

Original Article



Burnout and professional commitment in medical faculty students in Türkiye: A cross-sectional analysis

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Abstract

Background: Burnout is a stress-related syndrome that affects medical students. Certain environmental and personal factors can contribute to the onset of burnout and lead to serious consequences such as dropping out of school, sleep disorders, depression, and even suicide. Professional commitment is a personal characteristic that positively influences burnout.

Methods: This research was conducted to determine the differentiation of burnout levels among medical school students based on certain variables and examine the impact of professional commitment on burnout. The research sample consisted of a total of 130 individuals studying of Medical Faculty in Türkiye. Descriptive and correlational research techniques, including survey models, were utilized in the study. Data were collected through online platforms and face-to-face surveys. The collected data were analyzed using the SPSS program.

Results: The research findings revealed that male students had higher depersonalization scores than female students ($P < 0.05$). Emotional exhaustion and depersonalization scores were found to be higher among students with poor academic performance ($P < 0.017$), those who did not choose medical school willingly ($P < 0.017$), and those who chose medical school due to family pressure ($P < 0.05$). Among female students, those who chose medical school willingly and those who chose it as their dream profession had higher scores of professional commitment. As professional commitment scores increased, burnout scale scores and their subscales, including exhaustion, depersonalization, and reduced personal accomplishment, decreased ($P < 0.05$).

Conclusion: The findings of the study indicate a relationship between professional commitment and burnout, suggesting that professional commitment can reduce burnout levels. This highlights the importance of increasing the level of professional commitment among medical students, who are future physicians. Strengthening students' commitment to their profession can decrease the risk of burnout and improve the quality of healthcare services.

Introduction

Medical education is a challenging process that requires long-term effort and commitment. The main objective is to ensure that students possess the necessary professional competence and prepare them for lifelong learning. However, the academic workload, lengthy duration of education, exam stress, the burden of working under significant responsibility, and the need for continuous learning and updating knowledge can expose students to the risk of burnout.¹⁻⁴ Additionally, medical education demands students to allocate a significant amount of time and energy to medical-related activities, which can limit opportunities for personal interests and engagement with family and friends.² Imbalance in personal life can contribute to burnout. Burnout, characterized by the

depletion of resources due to constant stress, emotional pressure, and high workload, can manifest through emotional, cognitive, and behavioral symptoms, negatively impacting students' academic performance, motivation, and overall quality of life.^{2,3,5} Burnout among students can lead to a more negative perception and evaluation of the professionalism of fellow students, residents, and faculty members, which can have a detrimental effect on their learning.⁶ Among medical students, burnout can result in serious consequences such as depression, suicidal ideation, and contemplation of leaving medical school.^{7,8}

Medical students need to acquire the necessary professional values, motivation, and skills to sustain the qualities they develop during their education and prepare for a lifelong commitment to learning.

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Professional commitment helps students maintain high levels of motivation throughout this challenging process. Professional commitment represents a sense of passion, commitment, and purpose toward a profession.⁹⁻¹² For medical students, professional commitment is characterized by a deep interest and passion for patient care and treatment. Dedicated students work with a desire to contribute to human health and understand the meaning and value of touching patients' lives. Professional commitment enables students to stay motivated, focus on their achievements, find satisfaction in their profession, continue their professional development, and adhere to ethical values in healthcare services.¹³

Professional commitment provides students with a sense of meaning and purpose. The potential to contribute to human health and impact patients' lives keeps their passion for their work alive and reduces the sense of burnout. Furthermore, professional commitment gives students a sense of accomplishment. Feeling successful in their profession enhances their self-confidence and prevents burnout. Individuals with high commitment to their profession showcase their skills at the highest level, strive to advance their careers, and are less likely to leave the profession.^{10,12,14} In our country, the pandemic and the subsequent earthquake disaster affecting multiple cities simultaneously have resulted in challenging and exhausting situations for healthcare workers. Similarly, the transition to remote learning has led to a distant education process for students, detached from practical experiences. It is important to evaluate the levels of burnout and professional commitment among medical students experiencing these extraordinary circumstances.

