



Original Article

## Factors of life satisfaction and happiness among dentists: A cross sectional study



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### المخلص

**أهداف البحث:** هدفت الدراسة الحالية إلى تحديد مستوى السعادة لدى أطباء الأسنان ومعرفة مدى ارتباطها بالرغبات العاطفية والرضا عن الحياة.

**طرق البحث:** تم إجراء استبانة بين أطباء الأسنان في تركيا باستخدام 25 سؤالاً. تضمنت الاستبانة أسئلة حول العمر والجنس ومكان العمل وسنوات الخبرة ومقياس الرضا عن الحياة المكون من 5 عناصر.

**النتائج:** أكمل المسح 486 طبيب أسنان. لقد وجدنا أن أماكن عمل أطباء الأسنان والقابهم المهنية كانت مرتبطة بدرجة الرضا عن حياتهم. أفاد معظم أطباء الأسنان (373 طبيباً؛ 76.25٪) أنهم يشعرون بالضغط في بيئة عملهم، وكانت المؤسسة التي عملوا فيها مرتبطة بدرجة كبيرة بدرجة الضغط. فيما يتعلق بما إذا كانوا سيوصون بمهنتهم للآخرين، فإن المؤسسة والمسمى الوظيفي والخبرة العملية كانت عوامل مهمة. ارتبطت مؤسسات وألقاب أطباء الأسنان بشكل كبير بالرضا عن الحياة.

**الاستنتاجات:** تشير النتائج إلى أن أطباء الأسنان في تركيا لديهم مستوى منخفض من الرضا عن الحياة مقارنة بأطباء الأسنان في البلدان الأخرى، كما تختلف العوامل المرتبطة بالرضا عن الحياة.

**الكلمات المفتاحية:** طبيب أسنان؛ سعادة؛ الرضا الوظيفي؛ الرضا الشخصي؛ مكان العمل؛ الدراسة الاستقصائية؛ تركيا

### Abstract

**Objectives:** The present study aimed to determine the levels of happiness among dentists and to investigate their

associations with emotional well-being and satisfaction with life.

**Methods:** Dentists in Turkey were surveyed with 25 questions on age, gender, place of work, and years of experience, and a five-item life satisfaction scale.

**Results:** A total of 486 dentists completed the survey. Dentists' workplaces and professional titles were associated with their life satisfaction scores. Most dentists ( $n = 373$ ; 76.25%) reported feeling pressured in their work environment, and the institution where they worked was significantly associated with the degree of pressure ( $p < 0.001$ ). Institution ( $p < 0.001$ ), job title ( $p < 0.001$ ), and work experience ( $p < 0.019$ ) were significant factors in whether they would recommend their profession to others. Dentists' institutions and titles were significantly associated with life satisfaction ( $p < 0.001$ ).

**Conclusions:** Our findings suggest that dentists in Turkey have a low life satisfaction with respect to that of other professionals and dentists from other countries. In addition, the factors associated with life satisfaction vary.

**Keywords:** Dentist; Happiness; Job satisfaction; Life satisfaction; Survey; Turkey; Workplace

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## Introduction

In contemporary Western culture, a commonly held view is that personal happiness is one of the most important values in life. Although many studies have addressed the positive social and physical aspects of happiness, negative social and physical negative aspects of unhappiness also exist. Positive thinking and a higher income provide more opportunities for individuals to achieve goals and receive support from colleagues. Happiness is generally accepted to include at least three components: positive feelings, fewer negative feelings, and life satisfaction. Whereas the former two are emotional and reflect the emotional or hedonistic aspects of happiness, the latter is primarily cognitive and based on an evaluation of current and past life environments.<sup>1–6</sup>

Life satisfaction, one of the three components of happiness, is conceptualized as a cognitive evaluation of one's life.<sup>7</sup> Life satisfaction is synonymous with positive mental health. The World Health Organization (WHO) defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community."<sup>8–10</sup> Happiness can be understood as an inner state of emotion that is obtained when individuals think about their life experiences. The Satisfaction with Life Scale (SWLS) was designed to assess happiness through a similarly understood subjective assessment of life.<sup>11</sup>

Dentistry involves the prevention, diagnosis, and treatment of diseases and disorders of the orofacial region.<sup>12</sup> Dentists can identify many systemic diseases, and symptoms as diverse as infective endocarditis and celiac disease.<sup>13,14</sup> They also play important roles in the early diagnosis and treatment of many precancerous and autoimmune oral mucosa lesions.<sup>15,16</sup> Dentists are trained in many of the necessary medical and surgical skills and play indispensable roles in public health and prevention. However, dentists are frequently exposed to occupational stressors, including emotional interactions with patients. Unsurprisingly, dentists have been reported to have high levels of occupational burnout.<sup>17</sup>

This study aimed to determine the level of happiness among dentists in Turkey and to investigate how happiness is associated with emotional well-being and satisfaction.

