

# Self-perceived Stress and Job Satisfaction among Lebanese Dentist

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## Abstract

**Background:** Dentists face numerous daily pressure that can lead to stress, as are most people who work in the health care field.

**Objectives:** The aim of this study was to investigate the prevalence of stress among a sample of Lebanese dentists to understand their probable causes and propose solutions to reduce their occurrence.

**Material and methods:** A total of 314 Lebanese dentists, who practiced different specialties of dentistry, after giving verbal consent, completed an anonymous questionnaire that focused on occupational health problem. This study was approved by the ethics committee of Saint-Joseph University (USJ) of Beirut, Lebanon. The statistical analyses were performed using SPSS software for Windows. The alpha error was set to 0.05.

**Results:** The mean age of the participants was 39.2 ( $\pm$  11.66) years (58.6% male). The results showed that 90.8% (n=285) were satisfied with their work, 23.2% (n=73) had sleep disorders, 21.3% (n=67) of Lebanese dentists have relationship problems with dental technician, 14% (n=44) Lebanese dentists have misunderstanding with the assistant, 42.7% (n=134) had concerns related to work accident, 5.7% (n=18) are dealing with aggressive patient, 51.9% (n=163) had payment issue, 3.8% (n=12) have unsatisfied patients, 24.8% (n=78) have anxious patients while 14% (n=44) had financial concerns.

**Conclusions:** Our findings indicate a potential stress of Lebanese dentists, for that we must encourage them to practice sport, cultural and outdoor activities, improve their quality of sleep. In addition, preventive programs should be initiated to help professionals to cope with their professional duties without hazardous effects on their mental health.

**Keywords:** Job satisfaction • Stress • Dentist • Workplace

## Introduction

Stress is a subjective sensation with a varied degree of perception [1]. It describes external demands (physical or mental) on an individual's physical and psychological well-being [2,3].

Stress is a state of human psychological conflict arising from external threats that are constantly above or beyond the ability to manage, and an indispensable survival factor for individuals with limited resources in modern life [4].

Research on stress in health professions has mainly focused on doctors and nursing staff with minor studies about dentists, while it is recognized that dentistry is a stressful profession [2,5,6]. Although stress or pressure in a job can have a positive influence by increasing motivation, if it exceeds an individual's ability to manage it can have a negative impact on mental health and well-being and potentially could lead to professional burnout [7,8].

The dental work is a unique social interaction influenced by specific demands of the clinical practice, exposure to an intimate and very sensitive area of the human body, personal characteristics and emotions of a health care provider and its recipient [9].

Dentists face numerous daily workplace challenges, such as working in

uncomfortable positions, high noise levels, defective equipment, variability of treatment outcomes, financial matters, legal hazards, treating difficult patients, coordination of staff members, time and scheduling pressures, administrative responsibilities, periods of prolonged concentration and social isolation [6,10]. Such work stressors may disrupt the physical and mental well-being of dentists, progressively leading to outcomes such as burnout, the development of anxiety, depression, even suicidal thoughts and substance abuse involving alcohol and/or other drugs [5,6,10,11]. In addition, the high occupational stress can reduce work productivity, and lead to poor care for patients, which eventually affect negatively the quality of the public health [12].

Many of the psychological signs of stress manifest themselves as physiological responses. The physical disorder reported most frequently by dentists is lower back pain. Other physical manifestations include headaches, fatigue, dizziness, tachycardia and gastrointestinal problems [13,14]. Among the psychological disorders associated with stress are anxiety and depression [14].

Job satisfaction has been described as the "positive emotional state resulting from the appraisal of one's job or job experience" [15,16]. The perception of high job satisfaction is not only an individual matter for the dentists, but it also provides a positive external outcome for patients and staff, as low job satisfaction is associated with low performance, suboptimal health care delivery, and clinical outcomes of primary care providers [17]. Subsequently, this can lead to loss of continuity of care [15,18].

Several studies have been conducted to evaluate stress and job satisfaction among dentists around the world. In Lebanon such scientific data is insufficient. There has been a lack of research on dentist's occupational stress and mental health state. Therefore, the aim of this study was to evaluate occupational and psychosocial stress, job satisfaction among dentists in Lebanon. A further objective was to evaluate which factors were related to overall stress in Lebanese dentist's life, stress manifestation and stress management.

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## Materials and Methods

A questionnaire focusing on psychosocial stress and job satisfaction of dentists was prepared. This research, which was an observational cross-sectional study, and its consent procedure were approved by the ethics committee of the Saint-Joseph University (USJ) Beirut, Lebanon, in accordance with the World Medical Association Declaration of Helsinki.

The questionnaire was pretested and auto-administrated on a sample of 30 lecturer dentists arbitrarily chosen from the dental school of Saint Joseph University. Changes of this questionnaire which included 50 questions were done agreeing to this pilot study. Thereafter, the enhanced questionnaire was distributed in three languages (Arabic, French and English) to the general dental practitioners (GDPs), the specialists and the lecturers who attended the 3-day francophone symposium organized by USJ in 2014. This questionnaire was auto-administrated by each participant. The inclusion criteria were the Lebanese dentists registered in the Lebanese dental association who accepted to fulfill the questionnaire. The non-Lebanese dentists were not included in the study.

