PHYSICIAN: A STUDY ON MEDICAL STUDENTS' PROFESSIONAL VALUES AND ATTITUDES

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Abstract

Objectives: In this study, medical school students' attitudes toward the profession of medicine, their perceptions of the values of medicine, and the relationship between these concepts were evaluated.

Materials and Methods: This descriptive cross-sectional study was conducted at Yozgat Bozok University Faculty of Medicine. Participants were asked to answer the sociodemographic data form, the medical profession attitude scale, and the medical profession value perception scale.

Results: 567 medical students (79.52% of all students) participated in this study. Of the participants, 58.9% were preclinical and 41.1% were clinical phase students. The mean scores of the medical profession attitude scale and the medical profession value perception scale were statistically significantly higher for those who preferred medical school willingly ($p<0.001$, $p=0.004$). The scores of the medical profession attitude scale and medical profession value perception scale decreased statistically significantly with increasing grade levels in clinical phase medical students ($p<0.001$, $p<0.001$). Statistically significant positive correlation found between the scores of the medical profession attitude scale and the scores of the value perception scale ($p<0.001$).

Conclusion: As a result of this study, positive attitudes towards the medical profession and high perceptions of medical values were higher among those who chose the medical profession willingly. It was found that positive attitudes and value perceptions towards the medical profession decrease as students transition from the preclinical to the clinical phase. The educational processes that lead to changes in attitudes and values during medical education should be reconsidered. The sources of motivation regarding the sustainability of medical education should be evaluated.

Keywords: Medical students, professionalism, attitude, medical education

Introduction

Medical education is a demanding process that equips future physicians with knowledge, skills, and professional competence. Beyond technical training, students develop attitudes and perspectives essential to the practice of medicine. Throughout both the preclinical and clinical phases, educators serve as role models, influencing students' professional identity, clinical reasoning, and attitudes toward patient care.[1,2]

Attitude" refers to an individual's behavioral tendency toward a particular subject or situation. In the context of medicine, it encompasses one's perspectives, beliefs, and values about the profession. Medical students' attitudes are shaped by factors such as voluntary career choice, familial exposure to the profession, duration of medical training, and the perceived social prestige of medicine.[3,4]

The concept of "value" refers to a set of principles considered important in an individual's life. In medicine, value perception encompasses ethical domains such as respect for patient rights, autonomy, and professional conduct. Closely aligned with the concept of professionalism, medical value perception emphasizes qualities expected of physicians, including effective communication, empathy, collaboration, openness to innovation, medical competence, and respect for human dignity.[5,6]

Although attitudes and values toward the medical profession are interrelated, they represent distinct constructs. Medical values form the ethical and humanistic foundation of the profession, whereas attitudes reflect an individual's orientation and behavior toward these values. According to the professional identity formation framework proposed by Cruess et al. (2014), students' attitudes and value perceptions serve as key indicators of their professional identity development. Evaluating these dimensions together provides critical insight into the transformation from layperson to physician.[7,8]

Examining the attitudes and value perceptions of future physicians provides insight into the effectiveness of medical education and helps identify negative attitudes during training. The development of professional attitudes and values during medical school not only contributes to professional competence but also supports the formation of trust-based physician–patient relationships in clinical practice. While previous studies have often explored attitudes and value perceptions separately, this study aims to assess both constructs and examine the relationship between them.

Materials and Methods

Participants

This is a cross-sectional study evaluating the attitudes of medical students towards the medical profession and their perceptions of the value of the medical profession. The study was conducted at Yozgat Bozok University Faculty of Medicine. The population of the study consisted of medical students studying at Yozgat Bozok University Faculty of Medicine in the 2024-2025 academic year. Since it was aimed to reach all students, no sample was selected. The students were interviewed during the time periods when they were available. Before starting the study, informed consent was obtained from the students who volunteered to participate in the study. The volunteer medical students were asked to answer the sociodemographic data form, the medical profession attitude scale (MPAS), and the medical value perception scale (MVPS). Medical students who volunteered to participate in the study were included, while students who did not fill out the consent form and who wanted to withdraw from the study were excluded.

