



# WHAT BRINGS PROFESSIONAL (DIS)SATISFACTION IN DENTISTRY: A SELF-ASSESSMENT OF WORK ENVIRONMENTAL FACTORS AND ORGANIZATIONAL COMMUNICATION

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### ABSTRACT:

**Purpose:** To investigate the influence of self-assessed working environment factors and organizational communication on professional satisfaction among dentists in Bulgaria.

**Material/Methods:** A self-administered anonymous questionnaire consisting of 37 items about socio-demographic characteristics, motivation, work environment and economic factors was mailed to a group of 1427 dentists from 107 cities and villages in Bulgaria. Job satisfaction was assessed by using a three-point scale – satisfied, partly and dissatisfied. To search for significant associations statistical package, IBM SPSS Statistics 25.0 was used. The significance level was set at  $p < 0.05$ .

**Results:** A total of 436 dentists provided duly completed questionnaires (response rate=30.5%). Type of clinical patient-centered activities, availability of dental assistants, working conditions (dental equipment and supplies), and non-clinical activities (sanitary and hygienic duties, document workflow, dental practice management, financial planning, etc.) were significantly associated with job satisfaction ( $p < 0.05$ ). Working hours, proper planning of the working schedule, and dentist-patient interactions were not found to be related to levels of professional satisfaction ( $p \geq 0.05$ ).

**Conclusions:** Dentists working under unsatisfactory conditions, without a dental assistant employed, those working only in their specialty and performing sanitary-hygienic and administrative activities, were most likely to be dissatisfied with their jobs.

**Keywords:** dentists, job satisfaction, organizational communication, work environmental factors,

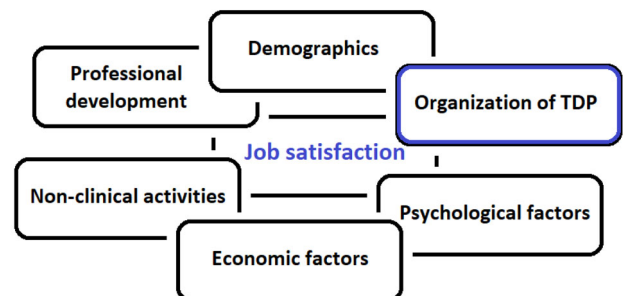
### INTRODUCTION

Issues related to job satisfaction have been the subject of extensive the discussions in many studies. The relevance of the problem is important since, in modern society, professional satisfaction occupies a key role in the promotion of a positive working environment, improving working conditions and work output, employee growth and goal attainment [1].

Job satisfaction reflects the importance that each person attaches to his or her own occupation. It is believed that the happier and more satisfied people are those who work what they have chosen by themselves. The model of work aims to achieve satisfaction and methods involving the diversification, growth, and enrichment of the profession. In this aspect, Balzer et al. described job satisfaction as: “the attitude a working person has towards his/her work or work-related experiences in relation to past experiences, present expectations or available alternatives” [2]. Additionally, professional satisfaction can also be defined as: “a pleasant feeling that results from the perception that one’s work fulfils or enables the realization of important professional goals” [3].

In dentistry, a key point in discussing job satisfaction is to determine the main factors influencing it. Based on data from the pre-existing literature [4], these specific determinants could be presented as follows (fig. 1.):

**Fig. 1.** Job satisfaction in dentistry and its associated factors.



Note: TDP – Treatment Diagnostic Process

A particularly important aspect of the discussion about dental professional satisfaction is its association with the factors of the working environment or, more specifically, the organization of the treatment-diagnostic process (TDP). The latter, in turn, unites activities that are disparate in nature, of which the type of activities performed in the practice, dental equipment and furniture, time management, work with auxiliary staff as well as communications in the dental practice deserve mandatory consideration.

Newton & Gibbons conducted a postal survey of 227 dental therapists, 2251 dental hygienists and 970 dental practitioners and found that the latter demonstrated lower levels of professional satisfaction compared to the other groups of dental professionals [5]. According to the authors, dissatisfaction with work was attributed to a number of socio-demographic factors, such as age, gender, and location of the practice, as well as to differences in the type and volume of activities performed in the dental office. Another study among dental hygienists indicated that professionals with a wider range of clinical activities (prevention, periodontal services, etc.) were significantly less satisfied compared to those who performed their traditional duties [6].

