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Influence of Fear of Missing Out (FoMO) on the academic career choices of dental students in Türkiye

Hatice Aydogdu[1] ✉, Pınar Demir[2], Feyza İnceoğlu[3]

Highlights

- The use of social media has risen sharply, leading to an increase in Fear of Missing Out (FoMO) among individuals.
- The FoMO phenomenon has been found to influence career planning, particularly when it interacts with students' motivations, behaviors, and demographic factors.
- Competition has been identified as the most significant factor influencing the career planning of dental students.

[1] Asst. Prof., Department of Pediatric Dentistry, Faculty of Dentistry, Haci Bektas Veli University, Türkiye
[2] Assoc. Prof., Department of Pediatric Dentistry, Faculty of Dentistry, Nuh Naci Yazgan University, Türkiye
[3] Assoc. Prof., Department of Biostatistics, Faculty of Medicine, Malatya Turgut Ozal University, Türkiye

Correspondence:
Department of Pediatric Dentistry, Faculty of Dentistry, Haci Bektas Veli University, Türkiye
E-mail address: aydogdu.hatice.93@gmail.com

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Abstract

Aim: This study aimed to assess the presence of Fear of Missing Out (FoMO) among dental students and to evaluate its potential impact on their postgraduate career choices. **Methods:** The FoMO scale, adapted to career choice contexts and tested for validity and reliability, was used in this study. Additional demographic and career-related questions were incorporated into the survey, which was distributed via Google Forms to 6,758 dental students across 76 faculties of dentistry in Türkiye. Mean FoMO scores were compared based on students' career planning preferences. Data normality was assessed using the Kolmogorov–Smirnov test, and parametric statistical methods, including analysis of variance (ANOVA), were subsequently applied. **Results:** A total of 1,071 dental students from 59 universities completed the survey and consented to participate. The most influential factors in postgraduate career planning were "staying up-to-date in professional knowledge" (383 students, 35.8%) and "financial gain" (362 students, 33.8%). Students who cited "helping others" as their primary motivation exhibited no significant FoMO regarding specialization decisions, whereas FoMO was present among students who selected other motivations. Notably, among specialization preferences, Pediatric Dentistry was selected by 11.8% of students, ranking as the third most preferred specialty, indicating a considerable level of interest in pediatric dentistry as a future career path. **Conclusions:** The findings of this study may help identify key factors influencing students' career decisions and assist educators in providing more effective guidance and counseling. Throughout their education, students should be encouraged to broaden their research interests and explore diverse career opportunities. The FoMO phenomenon appears to influence the career choices of today's dental students. Therefore, educators should further investigate FoMO and its implications to better support students in their professional development.

Keywords: Career Choice; Dentistry; Dental Student; Internship and Residency; Pediatric Dentistry

INTRODUCTION

Various challenges, along with new opportunities, await the new generation of dentists. In parallel with the increasing number of faculties offering dental education, the rising number of dental graduates has led to growing concerns about the future among students. However, dentistry continues to offer a clear path for students aspiring to pursue an academic career.[1] Specialization training, which plays a significant role in students' career planning, represents an important new opportunity. While multiple career paths are available to dental students, applications to graduate programs have become particularly popular.[1] Generally, specialization is pursued to acquire advanced knowledge and skills within a specific field of dentistry, thereby providing graduates with a competitive advantage.[2]

Today, most undergraduate students belong to Generation Y, while the next wave of students, Generation Z, has begun to enter universities.[3] Generation Z spends significantly more time on electronic media and the internet compared to previous generations.[4] Studies show that 97% of college students use social media for an average of three hours per day.[5] Students utilize social media for both personal and educational purposes.[6] The use of social media has increased substantially in dentistry as well, leading to the inclusion of e-professionalism courses which address appropriate digital media behaviors and attitudes, in the curricula of many countries.[7-9] A recent study[10] examining the role of social media in dental education reported that 94% of doctors use smartphones to manage medical data and information. The influence of social media may also affect students' career planning by shaping the information they receive and perceive.