The number of Lebanese and non-Lebanese dentists attending the symposium (including the lecturers) was 1,100. A sample of 350 Lebanese dentists was randomly selected using the random number table generated by hand. The response rate was 90%, as 314 dentists accepted to participate in the study.

The outcome variable of the study was the presence of psychosocial stress (Yes/No), relationship problems with patients (Yes/No), concerns related to work accident (Yes/No), problems with assistant (Yes/No), conflict issues with dental technician (Yes/No), job satisfaction (Yes/No).

The predictor variables of the study were: gender, kind of practice, years of dental practice, mean number of working hours per day, number of tourist trips per year, number of vacation days per year, mean number of sleeping hours per night, addiction (Yes/No), sleep disorders (Yes/No), sick leave (Yes/No), interest for art (Yes/No), rest break between appointments (Yes/No), outdoor activities, cultural activities, leisure activities, sport, listening to music while working.

SPSS for Windows (version 25) was used to achieve the statistical analyses. The level of significance was set at  $p \leq 0.05$ . Mean and standard deviation were Univariate analyses followed by multivariate analyses were executed to assess the factors associated with psychosocial stress, relationship problem, fears related to work accidents and satisfaction. Chi-square tests and Fisher Exact tests were performed for the comparison of percentage. Student t tests and Mann-Whitney tests were used for the comparison of continuous variables. Logistic regression analyses were performed and the explanatory variables with a  $p < 0.200$  were included in the model. Collinearity assumptions were verified and explanatory variables highly correlated were excluded from the model.

## Results

A total of 314 dentists (184 male and 130 female), aged  $39.2 \pm 11.66$  years, completed the questionnaire; 45.9% were general practitioners. The results revealed that 90.8% ( $n=285$ ) were satisfied with their work and 54.8% ( $n=172$ ) had got rest breaks between appointments. Our study showed that 37.3% ( $n=117$ ) always listen to music while working and 69.1% ( $n=217$ ) didn't have any addiction. However, 23.2% ( $n=73$ ) had sleep disorders although the sleeping hours per night was  $6.79 \pm 1.30$  h ( $n=298$ ). Concerning activities, 52.5% ( $n=165$ ) had cultural activities and 60.2% ( $n=189$ ) leisure activities. In the other hand, rarely are the dentists who had practiced outdoors activities 65.9% ( $n=207$ ).

Concerning sports activities, 49.7% ( $n=156$ ) practiced it occasionally and 36.3% ( $n=114$ ) did so frequently. In addition, 51.9% ( $n=163$ ) have had interest for art and 20.4% ( $n=64$ ) had taken sick leave. Our statistics revealed that the number of touristic trip was  $1.57 \pm 1.06$  per year ( $n=266$ ) and the number of vacation days/year was  $7.04 \pm 6.095$  ( $n=55$ ). The mean

number of years of dental practice was  $15.50 \pm 11.18$  years (Range: 0–45 years). The mean number of working hours per day was  $6.99 \pm 2.13$  hours (range 2-15). Common stressors identified as occurring very often or always are presented in (Table 1).

**Table 1.** Common stressors among Lebanese dentists ( $n=314$ )

Psychosocial problems ( $n=314$ )	
Financial	44(14.0%)
Relationship with the neighborhood	8(2.5%)
Relational problem with patients ( $n=314$ )	
Late to appointment	189(60.2%)
Aggressive patient	18(5.7%)
Anxiety of patient	78(24.8%)
Payment issue	163(51.9%)
Forgetfulness of appointment	131(41.7%)
Patient dissatisfaction	12(3.8%)
Concerns related to work accident ( $n=314$ )	134(42.7%)
Misunderstanding with assistant ( $n=314$ )	44(14.0%)
Misunderstanding with dental technician ( $n=314$ )	67(21.3%)

## Results relating to psychosocial stress

The sport was significantly associated with the presence of psychosocial stress; the presence of restrictions was less prevalent among dentists who frequently practiced sport (13.3%) and higher among dentists who did not practice sport (40.7%). In addition, psychosocial restrictions were prevalent among dentists who did not have leisure activities ( $p=0.026$ ) and those with sleep disorders ( $p<0.001$ ). However, the average number of vacation days was significantly lower among dentists with psychosocial restrictions ( $p=0.013$ ) (Table 2).