## Materials and Methods

A questionnaire form was prepared by three researchers in accordance with the purpose of our study. The questionnaire was specially designed by the researchers in Google Forms<sup>®</sup> and was sent to 4500 dentists via e-mail and social media platforms. The sample size was calculated in the G\*Power program (version 3.1.9.2; Axel Buchner, College of Duesseldorf, Duesseldorf, Germany), and the minimum sample size (effect size: 0.50) was found to be 80 to detect a moderate effect at 95% power. Responses were obtained from 526 dentists, and after exclusion of data from 40 dentists with missing data, a total of 486 dentists were analyzed.

The survey consisted of 25 questions with three sections. In the first section, demographic information, such as age,

gender, institution of employment, and number of years of experience, was determined. In the second section, participants were asked to complete the five-item SWLS.<sup>8</sup> The third section sought participants' views regarding the dental profession, such as stressful situations, adequacy of basic professional training, and professional problems.

Many scales have been developed to measure life satisfaction. The SWLS originally was a brief assessment of a person's overall satisfaction with their life. The SWLS has been adapted into Turkish, and the Turkish version of the scale has been assumed to be linguistically identical to the original scale.<sup>10</sup> The SWLS comprises five items, which are rated on a 7-point Likert scale ranging from 1 (strongly disagree) through 7 (strongly agree). The item ratings are summed to obtain a total score, which ranges from 5 to 35. Higher scores indicate greater life satisfaction.

## Statistical analysis

All analyses were performed in SPSS software (SPSS for Windows version 20.0; SPSS Inc, Chicago, Illinois, USA). Pearson's chi-square and Fisher's exact tests were used to measure the correlations between dentists' life satisfaction and various factors. A logistic regression analysis was performed to determine the associations of age, gender, institution, specialties, monthly income, average number of patients examined per day, and life satisfaction with the number of years in the profession. Kendall's tau-b correlation test was performed. A  $p < 0.05$  indicates statistical significance.

## Results

The demographic data for the participants are presented in Table 1. The number of female dentists ( $n = 288$ ; 59.25%) participating in the study was higher than the number of male dentists ( $n = 198$ ; 40.75%), and the number of general practitioner dentists ( $n = 368$ ; 75.72%) was higher than the number of research assistants ( $n = 91$ ; 18.72%) and specialist dentists ( $n = 27$ ; 5.56%). The number of dentists working in government dental centers ( $n = 278$ ; 57.2%) was higher than that of dentists working in universities ( $n = 96$ ; 19.75%) and private clinics ( $n = 112$ ; 23%). Most participants ( $n = 347$ ; 71.3%) reported earning between 5000 and 10,000 Turkish Lira. The monthly income of dentists with more than 5 years of experience was significantly higher than that of dentists with 5 years of experience or less; specialist dentists earned significantly more than research assistants and general practitioner dentists ( $p < 0.001$ ).

The opinions of the dentists regarding their profession are presented in Table 2. The average number of patients examined, and the number of interventional procedures performed by general practitioner dentists per day varied according to the institutions for which they worked ( $p < 0.001$ ). Most dentists ( $n = 373$ ; 76.25%) who participated in our study reported feeling pressured in their work environment, and the institution type was significantly associated with the degree of pressure ( $p < 0.001$ ). Institution ( $p < 0.001$ ), job title ( $p < 0.001$ ),