In postgraduate career planning, selecting a graduate path can be a daunting process for students and may be influenced by various factors. One such factor is a phenomenon known as FoMO. FoMO is defined as "a prevalent fear that others may have rewarding experiences" and is generally characterized by "a constant desire to stay continually connected with what others are doing."[11,12] Students who experience FoMO are often troubled by the idea of missing out on the positive experiences of others.[12] It has been reported that FoMO is particularly strong among members of Generation Z.[13] Przybylski et al.[12] suggested that FoMO can significantly affect an individual's life, with social media updates amplifying the perceived experiences of others. Several studies[11-16] involving college students and adults have found moderate to large positive associations between FoMO and problematic levels of social media use.

To our knowledge, FoMO has not yet been applied to dental education or career decision-making. This study aimed to assess the presence of FoMO among dental students and to evaluate its potential impact on their postgraduate career choices. The null hypotheses were as follows: FoMO is not significantly present among dental students, and FoMO does not have a significant impact on the postgraduate career choices of dental students.

METHODS

Ethics approval

Ethics committee approval was obtained from the Health Sciences Noninvasive Clinical Research Ethics Committee of Inonu University prior to the commencement of the study (Ethics No: 2020/1183). An online survey link, including an informed consent form, was prepared using the Google Forms platform, and students who voluntarily completed the survey were included in the study. Informed consent was obtained electronically, with participants required to read the

consent information and confirm their agreement before accessing the survey questions.

Study design and participants

This study was designed as a cross-sectional survey targeting dental students enrolled in faculties of dentistry across Türkiye. The survey was distributed online through social media platforms to maximize accessibility and participation. The inclusion criteria were being an undergraduate dental student enrolled in one of the 76 faculties of dentistry in Türkiye and voluntarily agreeing to participate by providing informed consent. The exclusion criteria were refusal to participate in the study, failure to provide informed consent, or incomplete survey responses.

Data collection

The first part of the survey consisted of questions regarding gender, age group, year of study, factors influencing future career planning, opinions on receiving career education, the desired field of specialization, and the main factors determining whether or not to pursue specialization.

The version of the FoMOs scale, originally developed by Przybylski et al.[12] in 2013 and later adapted into Turkish by Inceoğlu et al.[16] under the title "Career Choice in Dentistry," was used in this study. This scale is a five-point Likert-type scale consisting of two subdimensions: Trait (items 1, 2, 3, 4, 5) and State (items 6, 7, 8, 9, 10). The cut-off point for the overall scale is 23, while the cut-off points for the Trait and State subdimensions are 14 and 12, respectively. Participants scoring 23 or higher were considered to be under the influence of FoMO regarding their decisions about specialization education. Cronbach's α reliability analysis was conducted to assess the internal consistency of the FoMOs scale, revealing internal consistency coefficients of 0.919 for the Trait subdimension, 0.718 for the State subdimension, and 0.840 for the overall scale. The sample size for this study was determined through power analysis. According to calculations made using the G*Power 3.1 program, with an effect size of 0.101, a significance level of 0.05, a confidence level of 0.95, and a power of 0.95, the required minimum sample size was calculated to be 1056.[15,17]

A scale adapted from the general items of Przybylski et al.'s[12] original FoMO scale to assess decisions regarding postgraduate specialization education in dentistry was used. This evaluation is a sensitive instrument capable of identifying low, medium, and high levels of fear of being overlooked as an individual difference. The adapted scale was selected because it acts as a mediating factor linking faculty characteristics and individual differences such as class, age, and gender, to career planning. The final version of the scale, which had been tested for validity and reliability, includes 11 questions designed to measure FoMO among dental students. Since the survey aimed to reach all dental students, the link was distributed to dentistry-related groups via social media platforms, including WhatsApp and Instagram. To encourage participation, the link was shared daily as a reminder. The inclusion criteria for the study were being enrolled in one of the 76 faculties of dentistry in Türkiye and agreeing to participate in the survey. Students who consented to participate did so voluntarily by clicking on the provided link. Responses collected within a 30-day period during November 2020 were included in the analysis.

Survey application

The survey was designed with a completion time of approximately 1 minute to optimize the response rate. A link has been prepared using the Google survey application. First, the students' information regarding age, gender, school year, and the university being attended were requested.