**Table 2.** Univariate analyses of explanatory variables associated with psychosocial

		Do you have psychosocial stress?		P value
		Yes	No	
Gender	Male	30(18.8%)	130(81.3%)	0.169
	Female	30(25.6%)	87(74.4%)	
General practitioner	Yes	31(24.2%)	97(75.8%)	0.340
	No	28(19.4%)	116(80.6%)	
Listen to music while working	No/rarely	14(16.3%)	72(83.7%)	0.147
	Occasionally/Frequently	45(24.1%)	142(75.9%)	
Physical activity or sport	Never	11(40.7%)	16(59.3%)	0.005
	Occasionally	33(23.7%)	106(76.3%)	
	Frequently	14(13.3%)	91(86.7%)	
Rest breaks between appointments	Yes	30(19.2%)	126(80.8%)	0.234
	No	30(25.2%)	89(74.8%)	
Practice leisure activities	No/rarely	44(24.9%)	133(75.1%)	0.026
	Occasionally/Frequently	12(13.2%)	79(86.8%)	

Practice cultural activities	No/rarely	31(20.3%)	122(79.7%)	0.527
	Occasionally/Frequently	27(23.5%)	88(76.5%)	
Practice activities of full nature	No/rarely	50(23.5%)	163(76.5%)	0.168
	Occasionally/Frequently	8(14.8%)	46(85.2%)	
Interest for art	Yes	36(25.2%)	107(74.8%)	0.181
	No	24(18.5%)	106(81.5%)	
Sick leave	Yes	17(28.3%)	43(71.7%)	0.215
	No	41(20.7%)	157(79.3%)	
Sleep disorders	Yes	27(43.5%)	35(56.5%)	<0.001
	No	33(15.7%)	177(84.3%)	
Addiction	Yes	12(31.6%)	26(68.4%)	0.225
	No	46(22.4%)	159(77.6%)	
Number of years of experience		15.31 ± 11.65	15.30 ± 11.18	0.999

Number of working hours/day		6.98 ± 2.007	6.92 ± 2.189	0.850
Number of tourist trips/year		1.32 ± .992	1.64 ± 1.104	0.057
Number of vacation days/year		19.73 ± 11.008	24.96 ± 18.415	0.013
Average number of sleeping hours/night		6.53 ± 1.286	6.88 ± 1.271	0.068

### Results concerning the relationship problems with patients

The presence of relationship problems with patients was significantly prevalent among dentists without outdoor activities ( $p=0.020$ ) (Table 3).

**Table 3.** Univariate analyses of explanatory variables associated with relationship problems with patients

		Do you have relationship problems with your patients		p value
		Yes	No	
Gender	Male	154(88.0%)	21(12.0%)	0.428
	Female	110(90.9%)	11(9.1%)	
General practitioner	Yes	123(89.1%)	15(10.9%)	0.925
	No	136(89.5%)	16(10.5%)	
Listen to music while working	No/Rarely	83(92.2%)	7(7.8%)	0.245
	Occasionally/Frequently	177(87.6%)	25(12.4%)	
Physical activity or sport	Never	28(90.3%)	3(9.7%)	0.926
	Occasionally	133(88.7%)	17(11.3%)	
	Frequently	99(90.0%)	11(10.0%)	
Rest breaks between appointments	Yes	151(89.9%)	17(10.1%)	0.593
	No	109(87.9%)	15(12.1%)	
Practice leisure activities	No/Rarely	173(90.6%)	18(9.4%)	0.354
	Occasionally/Frequently	80(87.0%)	12(13.0%)	
Practice cultural activities	No/Rarely	138(86.8%)	21(13.2%)	0.156
	Occasionally/Frequently	116(92.1%)	10(7.9%)	
Practice outdoor activities	No/Rarely	207(91.6%)	19(8.4%)	0.020
	Occasionally/Frequently	47(81.0%)	11(19.0%)	
Interest for art	Yes	139(89.1%)	17(10.9%)	0.919
	No	119(89.5%)	14(10.5%)	
Sick leave	Yes	57(90.5%)	6(9.5%)	0.567
	No	188(87.9%)	26(12.1%)	
Sleep disorders	Yes	65(94.2%)	4(5.8%)	0.132
	No	194(87.8%)	27(12.2%)	
Addiction	Yes	36(87.8%)	5(12.2%)	0.809
	No	188(89.1%)	23(10.9%)	
Number of years of experience		15.31 ± 11.060	19.00 ± 12.190	0.084
Number of working hours/ day		6.99 ± 2.102	6.97 ± 2.416	0.953

Number of tourist trips/year		1.58 ± 1.065	1.57 ± 1.207	0.982
Number of vacation days/year		22.81 ± 15.422	28.63 ± 24.922	0.091
Average number of sleeping hours/night		6.73 ± 1.296	7.07 ± .935	0.172

### Results about concerns related to work accident

dentists with fears related to work accidents ( $p=0.034$ ) (Table 4).