Besides direct treatment-diagnostic activities related to the provision of dental services, successful dental practice requires a combination of these activities with those that do not directly concern clinical work with patients - management, financing, and administration of dental practice. It was found that dentists encountered difficulties in practicing their profession and, at the same time, coping with their administrative duties. This might lead to decreased productivity and increased stress levels [7]. Wells & Winter suggested that the most significant prerequisites for satisfaction were related to dental profession characteristics - provision of dental services and the results achieved thereby. Business-related activities such as dental practice management and financial planning were cited as less satisfactory aspects [8]. Similarly, Shugars et al. indicated that practice management, risk of malpractice, level of income and the amount of free time were the sources of greatest dissatisfaction among dentists. The authors described the profile of the doctors most satisfied with the profession, considering the various aspects of their activity, namely - these were people who had higher income, they were older, attended more continuing education courses and worked with more support staff [9]. Since work with dental auxiliaries has been an essential attribute of the working environment, its importance and associations with dentists' satisfaction were also suggested several times in the literature [10,11].

Other key aspects of the organizational climate in every dental practice are the communication skills of the dentists at various levels [12-17]. It has been well comprehended that proper communication is essential for correct diagnosis, which depends not only on accurate assessment of physical symptoms but also on the determination of an aetiology related to psychological and social genesis, which, in turn, determines a different approach of the doctor. Moreover, effective communication increases the den-

tist's competence and self-confidence, patient satisfaction and, ultimately, the practitioner's personal professional satisfaction with the work performed [18-20].

## OBJECTIVES

Given the above, the aims of this study were to investigate if there was an association of dentists' job satisfaction with some elements of the working environment (such as type of clinical and non-clinical activities performed, duration and planning of the working schedule, use of auxiliary staff, dental equipment and supplies, etc.) as well as to assess the impact of dentists' organizational communication on the levels of their career satisfaction.

## MATERIALS AND METHODS

A self-administered questionnaire consisting of 37 items about socio-demographic characteristics, motivation, work environment and economic factors was mailed to a group of 1427 dentists from 107 cities and villages in Bulgaria. The following inclusion criteria were applied to all study participants: being a dentist who voluntarily agreed to participate in the survey and having at least 1 year of work experience. Therefore, newly graduated dentists were excluded from the present investigation. A random sampling technique was used to reach the sample participants.

The study was approved by the local ethics committee of the Medical University-Sofia and was in full accordance with the ethical standards described in the Helsinki Declaration of 1975, as revised in 2013. The respondents were explained the purpose of the survey, its possible results and implications, the time involved, assessment of minimal risk and contact for questions prior to completing the questionnaire. Confidentiality of surveyed participants was ensured, and no personal identifying or sensitive information was gathered. Additionally, no incentives for taking part in the study were offered. Participation was anonymous and voluntary, therefore, completion and return of the questionnaire was considered as written implied consent to participate in the survey.

An anonymous questionnaire consisting of 37 questions was used to implement the study's objectives. The questions were about socio-demographic characteristics, motivation for choosing dentistry as a career, work environment and economic factors, opportunities for professional development and career breaks, free time and hobbies, professional planning, and intention for retirement. The final group of questions addressed the level of dental job satisfaction. In this study, professional satisfaction was assessed by using a three-point scale - completely satisfied, partly satisfied, and dissatisfied. With respect to the aim of the current paper, the authors will consider in further details the relationship between dentists' self-assessment of work environment factors and the levels of their job satisfaction.

The data obtained was analyzed with IBM SPSS Statistics 25.0 using standard descriptive statistics, graphical analysis, alternative analysis, chi-square test and Fisher's exact test. Frequencies and percentages were calculated to present the basic outcomes of the research. The level of significance was set at  $p < 0.05$ .