5 questions were prepared to find out their thoughts on the specialization education after the demographic questions. The second part includes a scale designed to measure FoMO among the dentistry students (Supplementary File).

Statistical analysis

The analysis was conducted using 1,071 completed survey forms. The dataset obtained was analyzed with SPSS version 25.0 (Statistical Package for the Social Sciences), and the test values were interpreted accordingly. The level of significance was set at 0.05. The normality of the data distribution was assessed using the Kolmogorov–Smirnov test, and parametric statistical methods, including analysis of variance (ANOVA), were subsequently applied.

RESULTS

A total of 6,758 dental students were invited to participate in the study, and 1,071 students (15.8%) voluntarily completed the survey. Students from 59 out of 76 universities with faculties of dentistry participated. Among those who completed the survey, 66.7% (714 students) were women, and 67.9% (727 students) were between the ages of 21 and 25. The highest proportion of respondents were fifth-year students, comprising 29.9% of the study population (Table 1). The Trait subdimension scores were designed to assess the fear of having less knowledge compared to peers about specialization topics, as well as concerns about feeling less equipped and ready for specialization.

Table 1. Distribution of socio-demographic variables of the participants

				Considering specialization					
Sociodemographic Variables	Group	Total		Yes		No		Undecide	
		n	%	n	%	n	%	n	%
Gender	Female	714	66.7	579	68.2	34	43.6	101	70.1
	Male	357	33.3	270	31.8	44	56.4	43	29.9
Age	16-20	312	29.1	253	29.8	10	12.8	49	34.0
	21-25	727	67.9	579	68.2	58	74.4	90	62.5
	26-30	27	2.5	14	1.6	9	11.5	4	2.8
	31-35	5	0.5	3	0.4	1	1.3	1	0.7
Class	1	165	15.4	129	15.2	3	3.8	33	22.9
	2	182	17.0	147	17.3	8	10.3	27	18.8
	3	189	17.6	162	19.1	9	11.5	18	12.5
	4	215	20.1	180	21.2	14	17.9	21	14.6
	5	320	29.9	231	27.2	44	56.4	45	31.3
Total		1071	100.0	849	79.3	78	7.3	144	13.4

The breakdown of the most important factors influencing participants' career planning, presented by number and percentage, is shown in Table 2. According to 383 students (35.8%), the most important factor affecting postgraduate career planning was "staying up-to-date in professional knowledge," making it the most frequently selected option. This was followed by "financial gain," reported by 362 students (33.8%) (Table 2).

Table 2. Career planning factors distribution of participants

Groups	All Participants		Those who require specialization		Those who do not want specialization		Undecide	
	N	%	n	%	n	%	n	%
Family and Environment oppression	76	7.1	51	6.0	10	12.8	15	10.4
Academic Research	2	.2	2	.2				
Helping People	3	.3	3	.4				
Working Hours	46	4.3	33	3.9	6	7.7	7	4.9
Completing Missing Information	4	.4	3	.4			1	.7
Ideals	2	.2	2	.2				
Staying Up-to-Date at Professional Knowledge	383	35.8	332	39.1	15	19.2	36	25.0
Social Life	115	10.7	81	9.5	12	15.4	22	15.3
Job Guarantee	5	.5	3	.4			2	1.4
Interest	15	1.4	13	1.5			2	1.4
Financial Gain	362	33.8	280	33.0	32	41.0		
Personal Rights	31	2.9	26	3.1				
Health Situation	23	2.1	16	1.9	3	3.8	4	2.8
All	4	.4	4	.5				
Total	1071	100.0	849	100.0	78	100.0	144	100.0

When the factors influencing career planning were examined, "being able to conduct research" had the highest mean score in the Trait subdimension, while "helping others" had the lowest. However, no statistically significant differences were found between these factors ($p > 0.05$) (Table 3).

When the results were evaluated for the State subdimension, the highest mean score was associated with "completing missing information," while the lowest score was observed for "helping others." A statistically significant difference was found: students who selected "working hours" as an influencing factor had significantly lower State subdimension scores compared to those who selected "staying up-to-date in professional knowledge" ($p = 0.014$) (Table 4).