The average number of hours of sleep was significantly lower among

**Table 4.** Univariate analyses of explanatory variables associated with concerns related to work accident

		Concerns related to work accident		p value
		Yes	No	
Gender	Male	73(42.7%)	98(57.3%)	0.268
	Female	61(49.2%)	63(50.8%)	
General practitioner	Yes	65(48.1%)	70(51.9%)	0.342
	No	66(42.6%)	89(57.4%)	
Listen to music while working	No/Rarely	43(47.3%)	48(52.7%)	0.781
	Occasionally/Frequently	91(45.5%)	109(54.5%)	
Physical activity or sport	Never	22(68.8%)	10(31.3%)	0.009
	Occasionally	57(39.0%)	89(61.0%)	
	Frequently	51(46.4%)	59(53.6%)	
Rest breaks between appointments	Yes	78(47.0%)	88(53.0%)	0.521
	No	54(43.2%)	71(56.8%)	
Practice leisure activities	No/Rarely	92(48.7%)	97(51.3%)	0.138
	Occasionally/Frequently	37(39.4%)	57(60.6%)	
Practice cultural activities	No/Rarely	72(45.9%)	85(54.1%)	0.722
	Occasionally/Frequently	56(43.8%)	72(56.3%)	
Practice outdoor activities	No/Rarely	99(43.8%)	127(56.2%)	0.629
	Occasionally/Frequently	27(47.4%)	30(52.6%)	
Interest for art	Yes	74(47.1%)	83(52.9%)	0.466
	No	57(42.9%)	76(57.1%)	
Sick leave	Yes	32(50.8%)	31(49.2%)	0.283
	No	91(43.1%)	120(56.9%)	
Sleep disorders	Yes	36(52.9%)	32(47.1%)	0.178
	No	96(43.6%)	124(56.4%)	
Addiction	Yes	18(45.0%)	22(55.0%)	0.843
	No	99(46.7%)	113(53.3%)	
Number of years of experience		14.32 ± 11.006	16.27 ± 11.621	0.150
Number of working hours/day		7.04 ± 2.155	6.92 ± 2.126	0.655
Number of tourist trips/year		1.45 ± .902	1.65 ± 1.193	0.145
Number of vacation days/year		21.85 ± 16.160	24.78 ± 17.482	0.192
Average number of sleeping hours/night		6.62 ± 1.446	6.95 ± 1.181	0.034

### Results related to the problems with the assistant

Conflicting problems with the assistant were significantly associated with the lack of leisure activities ( $p=0.035$ ) and with the number of sick days per year ( $p=0.045$ ) (Table 5).

### Results about the relationship problems with dental technician

The presence of conflicting problems with the prosthetist was less prevalent among dentists who frequently practiced sport (16.4%) and higher among dentists who did not practice sport (38.7%) ( $p=0.026$ ). In addition,

problems with the dental technician were significantly associated with lack of cultural activities ( $p=0.010$ ), sleep disorders ( $p=0.045$ ), the presence of dependence ( $p=0.010$ ). The problems were more frequent among dentists

who take sick leave (317%) compared to those who do not take sick leave (19.2%) ( $p=0.036$ ). Also, the average number of years of experience was significantly smaller among dentists with problems ( $p=0.013$ ) (Table 6).

**Table 5.** Univariate analyses of explanatory variables associated with relationship problems with assistant

		Problems with assistant		p value
		Yes	No	
Gender	Male	31(18.6%)	136(81.4%)	0.069
	Female	13(10.7%)	108(89.3%)	
General practitioner	Yes	22(16.8%)	109(83.2%)	0.591
	No	22(14.5%)	130(85.5%)	
Listen to music while working	No/Rarely	13(15.3%)	72(84.7%)	0.952
	Occasionally/Frequently	31(15.6%)	168(84.4%)	
Physical activity or sport	Never	7(22.6%)	24(77.4%)	0.323
	Occasionally	24(16.8%)	119(83.2%)	
	Frequently	13(12.1%)	94(87.9%)	
Rest breaks between appointments	Yes	23(14.4%)	137(85.6%)	0.574
	No	21(16.8%)	104(83.2%)	
Practice leisure activities	No/Rarely	32(17.5%)	151(82.5%)	0.091
	Occasionally/Frequently	9(9.8%)	83(90.2%)	
Practice cultural activities	No/Rarely	22(14.6%)	129(85.4%)	0.631
	Occasionally/Frequently	21(16.7%)	105(83.3%)	
Practice outdoor activities	No/Rarely	35(15.9%)	185(84.1%)	0.557
	Occasionally/Frequently	7(12.7%)	48(87.3%)	
Interest for art	Yes	21(13.9%)	130(86.1%)	0.400
	No	23(17.6%)	108(82.4%)	
Sick leave	Yes	13(21.3%)	48(78.7%)	0.115
	No	27(13.1%)	179(86.9%)	
Sleep disorders	Yes	13(19.7%)	53(80.3%)	0.302
	No	31(14.4%)	184(85.6%)	
Addiction	Yes	6(15.8%)	32(84.2%)	0.579
	No	26(12.5%)	182(87.5%)	
Number of years of experience		14.54 ± 11.073	15.46 ± 11.146	0.623
Number of working hours/day		7.24 ± 2.450	6.99 ± 2.087	0.467
Number of tourist trips/year		1.57 ± 1.037	1.57 ± 1.099	0.989
Number of vacation days/year		22.15 ± 13.764	23.41 ± 17.323	0.691
Average number of sleeping hours/night		6.91 ± 1.308	6.78 ± 1.258	0.541

**Table 6.** Univariate analyses of explanatory variables associated with relationship problems with dental technician

		Conflict issues with dental technician		p value
		Yes	No	
Gender	Male	46(26.1%)	130(73.9%)	0.075
	Female	21(17.4%)	100(82.6%)	
General practitioner	Yes	32(22.7%)	109(77.3%)	0.887
	No	33(22.0%)	117(78.0%)	
Listen to music while working	No/Rarely	20(22.0%)	71(78.0%)	0.995
	Occasionally/Frequently	45(22.3%)	157(77.7%)	