Looking at the relevant recent literature, it can be said that the relationship between school burnout and various socio-demographic variables has been predominantly studied, while the exploration of its possible predictive factors has not been sufficiently addressed. In this regard, this research aims to examine whether the levels of school burnout among medical faculty students after the pandemic show significant differentiation according to their socio-demographic characteristics and explore the potential impact of school burnout on their commitment to the medical profession.

Methods

This study was designed as a descriptive and correlational survey, and the population of the study consists of students from the Medical Faculty in Türkiye. The data for the research were collected between June and November 2022 through face-to-face interviews and Google Forms. The research form was shared with the students through the administrators of the groups they participated in via social media. Restrictions were implemented in the system to ensure that each participant could only submit one response, and the data were monitored using IP and cookies.

Data collection

A "Personal Information Form" prepared by the researchers was used to determine the socio-demographic characteristics of the students. The "Maslach Burnout Inventory-Student Survey (MBI-SS)" was used to assess the students' burnout levels, and the "Medical Students' Commitment to the Medical Profession Scale" was used to measure their commitment to the medical profession.

Personal information form

A personal information form was developed by the researchers to determine the independent variables of the study, such as gender, class level, and perceived level of success.

Maslach Burnout Inventory-Student Survey

The MBI-SS developed by Schaufeli et al¹⁵ and adapted into Turkish by Çapriet al¹⁶ was used in the research. The validity and reliability study of the inventory in Turkish was conducted by Çapulcuoğlu and Gündüz.¹⁷ MBI-SS is a 16-item instrument based on a five-point Likert scale and consists of three factors: emotional exhaustion, depersonalization, and personal accomplishment. High scores on emotional exhaustion and depersonalization factors and low scores on personal accomplishment indicate high levels of burnout.

Medical Students' Commitment to the Medical Profession Scale

The "Medical Students' Commitment to the Medical Profession Scale" developed by Aytuğ Kosan and Toraman¹⁸ will be used in the research. This scale is a nine-item instrument based on a five-point Likert scale. The lowest possible score is 9, and the highest score is 45. Cut-off points have not been determined for the scale scores. Obtaining a high score on the scale indicates a high level of commitment to the medical profession.

Data analysis

The data were analyzed using the SPSS (Statistical Program in Social Sciences) 25 software. The normal distribution of the data was checked using the Kolmogorov-Smirnov test. The significance level (P) of 0.05 was selected for the comparison tests. Since the variables exhibited a normal distribution ($P > 0.05$), non-parametric test methods were employed for the analysis.

For the comparisons in independent paired groups, the Mann-Whitney test was used due to the violation of the normality assumption. In the comparisons including independent multiple groups, the Kruskal-Wallis test was used. The reliability of the scales was assessed using the Cronbach's alpha coefficient. Since the variables in the study did not follow a normal distribution, Spearman's rank correlation coefficient was employed.

Sample size

The sample size for this study was determined using power analysis. According to the calculations performed using G*Power 3.1 software, with an effect size of 0.15, a significance level of 0.05, a confidence level of 0.95, and a representation power of 0.95, the minimum required sample size was determined as 110.¹⁹ Cohen²⁰ states that sample sizes yielding power values ranging from 0.90 to 0.99 should be targeted.

Results

Medical students in faculty of medicine were included in the study. A total of 130 students were reached. In the study, 56.9% of the participants were first-year students, 66.2% were staying in dormitories and apartments, 83.1% had a nuclear family structure, 54.6% were females, 77.7% had a moderate income level, 58.5% had a moderate level of academic achievement, 83.1% chose the medical faculty willingly, and 44.6% stated that they chose it because it was their dream profession. Demographic information of the participants included in the study is provided in Table 1.

The average scores for commitment to the profession among the students were 35.04 ± 6.95 , while emotional exhaustion scores were 16.37 ± 4.67 , depersonalization scores were 15.06 ± 3.79 , and personal accomplishment scores were 17.35 ± 4.31 . The overall average score for burnout was 48.78 ± 10.55 (Table 2).