Regarding the scores obtained from the overall FoMOs scale, "completing missing information" emerged as the most influential factor, whereas "helping others" again received the lowest score. No statistically significant differences were found among career planning options based on the overall FoMOs scale scores ($p > 0.05$). Notably, fear of missing out in specialization education decisions was absent among students who selected "helping others" as their career planning motivation, while it was present among students who chose all other available options . To examine whether the scores obtained from the FoMOs scale and its Trait and State subdimensions differed according to the participants' most important factors in career planning, a one-way ANOVA was performed. The results are presented in Table 4.

While no statistically significant difference was found between career planning options based on participants' scores from the FoMOs scale and the Trait subdimension ($p > 0.05$), a statistically significant difference was observed based on their scores from the State subdimension ($p = 0.006$).

Table 3. Comparison of scale scores according to career planning

Group	Trait		State		FoMO	
	Mean ± sd	p value	Mean ± sd	p value	Mean ± sd	P value
Family and Environment oppression	12.75 ± 5.44	0.234	12.61 ± 3.9	0.006	25.36 ± 8.12	0.055
Doing Research	14.5 ± 2.12		14.5 ± 2.12		29 ± 4.24	
Helping Others	9 ± 4		9.33 ± 2.89		18.33 ± 2.08	
Working hours	11.76 ± 3.97		10.78 ± 3.32		22.54 ± 6.39	
Completing Missing Information	19.5 ± 9		17.5 ± 3		37 ± 12	
Ideals	10 ± 5.66		10.5 ± 0.71		20.5 ± 4.95	
Staying Up-to-Date at professional Knowledge	12.55 ± 5.16		13.14 ± 3.87		25.69 ± 7.76	
All	12.25 ± 7.23		12 ± 1.83		24.25 ± 6.95	
Job Guarantee	11.2 ± 6.14		9.8 ± 4.02		21 ± 9.43	
Interest / Self-request	13.6 ± 5.22		12.53 ± 4.75		26.13 ± 7.83	
Financial gain	12.76 ± 6.22		12.83 ± 4.27		25.59 ± 9.5	
Personal Rights	12.94 ± 5.74		12.32 ± 4.5		25.26 ± 9.47	
Health situation	12.22 ± 5.85		13.3 ± 4.16		25.52 ± 8.34	
Social life	11.3 ± 5.31		12.16 ± 3.9		23.45 ± 7.94	

sd:standart deviation; *p<0.05: There is a statistically significant difference between the groups; FoMO: Fear of Missing Out

Table 4. Comparison of groups with differences

Groups		Mean Difference	p[a] (Sig)	95% Confidence Interval	
				Lower Bound	Upper Bound
Working hours	Staying Up-to-Date at professional Knowledge	-2,316*	0,014	-4,464	-0,242

*p<0.05; There is a statistically significant difference between the groups; a: Tamhane T2 test

To examine whether the scores obtained from the FoMOs scale and the Trait and State subdimensions differed according to the factors influencing the decision to pursue specialization, a one-way ANOVA was conducted, and the results are presented in Table 5. The Duncan test was applied to maintain variance homogeneity when testing the differences in Trait subdimension and FoMOs total scores among the career planning factors selected by students who expressed a desire to specialize.

When the most important reasons for specialization preference were evaluated, "competition" had the highest mean score in the Trait subdimension, while "financial advantage" had the lowest. the Trait subdimension scores among participants who selected "competition" were significantly higher than those who chose "becoming an academician", "specializing in one field", or "convenience in terms of job opportunities". In the State subdimension, "competition" again had the highest observed value, while "starting late in professional life" had the lowest.

No statistically significant difference was found among the specialization preference factors based on the State subdimension scores ($p > 0.05$). Regarding the total FoMOs scores, "competition" remained the most influential factor, whereas "becoming an academician" was the least influential. A statistically significant difference was found ($p < 0.05$), with participants who selected "competition" scoring significantly higher than those who selected "becoming an academician", "specializing in one field", and "convenience in terms of job opportunities".