Physical activity or sport	Never	12(38.7%)	19(61.3%)	0.026
	Occasionally	37(24.8%)	112(75.2%)	
	Fréquently	18(16.4%)	92(83.6%)	
Rest breaks between appointments	Yes	43(25.4%)	126(74.6%)	0.220
	No	24(19.4%)	100(80.6%)	
Practice leisure activities	No/Rarely	42(22.1%)	148(77.9%)	0.909
	Occasionally/Frequently	20(21.5%)	73(78.5%)	
Practice cultural activities	No/Rarely	25(15.8%)	133(84.2%)	0.010
	Occasionally/Frequently	36(28.3%)	91(71.7%)	
Practice outdoor activities	No/Rarely	52(22.8%)	176(77.2%)	0.271
	Occasionally/Frequently	9(16.1%)	47(83.9%)	
Interest for art	Yes	34(22.2%)	119(77.8%)	0.947
	No	30(21.9%)	107(78.1%)	
Sick leave	Yes	20(31.7%)	43(68.3%)	0.036
	No	41(19.2%)	172(80.8%)	
Sleep disorders	Yes	22(31.9%)	47(68.1%)	0.045
	No	45(20.3%)	177(79.7%)	
Addiction	Yes	16(39.0%)	25(61.0%)	0.010
	No	33(15.6%)	178(84.4%)	
Number of years of experience		12.74 ± 10.748	16.37 ± 11.304	0.025
Number of working hours/day		7.33 ± 2.104	6.90 ± 2.138	0.164
Number of tourist trips/year		1.53 ± .922	1.57 ± 1.121	0.802
Number of vacation days/year		21.24 ± 12.313	24.08 ± 17.781	0.289
Average number of sleeping hours/night		6.84 ± 1.431	6.79 ± 1.259	0.809

## Results about job satisfaction

Job satisfaction was significantly associated with the presence of cultural

activities ( $p=0.008$ ) and the number of years of experience ( $p=0.038$ ). Young dentists were significantly more satisfied with the profession than older dentists (Table 7 and 8).

**Table 7.** Univariate analyses of explanatory variables associated with job satisfaction

		Job satisfaction		p value
		Yes	No	
Gender	Male	163(91.6%)	15(8.4%)	0.062
	Female	122(96.8%)	4(3.2%)	
General practitioner	Yes	133(93.0%)	10(7.0%)	0.665
	No	147(94.2%)	9(5.8%)	
Listen to music while working	No/Rarely	89(95.7%)	4(4.3%)	0.333
	Occasionally/Frequently	192(92.8%)	15(7.2%)	
Physical activity or sport	Never	29(90.6%)	3(9.4%)	0.336
	Occasionally	142(92.8%)	11(7.2%)	
	Frequently	108(96.4%)	4(3.6%)	
Rest breaks between appointments	Yes	161(93.6%)	11(6.4%)	0.959
	No	120(93.8%)	8(6.3%)	
Practice leisure activities	No/Rarely	182(92.9%)	14(7.1%)	0.174
	Occasionally/Frequently	92(96.8%)	3(3.2%)	
Practice cultural activities	No/Rarely	158(96.9%)	5(3.1%)	0.008
	Occasionally/Frequently	116(89.2%)	14(10.8%)	
Practice outdoor activities	No/Rarely	218(93.6%)	15(6.4%)	0.539
	Occasionally/Frequently	56(96.6%)	2(3.4%)	

Interest for art	Yes	149(93.1%)	11(6.9%)	0.515
	No	131(94.9%)	7(5.1%)	
Sick leave	Yes	60(95.2%)	3(4.8%)	0.771
	No	204(93.6%)	14(6.4%)	
Sleep disorders	Yes	65(90.3%)	7(9.7%)	0.140
	No	215(95.6%)	10(4.4%)	
Addiction	Yes	38(92.7%)	3(7.3%)	0.714
	No	205(94.5%)	12(5.5%)	
Number of years of experience		15.26 ± 11.166	21.25 ± 11.198	0.038
Number of working hours/day		7.00 ± 2.152	6.97 ± 1.814	0.961
Number of tourist trips/year		1.60 ± 1.078	1.13 ± .885	0.056
Number of vacation days/year		23.74 ± 16.895	17.93 ± 13.141	0.208
Average number of sleeping hours/night		6.80 ± 1.310	6.72 ± 1.239	0.814

**Table 8.** Multivariate analyses of explanatory variables associated with stress and relationship problems with dental entourage