Measures

Sociodemographic data form: This form consists of 13 questions covering participants' sociodemographic information (age, gender, type of high school graduated from, family socioeconomic status, parents' educational background, presence of a healthcare professional in the family, etc.)

Medical profession attitude scale (MPAS): MPAS was developed by Batı et al.[9] in a 5-point Likert-type scale. There are 24 items in the scale, 12 of which are positive and 12 of which are negative. The answers ranged from 'strongly disagree' to 'strongly agree'. The scale has 3 sub-dimensions: 'helpfulness', 'dedication to the profession', and 'willingness'. The lowest score is 24 and the highest score is 120. A high score on the scale indicates a positive attitude towards the profession.

Medical value perception scale (MVPS): MVPS was developed by Gökler et al.[10]. The scale consists of 18 items. There are no negative items in the scale. It is a 5-point Likert-type scale, and the answers ranged from 'strongly disagree' to 'completely agree'. The scale has 3 sub-dimensions named as 'patient-physician relationship', 'physician's empathy ability', and 'physician attitude'. A minimum score of 18 and a maximum score of 90 are obtained from the scale, and higher scores indicate that the person's perception of physician value is more positive.

Data Analysis

The analysis of the research data was performed with SPSS 20 and AMOS 20 programmes. Descriptive information was presented as percentages and frequency. Independent samples t-test, one-way ANOVA, and Kruskal-Wallis test were used to evaluate the relationship between continuous variables and other variables. The relationship between the medical profession attitude scale scores and the medical value perception scale scores was evaluated by Pearson correlation. A post hoc power analysis conducted using G*Power (version 3.1) indicated that with a sample size of 567, the study had a power of over 99% to detect a small-to-moderate correlation ($r = 0.20$) at a significance level of $\alpha = 0.05$.

Results

567 medical students (79.52% of all students) participated in this study. The mean age of the participants was 21.72±2.59 (min: 18-41). Of the participants, 23.1% (n=131) were grade I, 17.8% (n=101) were grade II, 18% (n=102) were grade III, 11.3% (n=64) were grade IV, 14.1% (n=80) were grade V, and 15.7% (n=89) were grade VI students. Of the participants, 8.1% (n=46) stated that their family's monthly expenses were higher than their income, 83.1% (n=471) stated that their income was equal to their expenses, and 8.8% (n=50) stated that their income was higher than their expenses. Of the participants, 44.6% (n=253) graduated from *Anatolian High Schools (Anatolian High Schools are public academic high schools in Türkiye that offer a general education with an emphasis on foreign language instruction)*, 45.9% (n=260) from *Science High Schools (Science High Schools are selective public schools in Türkiye that specialize in mathematics and natural sciences)*, 4.2% (n=24) from *Imam Hatip High Schools (Imam Hatip High Schools are religious vocational high schools in Türkiye that combine a general academic curriculum with Islamic religious education)*, and 5.3% (n=30) from other types of high schools. Of the participants, 89.6% (n=508) stated that they preferred the faculty of medicine willingly, and 88.4% (n=501) did not repeat the semester in medical school. When the mothers of the participants were analysed according to their education levels, 2.1% (n=12) were literate, 30.7% (n=174) were primary school, 33% (n=187) were high school, 29.6% (n=168) were university, and 4.6% (n=26) were postgraduate. When the fathers of the participants were analysed according to their education level, 1.2% (n=7) were literate, 18.3% (n=104) were primary school, 31% (n=176) were high school, 40.4% (n=229) were university, and 9% (n=51) were postgraduate. The families of the participants, 65.3% (n=370) reside in the city centre, 26.5% (n=150) in the district, and 8.3% (n=47) in the village/town. Of the participants, 73.4% (n=416) did not have a health worker in their nuclear family, while 26.6% (n=151) had a health worker in their nuclear family.

The mean score of the MPAS was 94.40±14.88 (min:28-max:120).