## RESULTS

A total of 436 dentists provided duly completed questionnaires (response rate=30.5%). Respondents were divided into four age groups as follows: up to 35 years (n=144, 33%), 36-45 (n=136, 31.2%), 46-55 (n=88, 20.2%), 56+ (n=68, 15.6%). Two hundred and forty-six of them were females (n=246, 56.4%), and 190 (43.6%) were males. The major proportion of them worked in big cities of the country – 190 (43.6%). The remainder practiced dentistry in towns – 92 (21.1%), capital city Sofia (center) – 80 (18.3%), capital city Sofia (residential area) – 52 (11.9%) and villages – 22 (5.1%). Almost 2/3 of the dentists – 290 (66.5%) – worked in their own offices, 132 (30.3%) – in rented dental offices and only 14 (3.2%) practiced dentistry in both own and rented dental offices.

Data analysis showed that the most frequently indicated clinical activity (47%) was “I accept all patients, regardless of the clinical case”, followed by “I avoid patients with severe systemic disorders” with 24%. The least (12%)

were dental practitioners with activities related only to their specialty. This group demonstrated a significantly lower relative share of partial and complete satisfaction ( $p<0.05$ ). Regarding non-clinical activities associated with the greatest expenditure of time and mental burden, the study participants significantly more often (82%) indicated administrative than sanitary-hygienic duties. The simultaneous presence of sanitary and hygienic duties (due to the lack of an assistant) and administrative duties - document workflow, dental practice management, financial planning, etc. was mostly associated with a lack of job satisfaction ( $p<0.05$ ). Additionally, almost half of the dentists (43.6%) did not work with auxiliary staff, which was also related to a significantly higher relative share of dissatisfaction among this group of participants ( $p<0.05$ ). Similar results were observed for the respondents working under unsatisfactory conditions with respect to dental equipment and supplies ( $p<0.05$ ) – Table 1.

**Table 1.** Frequency distribution of dentists according to professional satisfaction and work environment factors (part I)

Variables	Level of job satisfaction			Total N, (%)	p-value
	Dissatisfied N, (%)	Partly satisfied N, (%)	Satisfied N, (%)		
<b>Clinical patient-centered activities</b>					
Activities related only to dentists' specialty	<b>4(25.0)<sup>a</sup></b>	<b>2(1.7)<sup>b</sup></b>	40(15.2) <sup>a</sup>	46(11.6)	<b>p&lt;0.05</b>
A rarely performed dental surgery	4(25.0) <sup>a</sup>	18(15.5) <sup>a</sup>	48(18.2) <sup>a</sup>	70(17.7)	p>0.05
Avoidance of patients with severe systemic disorders	4(25.0) <sup>a</sup>	40(34.5) <sup>a</sup>	50(18.9) <sup>a</sup>	94(23.7)	p>0.05
Acceptance of all patients, regardless of the clinical case	4(25.0) <sup>a</sup>	56(48.3) <sup>a</sup>	126(47.7) <sup>a</sup>	186(47.0)	p>0.05
Total N, (%)	16(100.0)	116(100.0)	264(100.0)	396(100.0)	
<b>Non-clinical activities</b>					
Sanitary and hygienic	2(14.3) <sup>a</sup>	10(8.3) <sup>a</sup>	18(7.1) <sup>a</sup>	30(7.7)	p>0.05
Administrative	6(42.9) <sup>a</sup>	<b>88(73.3)<sup>b</sup></b>	<b>204(80.3)<sup>b</sup></b>	298(76.8)	<b>p&lt;0.05</b>
Sanitary and hygienic + Administrative	<b>6(42.9)<sup>a</sup></b>	22(18.3) <sup>b</sup>	32(2.6) <sup>b</sup>	60(15.5)	<b>p&lt;0.05</b>
Total N, (%)	14(100.0)	120(100.0)	254(100.0)	388(100.0)	
<b>Work with auxiliary staff</b>					
No	<b>12(75.0)<sup>a</sup></b>	78(60.0) <sup>a</sup>	100(34.5) <sup>b</sup>	190(43.6)	<b>p&lt;0.05</b>
Yes	4(25.0) <sup>a</sup>	52(40.0) <sup>a</sup>	<b>190(65.5)<sup>b</sup></b>	246(56.4)	<b>p&lt;0.05</b>
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)	
<b>Dental equipment and supplies</b>					
Unsatisfactory/not good enough	<b>4(25.0)<sup>a</sup></b>	2(1.5) <sup>b</sup>	4(1.4) <sup>b</sup>	10(2.3)	<b>p&lt;0.05</b>
Good	8(50.0) <sup>a</sup>	96(73.8) <sup>a</sup>	160(55.2) <sup>a</sup>	264(60.6)	p>0.05
Very good/excellent	4(25.0) <sup>ac</sup>	32(24.6) <sup>a</sup>	<b>126(43.4)<sup>bc</sup></b>	162(37.2)	<b>p&lt;0.05</b>
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)	