		B	S.E.	Wald	-p-value	OR	95% C.I. for OR	
							Lower	Upper
Psychosocial stress	Physical activity	0.716	0.310	5.329	0.021	2.046	1.114	3.757
	Sleep disorders	1.462	0.361	16.402	0.000	4.317	2.127	8.760
	Tourist trips	0.029	0.015	3.847	.050	1.029	1.000	1.059
	Leisure activities	0.029	0.207	0.020	0.888	1.030	0.687	1.544
	Gender	-.120	0.355	0.114	0.736	0.887	0.442	1.779
Relationship problems with patients	Years of experience	0.041	.020	4.217	0.040	1.042	1.002	1.083
	Number of vacation days	0.020	0.011	3.201	0.074	1.020	0.998	1.042
	Number of sleeping hours	0.300	0.193	2.408	0.121	1.349	0.924	1.970
	Cultural activities	-.657	0.468	1.970	0.160	0.518	0.207	1.298
	Outdoor activities	0.444	0.210	4.447	0.035	1.558	1.032	2.353
Concerns related to work accident	Physical activity	1.282	0.470	7.427	0.006	3.602	1.433	9.055
	Leisure activities	0.218	0.164	1.769	0.184	1.244	0.902	1.717
	Number of sleeping hours	0.259	0.114	5.158	0.023	1.295	1.036	1.620
	Years of experience	0.024	0.013	3.252	0.071	1.024	0.998	1.051
	Number of vacation days	0.015	0.009	2.644	0.104	1.015	0.997	1.033
Problems with assistant	Gender	0.744	0.416	3.194	0.074	2.104	0.931	4.757
	Leisure activities	0.498	0.237	4.432	0.035	1.645	1.035	2.616
	Sick leave	0.836	0.421	3.945	0.047	2.308	1.011	5.268

Conflict issues with dental technician	Gender	0.292	0.437	0.447	0.504	1.339	0.569	3.153
	Physical activity	0.631	0.311	4.117	0.042	1.880	1.022	3.458
	Cultural activities	-.772	0.325	5.628	0.018	0.462	0.244	0.874
	Sleep disorders	0.612	0.409	2.237	0.135	1.844	0.827	4.115
	Addiction	1.140	0.429	7.069	0.008	3.126	1.349	7.242
	Sick leave	0.668	0.322	4.319	0.038	1.951	1.039	3.665
	Years of experience	0.031	0.015	4.116	0.042	1.031	1.001	1.062
Job satisfaction	Cultural activities	1.630	0.603	7.309	0.007	5.105	1.566	16.645
	Years of experience	.055	0.024	5.484	0.019	1.057	1.009	1.107
	Gender	-.695	0.715	0.946	0.331	0.499	0.123	2.025
	Tourist trips	-.703	0.405	3.011	0.083	0.495	0.224	1.095

## Discussion

The sample of 314 Lebanese dentists, which was randomly selected, completed the questionnaire.

### Job satisfaction

Our results revealed that 90.8% of Lebanese dentists were satisfied with their job. While studies have shown different levels of satisfaction of dentists about their profession in other countries. For example, 90% of the Polish dentists, 82.6% of the Australian dentists and 80.7% of the Lithuanian dentists were highly satisfied [9,16,19]. While in UAE 3.7 ± 1.2 out of 5, and 3.08 out of 5 of the Indian dentists were normally satisfied [15,20]. Though, 51% of the Korean dentists and 51.4% of the Egyptian dentists had almost a neutral feeling about their job satisfaction [21,22].

Our results revealed that job satisfaction in Lebanese dentists was significantly associated with the number of years of experience ( $p=0.038$ ). The younger dentists who had 15 years ( $\pm 11$ ) of experience were found to have higher job satisfaction than those with 21 years ( $\pm 11$ ), this is in accordance with the study done in India, where dentists who had clinical experience less than 5 years have higher satisfaction levels ( $3.12 \pm 0.31$ ), similarly a study in Australia revealed that dentists aged between 35-54 years old are less satisfied and job satisfaction is decrease with years in Brazil [16,20,23].

The negative association between age and job satisfaction could be attributed to more responsibilities, demands, family commitments and increased stress associated to sustain a modern practice.

Our results showed that job satisfaction in Lebanese dentists was significantly associated with the presence of cultural activities ( $p=0.008$ ), this is in accordance with a Norwegian study on doctors that revealed a significant correlation between the doctors' level of cultural activity and their job satisfaction [24]. Cultural activities could be considered as a matter of relaxation from a hardworking day.

### Results relating to psychosocial stress

Our results showed that there is relationship between sports and stress: 86.7% ( $n=91$ ) of the dentists practice sports and don't have psychological stress this is in accordance with the study in Iran that showed that 45.2% of dentists use sports as a strategy to destress while in New Zealand 64% of dentists use sports to manage their stress, in Romania 59% ( $n=250$ ) adapt sport as a prevention attitude [3,25-29].

Over 56.5% ( $n=35$ ) of Lebanese dentists have sleep disorders associated to psychosocial stress which is in accordance with a study made in UK

where 60% ( $n=2441$ ) of dentists reported difficulty in sleeping, in Romania 59% ( $n=250$ ) sleeplessness was reported and 74% ( $n=2449$ ) of Lithuanians dentists [5,9].

The most common techniques for managing stress were resting and engaging in sport activities, participation in a stress management course would help to learn to manage stress levels [27].