The MPAS scores of female students were higher than those of male students and were statistically significant (t(565)=3.83, p<0.001, Cohen's d =0.33). The MPAS scores decreased with increasing age and were statistically significant (F(2, 564)=10.05, p<0.001, η^2=0.034). The total scores of MPAS who preferred medical school willingly were higher and statistically significant (t(565)=11.25, p<0.001, Cohen's d=1.55). A statistically significant relationship was found between the MPAS score and grade level (F(5, 561) = 8.15, p < 0.001, η^2 = 0.068). The highest MPAS score (mean: 99.31±14.44) in preclinical phase students and all grade levels was found in grade 3 students, while the lowest medical profession attitude scale score (mean: 86.65±12.56) in clinical phase students and all grade levels was found in grade 6 students (Table 1).

Table 1. Relationship between the medical profession's attitude scores and various variables

		n (%)	Mean ± sd	Min-Max	%95 CI	p
Gender	Female	354 (62.4)	96.23±15.46	28-120		
	Male	213 (37.6)	91.35±13.35	57-120	[2.46-7.29]	<0.001
Age	18-20 years	186 (32.8)	95.80±15.71	28-120	[93.53-98.07]	
	21-23 years	274 (48.3)	95.68±13.85	28-120	[94.03-97.33]	<0.001
	24 years and above	107 (18.9)	88.68±14.74	50-120	[85.85-91.50]	
Grade level	Grade 1	131 (23.1)	95.89±16.15	28-120	[93.10-98.68]	
	Grade 2	101 (17.8)	95.90±13.96	58-120	[93.14-98.65]	
	Grade 3	102 (18)	99.31±14.44	50-120	[96.47-102.15]	
	Grade 4	64 (11.3)	93.40±14.88	28-117	[89.68-97.12]	<0.001
	Grade 5	80 (14.1)	93.23±13.58	65-120	[90.21-96.25]	
	Grade 6	89 (15.7)	86.65±12.56	53-114	[84.00-89.29]	
Choosing medical school willingly	Yes	508 (89.6)	96.57±13.49	28-120		
	No	59 (10.4)	75.72±13.21	28-105	[17.20-24.48]	<0.001

CI: Confidence Interval

The mean score of the MVPS was 77.32±8.42 (min: 49-90). The total scores of the MVPS who preferred medical school willingly were higher and statistically significant (t(565) = 2.85, p=0.004, Cohen's d = 0.39). A statistically significant relationship was found between the MVPS score and grade level (F(5, 561) = 4.53, p<0.001, η^2 = 0.039). The highest MVPS score (mean: 79.60±8.19) in preclinical phase students and all grade levels was found in grade 3 students, while the lowest MVPS score (mean: 74.51±9.16) in clinical phase students and all grade levels was found in grade 6 students (Table 2).

There was no statistically significant difference between the mean scores' obtained from the MPAS and MVPS with the variables of high school graduated from (p=0.567, p=0.178), repeating a grade in medical school (p=0.207, p=0.770), socioeconomic level of the family (p=0.954, p=0.488), place of residence of the family (p=0.470, p=0.659), presence of health professionals in the nuclear family (p=0.804, p=0.525). The MPAS and MVPS sub-dimension scores are presented in Table 3.

Table 2. Relationship between the medical values perception scale scores and various variables

		n (%)	Mean ± sd	Min-Max	%95 CI	p
Grade level	Grade 1	131 (23.1)	77.01±7.81	53-90	[75.66-78.36]	<0.001
	Grade 2	101 (17.8)	76.77±8.10	54-90	[75.17-78.37]	
	Grade 3	102 (18)	79.60±8.19	54-90	[77.99-81.21]	
	Grade 4	64 (11.3)	79.40±8.30	49-90	[77.33-81.48]	
	Grade 5	80 (14.1)	77.05±8.39	51-90	[75.18-78.91]	
	Grade 6	89 (15.7)	74.51±9.16	53-90	[72.58-76.44]	
Choosing medical school willingly	Yes	508 (89.6)	77.66±8.18	49-90		0.004
	No	59 (10.4)	74.37±9.84	53-90	[1.02-5.55]	

CI: Confidence Interval

Table 3. Mean sub-dimension scores of the medical profession attitude scale and the medical values perception scale

	Sub-dimensions	Mean ± Sd	Min- Max
Medical profession attitude scale	Respectively willingness	60.15±9.26	15-75
	Helping	17.53±4.23	5-25
	Dedication to the profession	16.71±2.42	6-20
Medical value perception scale	Doctor's attitude	31.83±4.42	19-40
	Doctor-patient relationship	27.22±3.11	16-30
	Doctor's ability to empathize	18.25±2.05	9-20

A significant positive correlation was found between the scores obtained from the MPAS and the MVPS (r=.47; p<0.001) (Table 4). The relationship between the sub-dimensions of the MPAS and the MVPS was shown in Table 5. A significant relationship was found between the subscale scores of the MPAS and the MVPS (p<0.001).