Table 5. Comparison of scale scores to factors affecting those who want specialization

Variables	Groups	Mean ± sd	Test[b]	p value
Trait	Being an academician	11.3 ± 4.83	4.809	<0.001*
	Competition	13.96 ± 5.48		
	Request to specialize in a single branch	12.11 ± 5.73		
	Starting Business Life Late	13 ± 5.66		
	Convenience in terms of job opportunity	12.3 ± 5.23		
	Financial advantage	11.08 ± 5.99		
	Prestige	13.36 ± 5.78		
State	Being an academician	12.79 ± 4.09	1.969	0.068
	Competition	13.42 ± 4.07		
	Request to specialize in a single branch	12.34 ± 3.53		
	Starting Business Life Late	11.56 ± 3		
	Convenience in terms of job opportunity	12.64 ± 3.9		
	Financial advantage	13.12 ± 4.83		
	Prestige	13.5 ± 3.85		
FoMO	Being an academician	24.1 ± 7.71	4.075	<0.001*
	Competition	27.38 ± 8.38		
	Request to specialize in a single branch	24.45 ± 8.25		
	Starting Business Life Late	24.56 ± 7.11		
	Convenience in terms of job opportunity	24.95 ± 7.77		
	Financial advantage	24.19 ± 9.69		
	Prestige	26.86 ± 8.17		

sd:standart deviation; b:F value of ANOVA *p<0.05; There is a statistically significant difference between the groups; FoMO: Fear of Missing Out

Table 6. Comparison of scale scores to factors affecting those who do not want specialization

Variables	Group	Mean ± sd	Test[b]	p value
Trait	Fear of fail to win exams because education is not well	9.33 ± 2.52	0.489	0.783
	Lack of financial situation to go to the course for exam	10.33 ± 9.24		
	The desire to go in for all branches and not to choose one branch	7 ± 3.39		
	Not wanting to be a student any more	8.71 ± 4.89		
	Exhausting exam preparation process	8.1 ± 4.04		
	Missing information on specialties	8.67 ± 3.21		
State	Fear of fail to win exams because education is not well	8 ± 3.61	0.707	0.620
	Lack of financial situation to go to the course for exam	10.33 ± 1.53		
	The desire to go in for all branches and not to choose one branch	9.75 ± 3.3		
	Not wanting to be a student any more	10.23 ± 5.18		
	Exhausting exam preparation process	9.9 ± 3.42		
	Missing information on specialties	14 ± 2.65		
FoMO	Fear of fail to win exams because education is not well	17.33 ± 5.77	0.411	0.840
	Lack of financial situation to go to the course for exam	20.67 ± 9.07		
	The desire to go in for all branches and not to choose one branch	16.75 ± 5.53		
	Not wanting to be a student any more	18.94 ± 9.61		
	Exhausting exam preparation process	18 ± 6.77		
	Missing information on specialties	22.67 ± 5.77		

sd:standart deviation; b:F value of ANOVA; *p<0.05: There is a statistically significant difference between the groups; FoMO: Fear of Missing Out

A one-way ANOVA was performed to examine whether the scores obtained from the FoMOs scale and its Trait and State subdimensions differed according to the reasons given by participants who did not wish to pursue specialization. The results are presented in Table 6. No statistically significant differences were found in the Trait subdimension, State subdimension, or overall FoMOs scores based on the reasons for not wanting to specialize ($p > 0.05$, Table 6).

When evaluated by gender, the Trait subdimension scores were found to be significantly higher in women than in men ($p < 0.001$). In the State subdimension, although women had higher scores than men, the difference was not statistically significant ($p > 0.05$). Based on the total FoMOs scores, it was observed that women exhibited a fear of missing out regarding specialization education, whereas this fear was absent among men. A statistically significant difference was found between genders in the total FoMOs scores, with women demonstrating higher levels of FoMO ($p < 0.001$).