**Table 1: Demographic characteristics of dentists participating in this study (n = 486).**

Parameter	Institution			Experience (years)		Qualification			N	%	
	Government Dental Center	Private	University	≤5	>5	General Practitioner	Research Assistant	Specialist Dentist			
Gender	Female	169	58	61	195	93	215	59	14	288	59.25
	Male	109	54	35	101	97	153	32	13	198	40.75
	Total	278	112	96	296	190	368	91	27	486	
Monthly income (Turkish Liras)	<5000	1	16	4	18	3	17	3	1	21	4.32
	5000–9999	211	46	90	229	118	252	87	8	347	71.39
	10,000–14,999	57	20	0	38	39	71	0	6	77	15.84
	15,000–19,999	8	11	1	4	16	16	0	4	20	4.11
	20,000–24,999	1	7	0	4	4	6	0	2	8	1.64
	25,000≥	0	12	1	3	10	6	1	6	13	2.67
Marital status	Total	278	112	96	296	190	368	91	27	486	
	Married	166	34	17	66	151	189	16	15	217	44.65
	Single	105	76	79	227	33	174	75	11	260	53.46
	Widowed	7	2	0	3	6	8	0	1	9	1.85
Is your spouse working?	Total	278	112	96	296	190	368	91	27	486	
	Yes	140	32	18	72	118	155	18	17	190	39.1
	No	138	80	78	224	72	213	73	10	296	60.9
Do you have children?	Total	278	112	96	296	190	368	91	27	486	
	Yes	117	25	6	20	128	129	6	13	148	30.45
	No	161	87	90	276	62	239	85	14	338	69.55
Total	278	112	96	296	190	368	91	27	486		

**Table 2: Opinions of dentists participating in this study regarding the profession (n = 486).**

Parameter	Institution				Experience			Qualification				
	Government Dental Center	Private	University	P-value	≤5	>5	P-value	General Practitioner	Research Assistant	Specialist	P-value	
Average number of examinations per day	0–20	135	107	72	<0.001 <sup>b</sup>	211	103	<0.001 <sup>b</sup>	222	68	24	<0.001 <sup>b</sup>
	21–40	119	4	11		60	74		121	11	2	
	41–60	18	1	9		19	9		19	8	1	
	61≥	6	0	4		6	4		6	4	0	
	Total	278	112	69		296	190		368	91	27	
Average number of interventional procedures per day	0–10	105	97	78	<0.001 <sup>b</sup>	197	83	<0.001 <sup>b</sup>	186	74	20	<0.001 <sup>b</sup>
	11–20	136	12	13		80	81		142	12	7	
	21–30	29	2	3		15	19		31	3	0	
	31≥	8	1	2		4	7		9	2	0	
	Total	278	112	96		296	190		368	91	27	
Do you feel pressure at work?	Yes	239	58	76	<0.001 <sup>a</sup>	223	150	0.358 <sup>a</sup>	289	71	13	0.001 <sup>a</sup>
	No	39	54	20		73	40		79	20	14	
	Total	278	112	96		296	190		368	91	27	
Would you recommend your job?	Yes	45	41	45	<0.001 <sup>a</sup>	91	40	0.019 <sup>a</sup>	77	42	12	<0.001 <sup>a</sup>
	No	233	71	51		205	150		291	49	15	
	Total	278	112	96		296	190		368	91	27	
Is undergraduate education sufficient?	Yes	170	53	42	0.003 <sup>a</sup>	140	125	<0.001 <sup>a</sup>	207	40	18	0.046 <sup>a</sup>
	No	108	59	54		156	65		161	51	9	
	Total	278	112	96		296	190		368	91	27	
What do you think about the future professional problem?	No-upgrade	27	6	8	0.270 <sup>a</sup>	19	22	0.002 <sup>a</sup>	32	7	2	0.097 <sup>b</sup>
	Unemployment	220	98	82		258	142		301	80	19	
	Malpractice	31	8	6		19	26		35	4	6	
	Total	278	112	96		296	190		368	91	27	

<sup>a</sup> Results of Pearson chi square test.<sup>b</sup> Results of Fisher's exact test.

**Table 3: SWLS scores of dentists participating in this study.**

	Parameter	N	Average age	SWLS score	P-value <sup>a</sup>
Institution	Government Dental Center	278	33.43 (7.90)	12.53 (6.04)	<0.001
	Private	112	28.36 (5.50)	17.54 (7.58)	
	University	96	26.09 (2.33)	18.61 (2.09)	
Experience (years)	≤5	296	26.44 (2.53)	14.99 (6.77)	0.377
	5>	190	37.62 (7.11)	14.72 (7.60)	
Qualification	General Practitioner	368	31.70 (7.74)	13.62 (6.54)	<0.001
	Research Assistant	91	26.14 (2.31)	18.74 (6.75)	
	Specialist	27	34.40 (5.48)	19.14 (9.23)	

<sup>a</sup> Results of Kruskal–Wallis test.

**Table 4: Correlation analysis of SWLS scores and factors influencing dentists' participation in this study.**

	Qualification	Institution	Average number of examinations per day	Average number of interventional procedures per day	Experience
SWLS score	0.241**	0.241**	-0.084*	-0.090*	-0.034

\*Correlation is significant at the 0.05 level (two-tailed); \*\*Correlation is significant at the 0.01 level (two-tailed).