To assess the construct validity of the MPAS and the MVPS used in the study, Confirmatory Factor Analysis (CFA) was conducted. The fit indices for the MPAS were found to be χ^2/df = 1.806, CFI = 0.91, GFI = 0.94, and RMSEA = 0.07. For the MVPS the fit indices were χ^2/df = 2.103, CFI = 0.93, GFI = 0.82, and RMSEA = 0.07. These results indicate that both scales demonstrated an acceptable level of model fit. In this study, Cronbach's alpha value of the MPAS was 0.954, and the MVPS was 0.915.

Table 4. Correlation between the medical profession attitude scale scores and the medical values perception scale scores

	Value	**Medical value perception scale**
Medical profession attitude scale	r	0.47
	p	<0.001
	n	567

Table 5. Correlation between sub-dimension scores of the medical profession attitude scale and sub-dimension scores of the medical values perception scale

	Value	**H**	**DP**	**RW**	**DA**	**DPR**	**DAE**
Helping (H)	r p	1	0.674 <0.001	0.808 <0.001	0.323 <0.001	0.304 <0.001	0.284 <0.001
Dedication to profession (DP)	r p		1	0.770 <0.001	0.427 <0.001	0.569 <0.001	0.523 <0.001
Respectively willingness (RW)	r p			1	0.365 <0.001	0.305 <0.001	0.392 <0.001
Doctor's attitude (DA)	r p				1	0.565 <0.001	0.561 <0.001
Doctor-patient relationship (DPR)	r p					1	0.907 <0.001
Doctor's ability to empathize (DAE)	r p						1

Discussion

In this study, medical students' attitudes toward the medical profession, attitudes, and medical value perceptions were assessed. The mean score on the medical profession attitude scale was 94. In comparison, similar studies reported median scores of 93 and 92.[2,3] Considering the scale's maximum score, these findings indicate that students generally hold positive attitudes toward the profession. This aligns with previous research, suggesting a consistent trend across different institutions.

University education aims to develop individuals who can meet the demands of their profession through personal growth and training based on well-defined field-specific competencies. In this sense, profession choice is one of the important decisions and is affected by many factors. These factors are listed as gender, age, personal ability, interest in profession, social status, and socioeconomic level. In this context, the factors affecting people's choice of profession also determine the attitude of the person towards the profession.[11-14]

In this study, the medical profession attitude scale score of female students was found to be higher than that of males, consistent with findings reported in previous studies.[2,14] Studies indicate that women tend to choose medicine due to altruistic motives, whereas men are more influenced by social status and financial prospects.[15,16] Gendered norms related to empathy, caregiving, and self-sacrifice lead female medical students to develop a compassionate, patient-centered professional identity and base their career motivations on altruistic values. These factors may help explain the more positive attitudes of female medical students toward the medical profession.

Consistent with the literature, students who willingly chose the medical profession exhibited significantly more positive attitudes.[3,17] This may be attributed to the fact that students who willingly choose the medical profession are more intrinsically motivated, which has been associated with stronger professional identity formation and more positive attitudes toward the profession. Intrinsic motivation is known to enhance engagement, empathy, and resilience in medical education. [18,19]

Analysis of the relationship between medical profession attitude, age, and socioeconomic status showed that attitude scores did not increase with age. In the preclinical phase, attitudes improved with grade level, whereas in the clinical phase, they declined as students advanced. The literature reveals variability in findings concerning this relationship: while some studies report no significant grade-level differences, others—consistent with the present study—indicate a decline in positive attitudes as students progress.[2,20,21]

In the preclinical phase, the teaching of professional attitudes is often carried out through presentation in the course content or through discussion of case-based scenarios. In the clinical phase, it is learnt through

individual discovery and observation by role modelling of trainers. In clinical internships, students' realisation of real patients, workload, and problems in the health system may lead to a decrease in positive attitude towards the profession of medicine.