A statistically significant difference was found between age groups based on participants' scores from the FoMOs scale and the Trait and State subdimensions ($p < 0.001$ for Trait and State; $p = 0.002$ for FoMOs, Table 7). Since variance homogeneity was confirmed, the Duncan test was used to analyze differences in subdimension and total scale scores between age groups. Statistically significant differences ($p < 0.05$) were observed in the FoMOs total scores and Trait subdimension scores between the 26–30 and 16–20 age groups ($p < 0.001$) and between the 26–30 and 21–25 age groups ($p < 0.001$ for Trait, $p = 0.002$ for FoMOs). Additionally, a significant difference was found in the State subdimension scores between the 16–20 and 21–25 age groups ($p < 0.001$) (Table 7). No statistically significant differences were observed among the other age group comparisons ($p > 0.05$, Table 7).

Table 7. Comparison of FoMOs and sub-dimensions scores according to gender, age and class variables

Variables	Group	Scale	Mean ± sd	Test	p value
Gender	Female	Trait	13.51 ± 5.5	8.681[a]	<0.001*
	Male		10.46 ± 5.24		
	Female	State	12.86 ± 3.93	1.295[a]	0.196
	Male		12.52 ± 4.29		
	Female	FoMOs	26.36 ± 8.32	6.254[a]	<0.001*
	Male		22.98 ± 8.43		
Age	16-20	Trait	12.39 ± 5.32	6.294[b]	<0.001*
	21-25		12.72 ± 5.72		
	26-30		8.19 ± 3.69		
	31-35		9.6 ± 3.65		
	16-20	State	13.54 ± 3.86	6.738[b]	<0.001*
	21-25		12.44 ± 4.07		
	26-30		11.33 ± 4.44		
	31-35		14.2 ± 3.77		
	16-20	FoMOs	25.93 ± 7.87	4.876[b]	0.002*
	21-25		25.16 ± 8.74		
	26-30		19.52 ± 7.15		
	31-35		23.8 ± 6.98		
Class	1	Trait	12.06 ± 5.12	0.890[b]	0.469
	2		12.98 ± 5.78		
	3		12.77 ± 5.24		
	4		12.17 ± 5.86		
	5		12.49 ± 5.76		
	1	State	13.88 ± 3.9	7.750[b]	<0.001*
	2		13.41 ± 4.22		
	3		12.81 ± 3.95		
	4		12.3 ± 3.99		
	5		12.03 ± 3.98		
	1	FoMOs	25.94 ± 7.73	2.206[b]	0.066
	2		26.39 ± 8.86		
	3		25.58 ± 7.91		
	4		24.47 ± 8.79		
	5		24.53 ± 8.74		

sd;standart deviation; a: Two Independent Samples t Test Value; b: F value of ANOVA *p<0.05; There is a statistically significant difference between the groups; FoMO: Fear of Missing Out

Among the participants, the most preferred specialty was Orthodontics, selected by 333 students (33.5%), followed by Oral and Maxillofacial Surgery with 295 students (29.7%) (Table 8). Pediatric Dentistry (11.8%) and Periodontology (9%) were also commonly chosen fields. Other preferences included Prosthetic Dentistry (6.5%), Endodontics (5.2%), Dental Diseases and Treatment (2.6%), and Oral and Maxillofacial Radiology (1.6%). A total of 993 students provided responses regarding their preferred specialty areas (Table 8).

Table 8. The most popular major among participants

Specialty	Total	
	n	%
Oral and Maxillofacial Surgery	295	%29.7
Oral and Maxillofacial Radiology	16	%1.6
Dental Diseases and Treatment	26	%2.6
Prosthetic Dentistry	65	%6.5
Endodontics	52	%5.2
Orthodontics	333	%33.5
Pediatric Dentistry	117	%11.8
Periodontology	89	%9

DISCUSSION

The increase in the number of dentists may have pressured individuals into pursuing specialization, even if they did not initially intend to do so. A review of the literature conducted with this assumption revealed that the number of studies focusing on career planning in dentistry is limited. Despite being an intense and stressful field, dentistry lacks formal career planning education. Students who do not receive professional support in this area may be vulnerable to misinformation on social media due to fear of missing out, even if they are unaware of it. The scale used in this study was designed to explore the factors influencing students' future career planning and to assess the effect of FoMO. A series of evaluations were conducted to examine how FoMO interacts with students' motivation, behaviors, and demographic factors in the context of career planning.