Note: the same letters on the horizontal lines mean the absence of a statistically significant difference, and the different letters - the presence of such ( $p<0.05$ )

Table 2 indicates that there were no statistically significant associations between levels of job satisfaction and the rest of the work environment factors analyzed in the present investigation – duration and proper planning of the working schedule, possibility of consultation with a specialist regarding patients' treatment, and dentist-patient relationships ( $p\geq 0.05$ ).

**Table 2.** Frequency distribution of dentists according to professional satisfaction and work environment factors (part II)

Variables	Level of job satisfaction			Total N, (%)
	Dissatisfied N, (%)	Partly satisfied N, (%)	Satisfied N, (%)	
<b>Working time (hours per day)</b>				
Up to 3	2(12.5) <sup>a</sup>	4(3.1) <sup>a</sup>	14(4.8) <sup>a</sup>	20(4.6)
4-6	6(37.5) <sup>a</sup>	64(9.2) <sup>a</sup>	86(29.7) <sup>a</sup>	156(35.8)
7-8	2(12.5) <sup>a</sup>	40(30.8) <sup>a</sup>	108(37.2) <sup>a</sup>	150(34.4)
> 8	6(37.5) <sup>a</sup>	22(16.9) <sup>a</sup>	82(28.3) <sup>a</sup>	110(25.2)
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)
<b>Proper planning of the working schedule</b>				
No	2(12.5) <sup>a</sup>	10(7.7) <sup>a</sup>	16(5.5) <sup>a</sup>	28(6.4)
Sometimes	4(25.0) <sup>a</sup>	40(30.8) <sup>a</sup>	60(20.7) <sup>a</sup>	104(23.9)
Yes	10(62.5) <sup>a</sup>	80(61.5) <sup>a</sup>	214(73.8) <sup>a</sup>	304(69.7)
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)
<b>Possibility of specialist consultation regarding patients' treatment</b>				
No	2(12.5) <sup>a</sup>	16(12.3) <sup>a</sup>	22(7.6) <sup>a</sup>	40(9.2)
It depends on the clinical case	8(50.0) <sup>a</sup>	58(4.6) <sup>a</sup>	114(39.3) <sup>a</sup>	180(41.3)
Yes	6(37.5) <sup>a</sup>	56(3.1) <sup>a</sup>	154(53.1) <sup>a</sup>	216(49.5)
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)
<b>Dentist-patient relationships</b>				
To a great extent burdensome and conflicting	2(12.5) <sup>a</sup>	6(4.6) <sup>a</sup>	14(4.8) <sup>a</sup>	22(5.0)
Mostly constructive and positive	14(87.5) <sup>a</sup>	124(95.4) <sup>a</sup>	276(95.2) <sup>a</sup>	414(95.0)
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)

Note: the same letters on the horizontal lines mean the absence of a statistically significant difference, and the different letters - the presence of such ( $p \geq 0.05$ )

Considering interactions of dentists with auxiliary staff members and their colleagues (younger or older dentists), no statistically reliable conclusions could be drawn about the existence of a relationship with professional satisfaction (Table 3). However, it can be seen that ethical relationships with both younger and older colleagues were most strongly associated with overall job satisfaction. In addition, dentists who preferred helping and passing on their experience to their younger colleagues were characterized by the

highest degree of partial professional satisfaction. The group of dentists who did not relate to younger colleagues had the highest level of professional dissatisfaction. Similarly, it can be suggested that avoiding contact with older colleagues was associated with a lack of job satisfaction. Respect for age and the ability to learn from the experience of older colleagues characterized the group of dentists with the highest degree of partial professional satisfaction.