**Table 5: Multivariate linear regression analysis of the Subjective Happiness Scale (SHS), according to various parameters.**

Parameter		Coefficient ( $\beta$ )	Standard error	95% CI	P
Qualification	General Practitioner Dentist	0.030	0.589	1.25–1.35	0.959
	Research Assistant				
	Specialist Dentist*				
Gender	Male	1.304	0.553	1.55–1.64	0.019
	Female*				
Workplace	Government Dental Center	2.881	0.459	1.55–1.70	<0.001
	Private Dental Clinic				
	University*				
Monthly income (TL)	<5000	2.029	0.302	2.27–2.43	<0.001
	5000–9999				
	10,000–14,999				
	15,000–19,999				
	20,000–24,999				
Marital status	>25,000*				
	Married	-1.202	0.812	1.52–1.62	0.140
	Single				
Partner working	Divorced*				
	Yes	0.439	0.780	1.57–1.65	0.574
Children	No*				
	Yes	-0.673	0.719	1.65–1.74	0.350
Daily examination	No*				
	0–20	0.138	0.422	1.39–1.51	0.743
	21–40				
	41–60				
Daily interventional	61 and over*				
	0–10	-0.035	0.615	1.97–2.05	0.954
	11–20				
	21–30				
Mobbing	31 and over*				
	Yes	2.736	0.647	1.19–1.27	<0.001
	No*				
Recommend dentistry	Yes	-5.098	0.622	1.69–1.77	<0.001
	No*				
Undergraduate dentistry education sufficiency	Yes	-1.206	0.526	1.41–1.50	0.022
	No*				

\*Reference parameter, TL; Turkish Liras, CI; confidence interval.

and work experience ( $p < 0.019$ ) were significant factors in whether dentists recommended their profession. Among the dentists participating in our study, 79.1% of those working in government dental centers, 87.5% of those working in the private sector, and 85.4% of those working in universities believed that unemployment will be the most important future problem in dentistry. Moreover, 81.7% of general dentists, 87.9% of research assistants, and 70.3% of specialists indicated that the primary problem will be unemployment in the future.

The SWLS scores of dentists and their associated factors are presented in Table 3. All dentists reported being less satisfied (mean score: 14.89). Dentists' institutions and titles were significant factors associated with life satisfaction ( $p < 0.001$ ), whereas work experience was not significantly associated ( $p < 0.377$ ). The life satisfaction levels of dentists working in universities were higher than those of dentists working in private hospitals and government dental centers. Dentists working in government dental centers reported being dissatisfied (mean score: 12.53), whereas dentists working in universities (mean score: 18.61) and private clinics (mean score: 17.57) reported being slightly dissatisfied.

The scores on the SWLS and its correlated factors are shown in Table 4. Life satisfaction scores had weak positive correlations with job titles and the institutions where the dentists worked ( $r = 0.241$ ). Meanwhile, life satisfaction scores had weak negative correlations with the number of daily examinations ( $-0.084$ ) and interventional procedures performed ( $r = -0.09$ ).

The results of the multiple linear regression analyses are presented in Table 5. Dentists' gender, institution, monthly income, mobbing (feeling psychological pressure in working), recommending their profession, and finding basic education sufficient were significant predictors of SWLS scores. Factors such as being divorced, having no children, and treating more than 30 patients per day were associated with lower life satisfaction; moreover, dentists with low life satisfaction were five times less likely to recommend their profession. Working at a university increased life satisfaction by 2.8 times, whereas a monthly income of more than 25,000 Turkish Lira increased this satisfaction by 2 times.

## Discussion

A person's quality of life is based on the gap between self-created standards and perceived living environments. Determining the life satisfaction of dentists is important because they are essential for public health; therefore, efforts to increase their life satisfaction should be made.<sup>18,19</sup>

Unemployment has a negative effect on life satisfaction, and this effect is more pronounced among males than females.<sup>20</sup> In our study, most general practitioner dentists (82.3%) indicated unemployment as the main future professional problem. In Turkey, the establishment of numerous dental schools is not compatible with the principles of human resource planning in the field of dentistry. Furthermore, student ratios have shown an alarming increase.<sup>21</sup> The number of dentistry faculties in

Turkey has been reported to increase from 19 in 2002 to 103 in 2021.<sup>22</sup> These results are consistent with our study findings.