According to the statistical analysis (Table 3), no significant differences were found in the scores of the burnout scale and its subscales (emotional exhaustion, depersonalization, and personal accomplishment) among different groups based on class, place of residence, family type, and income level ($P > 0.05$). Regarding gender, the burnout scale and scores of its subscales, emotional exhaustion, and personal accomplishment, showed no significant differences between males and females ($P > 0.05$). However, a significant difference was found in the scores of depersonalization between males and females ($P < 0.05$), with males having higher scores.

Regarding the variable of academic achievement, a statistically significant difference was found among different levels of achievement (good, moderate, and poor) in terms of the burnout scale and its subscales, emotional exhaustion, depersonalization, and personal accomplishment ($P < 0.05$). Post-hoc comparisons were conducted using the Bonferroni correction, with an adjusted alpha value of $\alpha_{BD} = 0.05/3 = 0.017$. The obtained p-values from the Mann-Whitney test were compared to this value to make conclusions. When comparing the groups pairwise:

- Significant differences were found in the scores of emotional exhaustion and depersonalization between those with poor academic achievement and both those with good and moderate academic

Table 1. Demographic information

Variable	Group	Frequency	Percent
Class	1. Class	74	56.9
	2. Class	37	28.5
	3. Class	19	14.6
Living place	With family	40	30.8
	Alone	4	3.1
	dormitory/Apartment	86	66.2
Family type	Divorced	3	2.3
	Nuclear	108	83.1
	Extended	19	14.6
Gender	Female	71	54.6
	Male	59	45.4
	Bad	14	10.8
Income status	Medium	101	77.7
	Good	15	11.5
	Bad	23	17.7
School achievement status	Medium	76	58.5
	Good	31	23.8
	Willingly choose the Faculty of Medicine	108	83.1
Reason for choosing a medical school	No	22	16.9
	Family pressure	9	6.9
	Dream Job	58	44.6
Total	Financial Concerns	43	33.1
	Reputable Profession	10	7.7
	Mandatory Preference Due to Percentile	10	7.7
Variable		130	100
Age		Mean \pm SD	Min-Max
		19.82 \pm 1.48	18 - 29

SD, standard deviation.

Table 2. Descriptive statistics of scale scores

Scales	Mean \pm SD	Min-Max	Cronbach alfa
Emotional exhaustion	16.37 \pm 4.67	7-25	0.86
Depersonalization	15.06 \pm 3.79	9-25	0.72
Personal accomplishment	17.35 \pm 4.31	6-29	0.74
Student burnout	48.78 \pm 10.55	27-77	0.91
Professional commitment	35.04 \pm 6.95	9-45	0.87

SD, standard deviation

achievement ($P < 0.017$). However, no significant differences were found between those with good and moderate academic achievement ($P > 0.017$).

- Significant differences were found in the scores of personal accomplishment and the total burnout score between those with poor academic achievement and both those with good and moderate academic achievement ($p < 0.017$). Significant differences were also found between those with good and moderate

Table 3. Comparison of scores according to student burnout scale and its sub-dimensions