**Table 3.** Frequency distribution of dentists according to professional satisfaction and interactions with their colleagues and auxiliary staff members

Variables	Level of job satisfaction			Total N, (%)
	Dissatisfied N, (%)	Partly satisfied N, (%)	Satisfied N, (%)	
<b>Interactions with auxiliary staff members</b>				
Stress-inducing	0(0)	<b>10(13.5)</b>	6(2.9)	16(5.6)
Collegial	<b>4(66.7)</b>	48(64.9)	124(59.6)	176(61.1)
Positive & constructive	<b>4(66.7)</b>	18(24.3)	94(45.2)	116(40.3)
Total N, (%)	6(100.0)	74(100.0)	208(100.0)	288(100.0)

<b>Relationships with younger colleagues</b>				
I don't contact colleagues younger than me	0(0)	4(3.1)	<b>18(6.2)</b>	22(5.0)
I have no relation to younger colleagues	<b>4(25.0)</b>	14(10.8)	20(6.9)	38(8.7)
I help them and pass on my experience	6(37.5)	<b>66(50.8)</b>	142(49.0)	214(49.1)
Ethical	8(50.0)	76(58.5)	<b>174(60.0)</b>	258(59.2)
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)
<b>Relationships with older colleagues</b>				
I rarely interact with older colleagues	<b>6(37.5)</b>	18(13.8)	30(10.3)	54(12.4)
I am respected by their age	2(12.5)	<b>22(16.9)</b>	36(12.4)	60(13.8)
Ethical	4(25.0)	64(49.2)	<b>162(55.9)</b>	230(52.8)
I try to learn from their experience	6(37.5)	<b>78(60.0)</b>	140(48.3)	224(51.4)
Total N, (%)	16(100.0)	130(100.0)	290(100.0)	436(100.0)

*Note: percentages sum exceeds 100 as some respondents gave more than one answer, therefore,  $\div 2$  tests and Fisher's exact test cannot be applied.*

## DISCUSSION

Job satisfaction plays a key role in effective human resource management, future employment, and retaining dentists [21, 22]. Along with professional careers, it is an important determinant of quality of life, health, and wellbeing [23, 24]. In their systematic review, Kaki et al. suggested a wide range of determinants, including macro-factors (ex., healthcare systems and regulation), meso-factors (ex., job specification and workplace characteristics), and micro-factors (ex., personal aspects, and professional relationships) being linked with dental care professionals (DCPs) satisfaction and wellbeing [24]. The main aim of this study was, therefore, to examine working conditions and to analyze the way in which certain work environmental factors influence the job satisfaction level among dentists.

Examining workplace characteristics of dental doctors in terms of the length of the working day and the planning of the work schedule, we found that the most frequently practiced working hours were 4 to 6 hours, followed by 7 to 8 hours, however,  $\frac{1}{4}$  of the dentists worked over 8 hours a day. Additionally, as shown by our results, most of them (69.7%) regularly planned their work schedule. Analyzing the influence of these factors, we did not establish a statistically significant relationship with professional satisfaction, both in terms of duration and planning of working hours. These outcomes contrasted with several studies that found working hours to have significant effects on overall job satisfaction [25-27]. Anzar et al. indicated that long working hours and stress levels were statistically and positively associated, which ultimately led to decreased job satisfaction [28].

Results also suggested that almost half of participants accepted all patients, regardless of clinical case. Only 12% reported practicing clinical activities related only to their dental specialty. Data analysis showed that dentists working only in their specialty had lower professional satisfaction as compared with general dental practitioners, which was in line with another study on predictors of job satisfaction in dental professionals performed in the Bosnia and Herzegovina Federation [29]. However, a growing body of

research has evidenced that in cases where dental professionals perform more heterogeneous activities and have a greater number of clinical duties, they are more likely to be dissatisfied with their jobs [5, 6, 23, 28, 30]. Regarding non-clinical activities that do not directly concern patients' treatment (management, administrative and sanitary-hygienic duties), our investigation confirmed that their performance by the dentists was associated to the highest degree with overall professional dissatisfaction [7-9, 30].