A total of 79.3% of the students who responded to the survey indicated that they intended to pursue specialization after graduating from dental school. In a 2007 study,[18] the career preferences of Japanese, Canadian, and Thai undergraduate students were surveyed, revealing that 48.4% of Canadians, 38.8% of Japanese, and 39.3% of Thai students preferred to specialize. In contrast, a survey conducted in England[19] reported that the majority of dental students preferred to work as general practitioners. Similarly, a survey conducted in Malaysia[20] concluded that students showed a high level of interest in specialization, primarily motivated by the desire to achieve financial stability and work-life balance. In a study from India,[21] 79.1% of students (n = 292) expressed a desire to specialize in dentistry ($p < 0.001$). A 2012 study conducted in Türkiye[22] confirmed similar findings, with 86% of students (n = 197) stating that they intended to specialize. The growing motivation to participate in graduate programs has been linked to increased patient awareness regarding the need for specialist care.[22]

These findings suggest that students in middle-income countries may be more inclined to pursue specialization than those in high-income countries. This trend may be attributed to several factors, including the decreasing availability of job opportunities as the number of dentists increases, heightened competition, and the high costs associated with establishing a private practice. This competitive environment may stimulate students' desire to obtain additional qualifications and to differentiate themselves from their peers by earning a specialist title. Notably, a 2008 study[2] also identified acquiring a unique skill set as the most important factor influencing students' decisions to specialize in dentistry, supporting the findings of the present study.

Higher scores in both the Trait and State subdimensions, as well as in the overall FoMO scale, indicated that competition was the most influential factor among students who wished to pursue specialization. These findings are consistent with the aims of the study. As anticipated, the increasing number of dentists in Türkiye appears to motivate students to specialize in order to differentiate themselves from their competitors, thereby intensifying the sense of competition.

As this sense of competition grows, so too does the fear among students that their peers may be better informed, more equipped, and better prepared for specialization. This, in turn, heightens students' curiosity about their peers' preparations for specialization and future career plans, encourages more thorough research on these topics, and exacerbates the fear of missing out in career decision-making. It is not surprising that FoMO scores were higher among students who chose specialization primarily to compete, often unwillingly, which likely amplified their sense of fear. Conversely, lower FoMO scores among students who aspired to become academicians and voluntarily pursued specialization are consistent with expectations; these students likely approached their career paths with greater confidence, thus mitigating feelings of fear or inadequacy.

In a previous study,[23] the most common reason cited for specializing was "talent in the field." Other frequently mentioned motives for pursuing specialist education included "reward," "financial reasons," and "further studies." Similarly, it has been reported that in the United States, the primary reason for a dental student's desire to specialize is "having a specific ability or skill," rather than financial considerations.[2] According to a study conducted in India,[21] the main factors influencing the decision to specialize were professional status (39.6%), high income (30.6%), better job opportunities (12.2%), interest in research within a particular branch (11.7%), and family background (1.4%). Across these studies, financial advantage was found to be a less prominent reason for choosing specialization, a finding that supports the results of the present study.

In a previous study,[23] nearly two-thirds (65%) of dental students reported receiving sufficient encouragement and support from their universities to make decisions regarding specialization. However, almost half (41.4%) identified the prolonged duration of postgraduate education as a deterrent to pursuing specialization.[23] In contrast, the most influential factor for not wanting to specialize in the present study was "incomplete information about specialization branches." This finding highlights a lack of adequate career-related knowledge among dental students in Türkiye. It is likely that some students might reconsider their decisions once they receive sufficient information about specialization opportunities. Expecting students to make informed choices between specialization and alternative career paths without providing necessary guidance would be unreasonable. Enabling students to assist postgraduate trainees during clinical procedures could help them form more informed opinions about different specialization branches, allowing them to apply theoretical knowledge in practical settings.[24] Additionally, increasing opportunities for clinical observation and organizing targeted courses or seminars on career planning could help address this information gap. No fear of missing out regarding specialization decisions was observed among students who did not wish to specialize, as their mean FoMOs scores remained below the established cut-off point of 23. This finding is consistent with expectations, as students who are not interested in specialization would not be expected to experience FoMO in this context.