Variable	Groups	Emotional Exhaustion		Depersonalization		Personal Accomplishment		Student Burnout	
		Mean ± SD	M (Min - Max)	Mean ± SD	M (Min - Max)	Mean ± SD	M (Min - Max)	Mean ± SD	M (Min - Max)
Gender	Female	16.25 ± 4.76	15 (7-25)	14.34 ± 3.7	14 (9-24)	17.34 ± 4.52	18 (6-28)	47.93 ± 11.2	46 (27-77)
	Male	16.51 ± 4.58	17 (9-25)	15.93 ± 3.73	15 (9-25)	17.36 ± 4.08	17 (6-29)	49.8 ± 9.72	49 (32-73)
Test value ^a		2026.500		1579.000		2074.000		1874.000	
P value		0.750		0.016*		0.923		0.302	
Class	1	15.99 ± 4.68	15 (7-25)	14.73 ± 3.75	14 (9-25)	17.46 ± 4.33	18 (6-26)	48.18 ± 10.33	48.5 (27-72)
	2	17.35 ± 4.79	18 (9-25)	15.14 ± 4.03	15 (9-24)	16.7 ± 4.27	16 (7-28)	49.19 ± 11.04	49 (30-77)
	3	15.95 ± 4.33	18 (9-25)	16.21 ± 3.36	16 (10-22)	18.16 ± 4.37	17 (10-29)	50.32 ± 10.83	48 (34-73)
Test value ^b		2.166		2.994		2.402		0.292	
P value		0.339		0.224		0.301		0.864	
Living place	Family	15.35 ± 4.38	14.5 (7-25)	14.05 ± 3.71	14 (9-23)	17.18 ± 3.79	17 (10-26)	46.58 ± 9.7	46.5 (31-73)
	Alone	13.5 ± 0.58	13.5 (13-14)	14.75 ± 3.59	13.5 (12-20)	15.25 ± 3.3	15.5 (11-19)	43.5 ± 6.24	42.5 (37-52)
	Dormitory	16.98 ± 4.79	17 (7-25)	15.55 ± 3.78	15 (9-25)	17.52 ± 4.58	18 (6-29)	50.05 ± 10.92	49.5 (27-77)
Test value ^b		4.629		4.417		1.518		4.033	
P value		0.099		0.110		0.468		0.133	
Family type	Divorced	17.67 ± 7.77	20 (9-24)	15.67 ± 5.03	15 (11-21)	21.67 ± 4.04	21 (18-26)	55 ± 15.1	53 (41-71)
	Nuclear	16.3 ± 4.48	16 (7-25)	15.04 ± 3.84	15 (9-25)	17.11 ± 4.44	17 (6-28)	48.44 ± 10.59	48 (27-77)
	Extended	16.58 ± 5.45	15 (9-25)	15.11 ± 3.46	14 (9-21)	18 ± 3.16	17 (15-29)	49.68 ± 9.88	48 (34-73)
Test value ^b		0.181		0.088		3.587		0.903	
P value		0.914		0.957		0.166		0.637	
Income status	Bad	17 ± 4.8	17.5 (7-25)	16.21 ± 4.12	17 (9-22)	17.07 ± 4.67	16 (11-29)	50.29 ± 12.23	52 (31-73)
	Medium	16.12 ± 4.75	15 (7-25)	14.75 ± 3.66	14 (9-24)	17.55 ± 4.2	18 (6-28)	48.43 ± 10.76	46 (27-77)
	Good	17.47 ± 4	18 (12-25)	16.07 ± 4.18	15 (11-25)	16.2 ± 4.77	17 (6-24)	49.73 ± 7.51	50 (37-63)
Test value ^b		1.932		3.271		1.813		0.932	
P value		0.381		0.195		0.404		0.628	
School achievement status	Bad	19.57 ± 4.46	20 (10-25)	17.43 ± 3.1	17 (12-23)	20.96 ± 3.74	20 (12-26)	57.96 ± 8.68	56 (45-72)
	Medium	16.17 ± 4.19	15.5 (9-25)	14.86 ± 3.66	15 (9-24)	17.57 ± 3.7	18 (10-29)	48.59 ± 9.58	48 (32-77)
	Good	14.48 ± 4.86	13 (7-25)	13.81 ± 3.89	13 (9-25)	14.13 ± 3.81	15 (6-21)	42.42 ± 9.37	41 (27-60)
Test value ^b		15.650		14.614		33.505		28.052	
P value		0.001*		0.001*		0.001*		0.001*	
Difference		bad-good, bad-medium		bad-good, bad-medium		Bad-good, bad-medium, medium-good		Bad-good, bad-medium, medium-good	
Willingly choose the Faculty of Medicine	Yes	15.74 ± 4.39	15 (7-25)	14.56 ± 3.52	14 (9-25)	17.14 ± 4.22	17 (6-29)	47.44 ± 9.78	46 (27-77)
	No	19.45 ± 4.84	20.5 (9-25)	17.55 ± 4.16	18 (9-23)	18.36 ± 4.67	18.5 (9-26)	55.36 ± 11.91	53 (32-73)
Test value ^a		666.500		678.000		962.500		711.000	
P value		0.001*		0.001*		0.160		0.003*	
Reason for choosing medical school	Family pressure	19.78 ± 5.38	21 (10-25)	18.56 ± 4.16	20 (10-22)	20.56 ± 5.1	21 (10-26)	58.89 ± 12.84	61 (38-73)
	Dream job	15.21 ± 4.53	14 (7-25)	14.05 ± 3.21	14 (9-24)	17.31 ± 3.94	17 (6-28)	46.57 ± 9.68	46 (27-77)
	Financial concerns	16.19 ± 4.33	15 (9-25)	14.81 ± 3.65	14 (9-23)	16.72 ± 3.64	17 (10-26)	47.72 ± 9.57	46 (32-74)
	Reputable profession	20.2 ± 3.12	19.5 (16-25)	17.1 ± 4.25	15 (10-25)	17.9 ± 6.52	18 (6-29)	55.2 ± 8.42	52.5 (44-73)
	Mandatory preference due to percentile	17 ± 4.67	16.5 (11-24)	16.8 ± 4.21	16 (12-23)	16.8 ± 5.22	18 (9-24)	50.6 ± 13.03	53 (32-70)
Test value ^b		14.623		14.088		7.237		12.812	
P value		0.006*		0.007*		0.124		0.012*	
Difference		Dream job-reputable profession		Dream job- family pressure		No		Dream Job family pressure	