The present findings showed that more than half of the dentists (56%) worked with auxiliary staff. According to pre-existing literature, employment of dental assistants and improving this aspect of the work environment is associated with lower career dissatisfaction and extended careers for dentists [9-11, 29-31]. We obtained a statistically significant higher level of overall job satisfaction among dentists with a dental assistant employed than dentists without an assistant who were primarily dissatisfied. Contrariwise, Emrani et al. reported that the number of dental assistants, along with the number of colleagues, age, work experience, and monthly number of patients, had no significant correlation with dentists' job satisfaction [32]. Although our results indicated a positive tendency towards working with dental auxiliaries, it was clearly demonstrated that many participants (almost half of them) did not hire dental assistants. Similar issues associated with difficulty hiring assistants were suggested in a study on the career satisfaction of dentists and dental hygienists [31]. Like the author of the paper, we can still argue that these difficulties are mainly related to a number of dentist characteristics, including rural practice, solo ownership, and remuneration.

Regarding the relationship between professional satisfaction and working conditions (dental equipment used in the practice), more than  $\frac{1}{3}$  of the respondents assessed these conditions as excellent and only 2% - as unsatisfactory. Furthermore, it was not surprising that overall job satisfaction had higher levels among those working under excellent conditions, while the other group was dominated by lack of satisfaction. In light of these findings, Le VNT et al. and



Rederiene G, et al. indicated similar results [30, 33].

Another factor that contributes to higher levels of job satisfaction is effective workplace communication [4, 18]. As a leading hygiene background determinant, improving communication skills leads to higher levels of satisfaction. Moreover, it contributes to increasing patient satisfaction with the treatment provided and ultimately, the quality of dental services [19, 20, 34]. Communication in dental practice takes place at different levels – patients, colleagues, staff, society [4, 17]. Our results showed that 95% of the surveyed dentists had constructive and positive relationships with their patients – a serious prerequisite for reaching higher levels of job satisfaction. However, a significant association between these variables was not found. Similar outcomes were obtained regarding dentists' communication with support staff. Although most respondents reported having collegial relationships, an essential link of professional satisfaction with the type of staff relationships was not established. And finally, in more than half of the cases, the study participants described their relationships with both younger and older colleagues as ethical. Even though we considered only the descriptive perspective of the current analysis, it was found that ethical relations with colleagues were a source of a higher level of overall professional satisfaction. In general, excluding interactions with “difficult” dental patients [35, 36], multiple lines of evidence have suggested that predictors of satisfaction are greatly connected to factors related to interpersonal relationships (with patients, colleagues, staff) [22, 25, 26, 30, 33, 34, 37, 38].

#### Limitations

The current study provided valuable insights on the levels of dentists' job satisfaction and its associated factors

regarding working environment. However, it had some limitations. First, results should be interpreted with caution due to the low response rate and in this aspect, the number of non-responders might have undermined the power of the study. Second, the cross-sectional design of the present investigation provided only a snapshot in time, therefore future longitudinal studies should be performed to trace these phenomena in time. And third, as professional satisfaction is a complex multi-faceted psychosocial phenomenon, further research focused on more examined variables (such as demographic data, personality traits, economic factors, etc.) is needed to better explore individual's self-assessed levels of job satisfaction and response to stressors in the workplace. Since the latter might significantly influence the risk of burnout development, our next goal will be to investigate the level of both occupational satisfaction and burnout among dentists in a longitudinal perspective.

#### CONCLUSION

Job satisfaction is essential for the recruitment, retention, quality of life and wellbeing of dentists. Practice type (primary or specialized), availability of dental assistants, working conditions (dental equipment and supplies), and non-clinical activities were significantly associated with job satisfaction, whereas working hours, planning of the working schedule, and dentists' interactions with patients, colleagues, and staff were not found related to levels of professional satisfaction. Generally, dentists working under unsatisfactory conditions, without a dental assistant employed, those working only in their specialty and performing sanitary-hygienic and administrative activities were most likely to be dissatisfied with their jobs.

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