In this study, the mean score of the medical value perception scale was 77. In related studies, Öncü et al.[1] and Gökler et al.[10] reported mean scores of 79 and 78, respectively. Variations in medical value perception may result from differences in faculty curricula, teaching approaches, clinical environments, and student grade levels. The relatively lower score in this study may be attributed to institutional differences in how medical values are taught and the varying emphasis placed on ethical and humanistic principles.

As in other professions, willingly choosing medicine is a key factor for professional satisfaction, adaptation, and academic success. It facilitates coping with occupational challenges and positively influences physician–patient communication through increased empathy and positive engagement. High empathy and trust-based relationships—core components of medical value perception—are often natural outcomes of intrinsic motivation. In line with the literature, this study found higher value perception scores among students who chose the profession willingly. [11,23]

Throughout medical education, students' medical value perceptions often evolve. While early motivations are typically altruistic—centered on helping others and addressing health issues—later years see a shift toward extrinsic factors such as job security and income, which may alter their professional outlook.[24,25]

In parallel with the literature, this study found that medical value perceptions increased throughout the preclinical years but declined with the onset of clinical training. One possible reason for this decline during the transition to clinical education is that students are exposed to the challenges faced by their role models in clinical settings—educators and resident physicians—including communication issues with patients and difficulties related to the healthcare system. Witnessing these challenges, including experiences of workplace violence, may negatively impact their perception of professional values. Moreover, hierarchical team dynamics and pressures inherent in the healthcare system may have contributed to the erosion of students' initial perceptions of medical values.

Medicine requires a balance between professionalism and humanistic values, particularly in patient care. Motivation and commitment to the profession enhance physician–patient trust and are reflected in clinical behavior. Studies show that high empathy, effective communication, and a strong helping orientation improve patient satisfaction and adherence.[23,26,27] Consistent with prior research, this study found that stronger medical value perceptions were associated with more positive attitudes toward the medical profession. However, the high correlation observed between attitudes toward the medical profession and medical value perceptions suggests a potential risk of multicollinearity, which may complicate the interpretation of certain findings.

This study offers a novel contribution by examining the relationship between medical students' attitudes and value perceptions, demonstrating a significant correlation. It also emphasizes the influence of voluntary career choice on positive professional orientation—an often underexplored factor. The observed decline in attitudes and values during clinical training further highlights the need to reconsider educational and systemic influences on professional development.

The study concludes that students who willingly choose to pursue medicine exhibit more positive attitudes and stronger medical value perceptions. To sustain these attitudes and foster humanistic values, educators must provide support from the early stages of medical education. Implementing structured mentoring programs is an effective strategy to support this process. Mentorship from experienced physicians can foster professional identity formation and the internalization of humanistic values in medical students.

The study also identified a decline in positive attitudes and medical value perceptions from the preclinical to the clinical phase. To address this, future research should investigate motivational factors in clinical students and develop interventions targeting negative attitudes. Integrating structured reflection sessions into the clinical curriculum may enhance professional development. Additionally, longitudinal and mixed-methods studies are needed to better understand how and why students' attitudes and value perceptions change throughout medical education.

Limitations

This is a cross-sectional study conducted at a single medical school; therefore, its findings cannot be generalized. Due to the cross-sectional design of the study, it is not possible to establish causal relationships between the variables.

The study is also limited by the constructs measured by the instruments used for assessing medical profession attitude and medical value perception. Another limitation of the study is that the measurement tools were validated in a population of Turkish medical students, which may restrict the external validity of the findings.

As the data were collected through self-report scales, there is a potential risk of social desirability bias in participants' responses. The study employed voluntary participation and convenience sampling, which may introduce selection bias.

Ethical Considerations: Before the study, approval was obtained from Yozgat Bozok University Non-Interventional Research Ethics Committee (protocol no: 2024-GOKAEK-2414_2024.12.04_194).

Conflict of Interest: The authors declare no conflict of interest.

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