SD; Standard deviation, M; Median, Test^a; test value of Mann Whitney test, Test^b; test value of Kruskal Wallis, *P<0.05; there is a statistically significant difference between the groups.

academic achievement ($P < 0.017$).

Regarding the variable of selecting the medical faculty willingly, no significant difference was found in the scores of personal accomplishment among those who chose the medical faculty willingly and those who did not ($P > 0.017$). However, significant differences were found in the burnout scale and its subscales, emotional exhaustion, and depersonalization scores between those who chose the medical faculty willingly and those who did not ($P < 0.05$).

According to the analysis based on the variable of choosing the medical faculty as a priority, no significant difference was found in the scores of personal accomplishment ($P > 0.017$). However, significant differences were found in the burnout scale and its subscales, emotional exhaustion, and depersonalization scores based on the reasons for choosing the medical faculty ($P < 0.05$). To determine which reasons showed significant differences, post-hoc pairwise comparisons were conducted using the Bonferroni correction, with an adjusted alpha value of $\alpha_{BD} = 0.05/10 = 0.005$. The obtained p-values from the Mann-Whitney test were compared to this value to make conclusions. When comparing the groups pairwise:

- Significant differences were found in the burnout scores between choosing the medical faculty because it was a dream profession and choosing it due to the prestige of the profession ($P < 0.005$).
- Significant differences were found in the depersonalization scores and the total burnout score between choosing the medical faculty because it was a dream profession and choosing it due to parental pressure ($P < 0.005$).

According to the statistical analysis (Table 4), no significant differences were found in the scores of professional commitment based on class, place of residence, family type, income level, and academic achievement ($P > 0.05$).

However, significant differences were found in the scores of professional commitment between males and females ($P < 0.05$), with females showing higher commitment compared to males.

Significant differences were also found in the scores of professional commitment between those who chose the medical faculty willingly and those who did not ($P < 0.05$).

Concerning the reasons for choosing the medical faculty, significant differences were found in the scores of professional commitment ($P < 0.05$). To determine which reasons showed significant differences, pairwise comparisons were conducted using the Bonferroni correction, with an adjusted alpha value of $\alpha_{BD} = 0.05/10 = 0.005$. The obtained p-values from the Mann-Whitney test were compared to this value to make conclusions. When comparing the groups pairwise:

- Significant differences were found between choosing

Table 4. Comparison of scores according to the professional commitment scale and its sub-dimensions