The profession of dentistry is ranked by Forbes as one of the top two careers.<sup>23</sup> The annual income of dentists varies among countries. Whereas the average annual income of dentists in the USA in 2009 was 192,680 dollars in a study by Vujicic et al.,<sup>24</sup> in our study the proportion of dentists with an average annual income between 60,000 and 120,000 Turkish Liras (71.39%) made up the majority. Although this result leads us to believe that annual income is an important factor in life satisfaction, the SWLS scores were very close to those of specialist dentists, despite the lower average monthly income of research assistants. The psychologist (and Nobel laureate in economics) Daniel Kahneman has suggested that the reason why people continue to believe money makes them happier is that the pursuit of money leads to traditional achievements such as a large house, desirable car, and higher social status. A person's meaning and purpose in life are more strongly correlated with long-term happiness. Our findings suggest that life satisfaction is dependent not only on financial income but also the career development of dentists.<sup>25,26</sup>

For centuries, happiness has been considered an essential part of human life. The ancient Greek philosopher Aristotle (384–322 BC) believed that happiness is the ultimate motivation for people's decisions and actions.<sup>27</sup> The United Nations and various researchers have recognized the importance of happiness at not only an individual level but also the public level. In their study examining 21 countries, Alhaji et al.<sup>6</sup> have found that the life satisfaction of general practitioner dentists varies among countries. Whereas Alhaji et al. have reported a mean SWLS score of general practitioner dentists in Turkey of 22.05, this score was 14.89 in our study. According to the survey responses in the study by Alhaji, dentists may work together in private clinics and public hospitals. Although Alhaji et al. found that work experience was significantly associated with life satisfaction ( $p < 0.001$ ), this factor was not significantly associated with life satisfaction in our study ( $p = 0.377$ ). Increased workload, stress, and loss of income during the COVID-19 pandemic, as well as the smaller sample size in the study by Alhaji et al. ( $n = 96$ ) than our study may explain these differences.

We believe that dentists who perform many procedures cannot establish sufficient rapport with their patients, thus placing pressure on them and decreasing the likelihood of dentists recommending their profession, as a result of low life satisfaction. This finding was due to the negative correlation between life satisfaction and the number of examinations and interventional procedures performed per day in our study.

Happiness is known to be a major factor in the efficiency of the health system.<sup>28</sup> According to the WHO, one of the six building blocks of health systems is the health workforce.<sup>29</sup> However, no recent study has measured the life satisfaction of dentists in Turkey. In a study conducted by Barak et al.<sup>30</sup> in Israel, the mean SWLS score of 223 physicians (131 psychiatrists and 92 primary care physicians) was 23.6. In the study by Dem et al. on 110 physicians (mean age 36.9 years; 28 women and 82 men) in Bhutan, the mean SWLS score was 23.5.<sup>31</sup> In both these studies, the mean SWLS scores of medical doctors were consistent.

According to the 2019 data from the Presidential Human Resources Office of the Republic of Turkey, 82.6% of dentists working in the country have a monthly income of less than 4500 Turkish Liras, whereas all medical faculty graduates have a monthly income of more than 4500 Turkish Liras.<sup>32</sup> In our study, all general practitioner dentists had a lower life satisfaction than medical doctors in Turkey. However, we believe that more studies are needed on the life satisfaction of medical doctors in Turkey.

The present study has several limitations. First, it was conducted on general practitioner dentists in Turkey. Although questionnaires were sent to 4500 dentists, the response rate was very low. A need exists for more comprehensive and participatory studies in Turkey and other countries.

### Conclusions

The life satisfaction level of dentists in Turkey is relatively low. Better conditions for career development should be fostered to improve dentists' life satisfaction. In addition, dentists' annual incomes should be increased, and working conditions should be improved.

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### Conflict of interest

The authors have no conflicts of interest to declare.

### Ethical approval

This study was approved by the Research Ethics Committee of the Ordu University (registration number: 2021/250; approval date: 19 November 2021).

### Consent

Informed consent was provided by all participants.

### Authors contributions

SKB and FA participated in designing the study. SKB and FA participated in generating the data for the study. SKB and FA participated in gathering the data for the study. SKB, FA, and RT participated in the analysis of the data. SKB and FA wrote most the original draft of the paper. SKB, FA, and RT participated in writing the paper. FA has had access to all the raw data of the study. SKB, FA, and RT reviewed the pertinent raw data on which the results and conclusions of this study are based. SKB, FA, and RT have approved the final version of this paper. SKB ensures that all individuals who meet the journal's authorship criteria are included as authors of this paper. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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