



## The Relation Between Burnout and Personality Traits in Dentists Working in Southern Kerman

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### Abstract

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**Background:** Dentistry has been recognized as one of the most stressful occupations. Job stress and burnout are more common in dentists than in other people engaging in other occupations. This study aimed to investigate the relation between burnout and personality traits in dentists working in the southern cities of Kerman Province.

**Methods:** This cross-sectional study was conducted on 42 dentists working in the southern cities of Kerman Province. The participants were selected through the census method. The data were collected via a demographic information questionnaire, the 22-item Maslach Burnout Inventory to measure emotional exhaustion, depersonalization, and lack of personal accomplishment, and the 60-item NEO Personality Inventory (NEO-FFI) to assess neuroticism, extraversion, openness, agreeableness, and conscientiousness. The collected data were analyzed with SPSS software (version 21) using independent samples t-test, ANOVA, and linear regression analysis at a significance level of 0.05.

**Results:** The participants' mean age, years of graduation, and years of working as a dentist were 41.05±9.45, 12.19±8.07, and 12.64±8.26 years, respectively. It was also shown that 90.5% of the dentists suffered from severe emotional exhaustion, 92.9% had severe depersonalization, and 28.6% had severe lack of personal accomplishment. Furthermore, the highest and lowest scores were related to conscientiousness and neuroticism as two personality traits. Burnout had a significant correlation with all subscales of personality traits except extraversion.

**Conclusion:** The dentists working in the southern cities of Kerman Province reported high levels of burnout. Therefore, it is essential to prevent and treat burnout and its possible consequences among dentists.

**Keywords:** Burnout, Personality traits, Dentists



## Introduction

**B**urnout is not only a job problem but also a health problem (1). Burnout is a psychological syndrome that can lead to emotional exhaustion, depersonalization, and loss of personal accomplishment (2-4) and is influenced by several factors including physical factors such as loud noise, light, lack of space; management factors including discrimination and incorrect policies; and organizational factors such as long working hours as sources of stress in the workplace, prolonged pressures, and inability to cope with them, leading to decreased self-efficacy. Boredom, indifference, reduced effectiveness, fatigue, disappointment, and the feeling of failure are the consequences of burnout (1). Symptoms of burnout are usually associated with psychoanalytic stresses that affect all aspects of a person's personal and professional life and may even lead to job failure (5). Burnout syndrome has significant negative consequences for the affected physician. These consequences include job dissatisfaction, increased medical malpractice, and increased risk of psychopathology (6).

Dentistry has been introduced as one of the most stressful occupations (2). Dentists are exposed to a variety of stressors, including prolonged sitting, and extreme care while working and managing the workplace (7). Stress-related illnesses, along with musculoskeletal disorders, are the main factors leading to the early retirement of dentists (8). Job stress and burnout are higher in dentists than people engaging in other occupations (9). Furthermore, burnout in general dentists is significantly higher than in specialist dentists (10). In a study in Brazil, 23% of dentists reported that they suffered from burnout (11). Emotional exhaustion, moderate to severe depersonalization, and diminished personal accomplishment have been observed in dentists (12). Severe depersonalization was observed in 82%, moderate emotional exhaustion in 21%, and severe lack of personal accomplishment in 100% of dentists working in Birjand (13). It has also been shown that dentistry is more attractive to people with obsessive-compulsive personality disorder (OCPD) (14). Kwak et al.

reported high levels of depression and burnout among Korean dental students (8). Fear of work and job burnout have also been reported to be common among dental staff in Taiwan, and researchers have concluded that this may also affect patient safety (15).

Kerman Province is the largest province of Iran with a lot of cultural and climatic diversity. For instance, people of the Baluch tribe, and tribes of Hormozgan province live in the south of this province, and they have customs and cultures that are different from those of people living in other parts of the province. Besides, the southern cities of the province have unfavorable weather conditions in most months of the year. Different cultural and climatic conditions can affect working conditions and as a result, people's mental and psychological conditions. Moreover, people's personality traits, working conditions, and adaptation to the conditions are different from each other. On the other hand, burnout in dentists can reduce the quality of services provided to patients. Given the research gap in the literature on dentists' burnout, this study aims to investigate the rate of burnout and its relation with personality type in dentists working in the southern cities of Kerman Province, including Bam, Jiroft, and Kahnooj.