Variable	Groups	Professional commitment	
		Mean \pm SD	M (Min-Max)
Gender	Female	36.46 \pm 6.3	37 (9-45)
	Male	33.32 \pm 7.36	35 (13-45)
Test value ^a		1550.500	
P value		0.011*	
Class	1	35.15 \pm 7.27	36 (13-45)
	2	36.05 \pm 5.25	37 (25-45)
	3	32.63 \pm 8.26	35 (9-42)
Test value ^b		1.888	
P value		0.389	
Living place	Family	36.6 \pm 7.07	38 (9-45)
	Alone	34 \pm 7.16	35.5 (24-41)
	Dormitory	34.36 \pm 6.85	35.5 (13-45)
Test value ^b		4.236	
P value		0.120	
Family type	Divorced	23.33 \pm 9.07	27 (13-30)
	Nuclear	35.25 \pm 6.83	36 (9-45)
	Extended	35.68 \pm 6.06	36 (23-44)
Test value ^b		5.827	
P value		0.054	
Income status	Bad	34.71 \pm 7.32	36 (23-44)
	Medium	34.76 \pm 7.21	36 (9-45)
	Good	37.2 \pm 4.38	37 (30-44)
Test value ^b		1.074	
P value		0.585	
School achievement status	Bad	32 \pm 8.66	33 (13-45)
	Medium	35.22 \pm 6.69	36 (9-45)
	Good	36.84 \pm 5.52	38 (24-45)
Test value ^b		5.399	
P value		0.067	
Willingly choose the Faculty of Medicine	Yes	35.94 \pm 6.04	36 (13-45)
	No	30.64 \pm 9.32	32.5 (9-42)
Test value ^b		777.500	
P value		0.011*	
Reason for choosing medical school	Family pressure	26.11 \pm 10.59	28 (9-40)
	Dream job	37.34 \pm 5.05	37.5 (25-45)
	Financial concerns	34.74 \pm 6.58	36 (13-45)
	Reputable profession	32.7 \pm 7.36	31.5 (23-45)
	Mandatory preference due to percentile	33.3 \pm 7.21	33 (20-42)
Test value ^b		15.752	
P value		0.003*	
Difference		Dream Job Family pressure	

SD; Standard deviation, M; Median, Test^b; test value of Mann Whitney test, Test^b; test value of Kruskal Wallis, * $P < 0.05$; there is a statistically significant difference between the groups.

the medical faculty because it was a dream profession and choosing it due to parental pressure ($P < 0.005$).

To examine the relationships between the scales, correlation analysis was performed on the calculated scores. The results of this analysis are provided in Table 5.

According to the statistical analysis, no significant relationship was found between age and the scores of professional commitment and burnout scale, including its subscales of emotional exhaustion, depersonalization, and personal accomplishment ($P > 0.05$). Age and the scores are independent of each other, indicating that age does not affect the scores.

There was a significant negative moderate-level relationship found between the scores of professional commitment and the burnout scale, including its subscales of emotional exhaustion, depersonalization, and personal accomplishment ($P < 0.05$). As the scores of professional commitment increase, the scores of burnout and its subscales decrease.

In terms of the relationships between the burnout scores:

- There was a significant positive high-level relationship between the scores of emotional exhaustion and depersonalization.
- There was a significant positive moderate-level relationship between the scores of emotional exhaustion and personal accomplishment.
- There was a significant positive very high-level relationship between the scores of emotional exhaustion and the total burnout score.

Regarding the relationships between the depersonalization scores:

- There was a significant positive moderate-level relationship between the scores of depersonalization and personal accomplishment.
- There was a significant positive very high-level relationship between the scores of depersonalization and the total burnout score. In terms of the relationship between the scores of personal accomplishment and

the total burnout score:

- There was a significant positive high-level relationship between the scores of personal accomplishment and the total burnout score.