Stress management and coping behaviors should therefore be included in the dental curriculum in order to avoid physical and psychological problems that may occur later as a result of occupational stress. Moreover, workshops, seminars and education programs on occupational stress for clinical dental staff should be organized periodically, a continuing professional development package to reduce stress, build resilience and improve clinical decision-making, improve dentist well-being and decision making [27,30].

### Results concerning the relationship problems with patients

The presence of relationship problems with patients was significantly prevalent among dentists without outdoor activities ( $p=0.020$ ). In Lebanon 5.7% ( $n=18$ ) are dealing with aggressive patient while 43% of the dentist in Iran are coping with difficult patients, in UK 61.2% had difficult patients [8,27]. In Lebanon 51.9% ( $n=163$ ) had payment issue while in Iran 14% felt underrated by patient and 48.4% had collection payments [27]. In Lebanon 3.8% ( $n=12$ ) patient dissatisfaction while in Iran 25.8% were stressed because of lack of patient appreciation while in UK 75.1% are stressed of having dissatisfied patient [8,27]. In Lebanon 24.8% ( $n=78$ ) patient were anxious while in Iran 26.9% dentist treated nervous patients, in Denmark 14% of dentists reported having anxious patients [28]. In Lebanon 41.7% forget their appointment in Iran cancellations/no-shows were 35.5%. To treat the anxious dentists have to apply talking strategy with patients, followed by assuring painless treatment and use of pharmacological remedy

### Results about concerns related to work accident

Our results showed that 42.7% ( $n=134$ ) had concerns related to work accident, these results meet the study in Hong Kong where 51.5% ( $n=299$ ) were stressed of making mistakes during their practice, while 74.9% of UK dentists are stressed of making a mistake however 19.4% of Iranian dentists have this concern [8,26,27]. Our results showed that the average number of hours of sleep was significantly lower among dentists with fears related to work accidents ( $p=0.034$ ).

### Problems with the assistant

Our results showed that 14% ( $n=44$ ) Lebanese dentists have misunderstanding with the assistant while in U.A.E the dentists were most



satisfied with their assistant and 71.6% of Australian dentist were satisfied in their relationships with staff [16]. In Yemen management of auxiliary staff constituted 52.9% of the stressor factors of the dentists [14].

It showed that problem with the assistant is significantly associated with the lack of leisure activities and with the number of sick days per year ( $p=0.045$ ) (Table 5).

### Results about the relationship problems with dental technician

Our results showed that 21.3% ( $n=67$ ) of Lebanese dentists have relationship problems with dental technician. Quality of communication between dentists and private laboratory technicians in Khartoum was largely inadequate [25].

The presence of conflicting problems with the dental technician was associated with sport, with lack of cultural activities, with sleep disorders, the presence of dependence and with taking sick leave. Also, the average number of years of experience was significantly smaller among dentists with problems ( $p=0.013$ ) this could be explained by the lack of experience, practice and manual dexterity in the youngest.

### Results of multivariate analysis between the different variables

Results of this statistical analysis showed no statistically significance between the different variables except for the sleeping disorder and psychological stress ( $p<0.02$ ) (Table 8).

## Conclusion

In conclusion, our findings indicate a potential stress of Lebanese dentists. Although the majority are satisfied with their job and enjoy their professional lives, some dentists are experiencing issues with dental laboratory, assistant and stressed patients.

Elimination of stress from dental practice is unavoidable. However, recognition and understanding causes of stress is the first step to be taken for prevention, therefore, preventive programs should be initiated to help professionals to cope with their professional duties without hazardous effects on their mental health. Continual education programs on stress management should be proposed to all dentists and must be incorporated for dental students at dental schools.

It is also important to teach dentists to engage early in sport activities, relaxing activities, to rest and take breaks. Moreover, obligatory topics of studies should include: financial business management, psychology and oratory that could be an important step to help reduce the prevalence of mental health problems among dentists in our country.

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## Conflicts of Interest

It is declared that there is no conflict of interest.

## Author Contribution

Dr. Samar Abou Jaoude was in charge of data collection and writing the manuscript. Maha Daou has supervised and corrected the manuscript. Sara Khazaka has corrected and submitted the manuscript.

## Ethical Approval and Consent to Participate

All methods in this study were carried out in accordance with relevant guidelines and regulations. The experimental methods applied in this study

were confirmed by the Ethical Committee at the Saint Joseph University. Informed consent of the participants was obtained prior to the questionnaire they have filled.