## Methods

The present study had a descriptive-analytical cross-sectional design. The research sample was all dentists working in health centers, offices, and clinics in the southern cities of Kerman province, including Bam, Jiroft, and Kahnooj in 2016. The participants were selected by the census method. The data were collected using three questionnaires. After explaining the research procedure and obtaining verbal consent from the dentists, the questionnaires were distributed among the respondents and collected by a trained dental student. The inclusion criteria were offering dental services for at least two years, having no history of mental illness, not taking any type of psychiatric medication, and willingness to participate in the study. The instruments used to collect the data were a demographic information form and two questionnaires. The demographic information form assessed the

respondents' gender, age, date of graduation, years of working as a dentist, marital status, type of employment, income level, and weekly working hours. The proposal for this research was approved with the code of ethics IR.KMU.REC.1395.46 by the Ethics Committee of Kerman University of Medical Sciences.

One of the instruments used in this study was the Maslach Burnout Inventory. This inventory has already been translated into Persian and its validity and reliability have been confirmed (16). This 22-item instrument has three component scales; emotional exhaustion (9 items), depersonalization (5 items), and personal accomplishment (8 items). The items are scored using 7 level frequency ratings from 0 (never), 1 (a few times a year or less), 2 (once a month or less), 3 (a few times a month), 4 (once a week), 5 (a few times a week), and 6 (every day). Based on the scores obtained, each component scale is divided into three low, medium, and high levels. The score on the emotional exhaustion scale ranges from 0 to 54, with a score of 27 or higher indicating a high level, a score of 18 or less indicating a low level, and a score of 19-26 indicating an average level of emotional exhaustion. The score on the depersonalization scale ranges from 0 to 30, with a score of 10 and higher indicating a high level, a score of 5 or less indicating a low level, and a score of 6-9 indicating an average level of depersonalization. Finally, the total score on the personal accomplishment scale ranges from 0 to 48, with a score of 33 and less indicating a low level, a score of 40 or higher showing a high level, and a score of 34-39 indicating an average level of personal accomplishment. High scores of emotional exhaustion and depersonalization and low scores of personal accomplishment indicate burnout. The mean score on each scale was measured and then the participants were placed at low, medium, and high levels on each scale. The Maslach Burnout Inventory was translated into Persian by Rasolian et al. (16) and the internal consistency of the inventory was confirmed with Cronbach's alpha coefficient of 0.71 to 0.90 and its test-retest coefficient was 0.6 to 0.8. Najafi et al. (17) reported the internal reliability of the

inventory as 0.86 and the reliability for the subscales of the inventory including emotional exhaustion, depersonalization, and personal accomplishment were equal to 0.89, 0.78, and 0.83, respectively.

The second questionnaire used in this study was the NEO Personality Inventory. This inventory contains 5 subscales including neuroticism, extraversion, openness, agreeableness, and conscientiousness. It is one of the most recent instruments that assess the construct of personality using factor analysis. The short form, NEO-FFI, contains 60 items based on a Likert scale (strongly disagree, disagree, undecided, agree, and strongly agree). Each item is scored from 0 to 4. The total score of the inventory ranges from 0 to 240. This inventory contains 5 subscales each measuring a personality factor with 12 items. Thus, the score on each subscale ranges from 0 to 48 (18). Hagshenas reported the Cronbach's alpha coefficients for the subscales of neuroticism, extraversion, openness, agreeableness, and conscientiousness as equal to 0.80, 0.78, 0.69, 0.71, and 0.75, respectively (19).

The collected data were analyzed with SPSS software (version 21) using independent samples t-test, ANOVA, and linear regression analysis at a significance level of 0.05.