An earlier study[23] found that neither age ($p = 0.083$) nor ethnicity ($p = 0.264$) had a significant effect on the intention to specialize. In contrast, the present study found that, based on the total FoMOs scores, the age group most affected by fear of missing out in specialization decisions was 16–20 years, while the least affected group was 26–30 years. A statistically significant difference was observed, indicating that fear of missing out regarding specialization decisions was significantly lower among participants aged 26–30 compared to those aged 16–20 ($p < 0.001$) and those aged 21–25 ($p = 0.002$). The observed decrease in fear of

missing out with increasing age may be explained by the progression of vocational education and the associated growth in self-confidence.

Studies conducted in the United States[25,26] concluded that gender was not an important determinant in specialty choice, consistent with earlier findings. Although the general consensus in the literature suggests no significant gender differences, the present study found a statistically significant difference. In the Trait subdimension, higher scores among women compared to men suggest that women place greater importance on being as well-equipped and prepared for specialization as their peers. Regarding the total FoMOs scores, it was observed that women experienced fear of missing out in specialization decisions, whereas men did not ($p < 0.05$). Previous research indicates that separately evaluating the State, Trait, and total FoMOs scores provides a more objective understanding of such findings. Supporting this observation, there are studies in the literature reporting statistically significant gender differences in FoMO-related measures ($p < 0.05$).[2]

In a recent study,[23] the most popular career choices among senior-year dental students were Restorative Dentistry (24.1%), Orthodontics (20.7%), and Oral Surgery (13.8%). Similarly, in another study conducted in the United States,[2] Orthodontics was identified as the most preferred specialization. In a study conducted in India,[21] the most preferred fields were Oral Surgery, followed by Orthodontics, and Endodontics. In the present study, the most popular specialization among students was Orthodontics, Oral Surgery, Pediatric Dentistry, Periodontology, Prosthetic Dentistry, Endodontics, Restorative Dentistry, and Oral Diagnosis. Similarly, a study conducted in Türkiye[22] also reported Orthodontics and Oral Surgery as the most preferred specializations. These two fields are generally considered among the most prestigious disciplines in dentistry, often requiring specialist care and intervention.[17] This perception may have influenced students' preferences. In Türkiye, it has recently become common practice for general practitioners to refer complex cases in these fields to specialists. Additionally, Orthodontics is considered one of the highest-paying specialty branches, which may further contribute to students' heightened interest in this field.[22]

Throughout their education, students should be encouraged and supported to broaden their research interests and explore all available career paths. Without such guidance, career choices may be driven not by academic aspirations but by fear of missing out on the achievements of their peers. It would be unrealistic to expect students to find long-term satisfaction or achieve high productivity in their professional lives if their career decisions are based primarily on external pressures rather than informed personal interests.

Several limitations should be acknowledged. The low participation rate may limit the generalizability of the findings. Additionally, some participants may have responded to survey questions in a socially desirable manner, particularly due to the negative emotions associated with FoMO. The topic under investigation may have also influenced participation, as individuals reluctant to invest time, potentially due to FoMO effects, may have chosen not to respond. Conversely, some participants may have provided responses that appeared more socially acceptable, creating a potential paradox in the study results.

The influence of social media, which served as the starting point for this study, was also evident in the selection of the sample. Distributing the survey via social media and drawing the sample population primarily from social media users represents a limitation of the study. Additionally,

given the potentially negative connotations associated with FoMO, some students may have responded to the survey questions in ways they perceived as more socially acceptable,[19] potentially leading to discrepancies between reported FoMO levels and actual experiences. Achieving a higher response rate could help minimize potential selection bias in future studies.

CONCLUSIONS

FoMO appears to be a prevalent phenomenon among dental students. The findings of this study contribute to the existing literature by identifying key variables that influence students' career decision-making. These results can assist educators in better mentoring and counseling students by recognizing the primary factors that impact their career choices and providing more targeted support throughout their academic development.

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