## References

1. Al-Sowaygh, ZH, Alfadley AA, Al-Saif MI and Al-Wadei SH. "Perceived Causes of Stress among Saudi Dental Students." *King Saud Univ J Dent Sci* 4(2013):7–15.
2. Kumar, S, Dagli RJ, Mathur A and Jain M, et al. "Perceived Sources of Stress amongst Indian Dental Students." *Eur J Dent Educ* 13(2009):39–45.
3. Miron, C and Colosi HA. "Work Stress, Health Behaviours and Coping Strategies of Dentists from Cluj-Napoca, Romania." *Int Dent J* 68(2018):152–161.
4. Song, KW, Choi WS, Jee HJ and Yuh CS, et al. "Correlation of Occupational Stress with Depression, Anxiety, and Sleep in Korean Dentists: Cross-Sectional Study." *BMC Psychiatry* 17(2017):398.
5. Myers, HL and Myers LB. "It's Difficult Being a Dentist: Stress and Health in the General Dental Practitioner." *Br Dent J* 197(2004):89–93.
6. Kay, EJ and Lowe JC. "A Survey of Stress Levels, Self-Perceived Health and Health-Related Behaviours of Uk Dental Practitioners in 2005." *Br Dent J* 204(2008):E19.
7. Wasoski, RL. "Stress, Professional Burnout and Dentistry." *J Okla Dent Assoc* 86(1995):28–30.
8. Collin, V, Toon M, O'Selmo E and Reynolds L, et al. "A Survey of Stress, Burnout and Well-Being In Uk Dentists." *Br Dent J* 26(2019):40–49.
9. Puriene, A, Aleksejuniene J, Petrauskiene J and Balciuniene I, et al. "Self-perceived Mental Health and Job Satisfaction among Lithuanian Dentists". *Ind Health* 46(2008):247–252.
10. Sancho, FM and Ruiz CN. "Risk of Suicide amongst Dentists: Myth or Reality." *Int Dent J* 60(2010):9.
11. Reilly, JT and Maguire K. "Health and Wellness for Women in the Profession." *J Mass Dent Soc* 55(2006):20–23.
12. Song, KW and Kim HK. "Job Stress and its Related Factors among Korean Dentists: An Online Survey Study." *Int Dent J* 69(2019):436–444.
13. Rajab, LD. "Perceived Sources of Stress among Dental Students at the University of Jordan." *J Dent Educ* 65(2001):232–241.
14. Al-Zubair, NM, Al-ak'hali MS and Ghandour IA. "Stress among Dentists in Yemen." *Saudi J Dent Res* 6(2015):140–145.
15. Al-Buainain, FS, Alzarouni AA, Alshamsi HA and Arab AH, et al. "Job Satisfaction of U.A.E. Dental Practitioners." *Eur J Dent* 13(2019):354–360.
16. Luzzi, L, Spencer AJ, Jones K and Teusner D. "Job Satisfaction of Registered Dental Practitioners." *Aust Dent J* 50(2005):179–185.
17. Ali, DA. "Patient Satisfaction in Dental Healthcare Centers." *Eur J Dent* 10(2016):309–314.
18. Schwartz, RH and Shenoy S. "Personality Factors Related to Career Satisfaction among General Practitioners." *J Dent Educ* 58(1994):225–228.
19. Kobza, J and Syrkiewicz SM. "Job Satisfaction and its Related Factors among Dentists: A Cross-Sectional Study." *Work* 60(2018):357–363.
20. Kaipa, S, Pydi SK, Krishna Kumar RVS and Srinivasulu G, et al. "Career Satisfaction among Dental Practitioners in Srikakulam, India" *J Int Soc Prev Community Dent* 5(2015):40–46.

21. Jeong, SH, Chung JK, Choi YH and Sohn W, et al. "Factors Related to Job Satisfaction among South Korean Dentists." *Community Dent Oral Epidemiol* 34(2006):460–466.
22. Fahim, AE. "Predictors of Job Satisfaction among Practicing Dentists at Hospitals in Suez Canal Area, Egypt." *Int J Occup Med Environ Health* 26(2013):49–57.
23. Nunes, MF and Freire MCM. "Quality of Life among Dentists of a Local Public Health Service." *Rev Saude Publica* 40(2006):1019–1026.
24. Nylenna, M and Aasland OG. "Cultural and Musical Activity among Norwegian Doctors." *Tidsskr Nor Laegeforen* 133(2013):1307–1310.
25. Ali, SA, Khalifa N and Alhadj MN. "Communication between Dentists and Dental Technicians during the Fabrication of Removable Partial Dentures in Khartoum State, Sudan." *Acta Stomatol Croat* 52(2018):246–253.
26. Choy, HB and Wong MC. "Occupational Stress and Burnout among Hong Kong Dentists." *Hong Kong Med J* 23(2017):480–488.
27. Pouradeli, S, Shahravan A, Eskandarizadeh A and Rafie F, et al. "Occupational Stress and Coping Behaviours Among Dentists in Kerman, Iran." *Sultan Qaboos Univ Med J* 16(2016):e341–e346.
28. Moore, R and Brødsgaard I. "Dentists' Perceived Stress and its Relation to Perceptions about Anxious Patients." *Community Dent Oral Epidemiol* 29(2001):73–80.
29. Ayers, KMS, Thomson WM, Newton JT and Rich AM. "Job Stressors of New Zealand Dentists and their Coping Strategies." *Occup Med Oxf Engl* 58(2008):275–281.
30. Chapman, HR, Chipchase SY and Bretherton R. "The Evaluation of a Continuing Professional Development Package for Primary Care Dentists Designed to Reduce Stress, Build Resilience and Improve Clinical Decision-Making." *Br Dent J* 223(2017):261–271.

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