Discussion

This research was conducted with 130 students enrolled in a Medical Faculty in Türkiye, with the primary goal of examining the correlation between students' sociodemographic attributes, their experience of burnout, and their commitment to their careers. The findings revealed that the mean overall burnout level of the students was 48.78 ± 10.55 . When evaluated in terms of sub-dimensions, the mean scores for emotional exhaustion, depersonalization, and personal accomplishment were found to be 16.37 ± 4.67 , 15.06 ± 3.79 , and 17.35 ± 4.31 , respectively. These results differ somewhat from findings in similar studies. For instance, Naçar et al²¹ found mean scores of 12.3 for emotional exhaustion, 4.2 for depersonalization, and 11.9 for personal accomplishment among students at Erciyes University Faculty of Medicine. In another study by Eroğlu et al,⁴ emotional exhaustion was found to be 14.7 ± 4.3 , depersonalization 9.6 ± 3.3 , and personal accomplishment 19.5 ± 4.4 . Similarly, Toprak et al⁵ found that students perceived the highest level of burnout in the personal accomplishment dimension, followed by emotional exhaustion and depersonalization. Generally, literature suggests that emotional exhaustion is higher among medical students, followed closely by personal accomplishment.^{1,2,7,22,23} The Cronbach's alpha values for the used professional commitment scale and burnout scale were found to be 0.87 and 0.91, respectively, indicating satisfactory reliability of the scales.²⁴

When examining the scale scores, it was observed that the standard deviation of student burnout scores is 10.55, and the range of score variation is 27-77. The variation in burnout scores is clearly evident in the standard deviation. The high range of score variation in the concept of burnout reflects the distinct differences in

Table 5. Correlation analysis of relationships between scales and variables

Scores	Value	Professional commitment	Emotional exhaustion	Depersonalization	Personal accomplishment	Student burnout
Age	<i>r</i>	-0.020	0.038	0.091	0.065	0.076
	<i>p</i>	0.817	0.670	0.304	0.465	0.393
Professional commitment	<i>r</i>		-0.360	-0.332	-0.501	-0.483
	<i>p</i>		0.001*	0.001*	0.001*	0.001*
Emotional exhaustion	<i>r</i>			0.775	0.421	0.892
	<i>p</i>			0.001*	0.001*	0.001*
Depersonalization	<i>r</i>				0.380	0.856
	<i>p</i>				0.001*	0.001*
Personal accomplishment	<i>r</i>					0.731
	<i>p</i>					0.001*

r; spearman correlation confident, * $P < 0.05$; there is a statistically significant relationship between the variables.

students' psychological states. The presence of both high and low levels of burnout among students has contributed to this variation. Increasing the sample size would result in significant differences in the results, with a lower standard deviation. A decreased standard deviation would lead to a more homogeneous data structure and mitigate the relative influence of burnout. The subjective and individual nature of burnout as a concept has contributed to the differences in our study results.^{25,26}

Concerning the burnout scale and its subscales, namely exhaustion, cynicism, and professional efficacy, no statistically significant differences were found among different groups based on variables such as class, place of residence, family type, and income level. However, in terms of gender, while no significant difference was found in burnout and professional efficacy scores, a statistically significant difference was observed in cynicism scores between women and men. These findings demonstrate the impact of gender on cynicism, as men had higher cynicism scores than women. Consistent with our study findings, Çelik's study²⁷ did not find significant differences in emotional exhaustion and professional efficacy subscales between male and female students, but it identified that men experienced higher levels of cynicism. Cecil et al²² also found significantly higher levels of cynicism in men than women.

In the analysis conducted based on the variable of academic achievement, statistically significant differences were found in exhaustion, cynicism, and professional efficacy scores among individuals with good, moderate, and poor academic achievement. It was observed that individuals with poor academic achievement had higher scores in exhaustion and cynicism. However, these differences were not observed between individuals with good and moderate academic achievement. In a study by Altannir et al,² it was also noted that female students with lower academic performance experienced higher levels of emotional exhaustion and cynicism compared to male students. These findings accentuate the impact of academic achievement on burnout and cynicism and suggest that low academic achievement may be associated with these negative outcomes.

Regarding the variable of choosing medical school willingly, no statistically significant difference was found in professional efficacy scores, while significant differences were observed in emotional exhaustion, cynicism, and total burnout scores between those who willingly chose medical school and those who did not. In a study by Akkoyun et al,¹ it was found that 19% of students did not choose medical school willingly, and these students experienced higher levels of burnout in all areas compared to others. Our study is partially consistent with another study that reported higher levels of emotional exhaustion among students who did not choose medical school willingly.⁴ Therefore, having a voluntary interest in pursuing medicine can be considered a protective factor

against burnout for students.

These results indicate that individuals who willingly choose medical school have lower levels of exhaustion and cynicism, suggesting that motivation for choosing medical school may have an impact on psychological well-being. Additionally, in the analysis based on the primary reason for choosing medical school, no statistically significant difference was found in professional efficacy scores, but significant differences were observed in exhaustion and cynicism scores among different reasons for choosing medical school. Specifically, the reasons of it being a dream profession and the prestige of the profession were found to have a significant impact on burnout levels. These findings accentuate the effect of various demographic and motivational factors on occupational burnout, cynicism, and professional efficacy. Identifying significant relationships underscores the need to consider these factors when developing measures to reduce burnout.

According to the results of the study regarding professional commitment, the scores on the Professional Commitment scale did not show statistically significant differences among different groups based on class, place of residence, family type, income status, and academic achievement. This suggests that professional commitment may not be affected by these factors. However, significant differences were found between genders, with women having higher scores in professional commitment. These results indicate that gender may be an effective factor in professional commitment. In a study by Erbir,²⁸ both the level of professional commitment and academic achievement were significantly higher for women than men. Additionally, in a study by Layık et al,²⁹ female students were found to have significantly higher levels of commitment to the medical profession than male students.

Furthermore, statistically significant differences were found in the scores on the Professional Commitment scale between those who willingly chose medical school and those who did not. These findings suggest a relationship between choosing medical school and professional commitment. Additionally, statistically significant differences were found among different reasons for choosing medical school. Specifically, differences were observed in choices based on it being a desired profession and parental pressure. In Erbir's study²⁸ individuals who voluntarily chose medical school had higher levels of professional commitment and significantly higher academic achievements compared to other groups.

In this study, no statistically significant relationship was found between age and the scores on the Professional Commitment scale and the subscales of the Burnout scale, including exhaustion, cynicism, and professional efficacy. Age lacked an impact on the scores, and no relationship was observed between age and professional commitment or burnout. Similar results were found in Erbir's study.²⁸

However, there was a statistically significant moderate negative correlation between the professional commitment score and the sub-dimensions of the burnout scale. In other words, as the professional commitment score increases, the scores for exhaustion, depersonalization, and reduced personal accomplishment decrease. These results indicate that professional commitment positively affect burnout. Additionally, there was a high positive correlation between exhaustion scores and depersonalization scores, a moderate positive correlation between exhaustion scores and reduced personal accomplishment scores, and a very high positive correlation between total burnout scores. A moderate positive correlation was observed between depersonalization scores and reduced personal accomplishment scores, as well as a high positive correlation between reduced personal accomplishment scores and total burnout scores. There was also a high positive correlation between competence scores and total burnout scores. Agarwal et al¹³ also reported in their study that professional commitment is negatively associated with burnout and perceived stress.

In conclusion, the findings of our study highlight the impact of various demographic and motivational factors on professional burnout, depersonalization, and reduced personal accomplishment. The identification of significant relationships emphasizes the need to consider these factors when developing measures to reduce burnout. Furthermore, our findings demonstrate a relationship between professional commitment and burnout, depersonalization, and reduced personal accomplishment, suggesting that increasing the levels of professional commitment among medical students, who are future physicians, is important. Strengthening the commitment of medical students to their profession can reduce the risk of burnout and improve the quality of healthcare services. However, it is important to consider the limitations of this study which include the online data collection method and the inability to reach all medical faculty students, relying on subjective measurements, and using a specific sample. Therefore, future research with more comprehensive and diverse datasets is crucial to support or present different outcomes based on these findings.

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Authors' Contribution

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Competing Interests

The authors declare no conflict of interests.

Ethical Approval

The Malatya Turgut Özal University has obtained approval from the Non-Interventional Ethics Committee (No:2022/109) for this study. The participating students were provided with information about the study, and they were informed that the data would be used solely for research purposes. Informed consent was obtained from the participants.

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