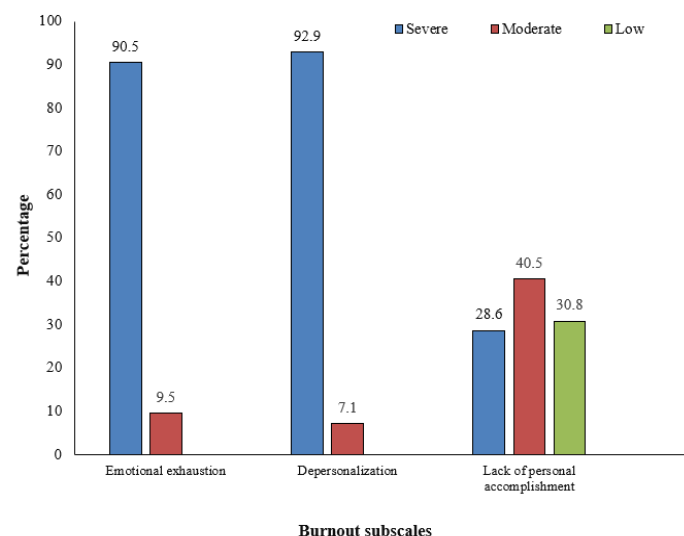
## Results

The participants were 42 dentists working in the southern cities of Kerman Province. 54.8% of the participants were male. The mean age of the participants was  $41.05 \pm 9.45$  and they had graduated  $12.19 \pm 8.07$  years ago. Besides, they were working as dentists for  $12.64 \pm 8.26$  years and their mean weekly working hours were  $29.31 \pm 14.12$ . Most of the participants were married and had children. Moreover, a majority of them were officially employed. Most of the participants also stated that they do not exercise and they mostly rated their income level well. Table 1 shows the participants' demographic data.

The results of the study showed that 90.5% of dentists suffered from severe emotional exhaustion, 92.9% had severe depersonalization, and 28.6% had severe lack of personal accomplishment (Figure 1).

**Table 1. The participants' demographic data**

Variables	Categories	Frequency	Percentage
Gender	Male	23	54.8
	Female	19	45.2
Marital status	Married	36	85.7
	Single	6	14.3
Children?	Yes	32	76.2
	No	10	23.8
Type of employment	Official	19	45.2
	Contractual	14	33.3
	Plan-based	8	19.0
	Not specified	1	2.3
Workplace	Office	19	45.2
	Public clinic	2	9.5
	Private clinic	1	2.4
	Office & public clinic	16	38.1
Taking enough rest?	Yes	29	69.0
	No	13	31.0
Doing exercise regularly?	Yes	11	26.2
	No	31	73.8
Intention to quit (ITQ) their job	Yes	12	28.6
	No	30	71.4
Income level	High	8	19.0
	Good	28	66.7
	Moderate	4	9.5
	Poor	2	4.8
Having a second job?	Yes	7	16.7
	No	35	83.3

**Figure 1. The severity of burnout symptoms among the dentists**

The mean (and standard deviation) of the total score of personality traits was  $189.28 \pm 10.66$ . The lowest and highest mean scores were related to neuroticism ( $31.66 \pm 5.61$ ) and conscientiousness ( $46.88 \pm 5.41$ ), respectively.

The participants with children, those who worked as a dentist for a longer time, and the participants who worked longer hours were

significantly more emotionally exhausted. The females and older participants reported higher levels of lack of personal accomplishment. Females had significantly more depersonalization than men. The dentists who were not officially employed (type of employment variable) and those who had less years from graduation experienced higher levels of loss of personal accomplishment (Table 2).

**Table 2. The relation between burnout subscales and demographic variables**

Variables	Lack of personal accomplishment		Emotional exhaustion		Depersonalization		Total score	
	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.
Gender	1.300	<0.001	-0.426	0.554	0.430	0.020	0.293	0.088
Age	0.327	0.031	0.035	0.878	0.171	0.526	0.269	0.303
Marital status	-0.195	0.554	0.228	0.520	0.010	0.981	0.312	0.066
Having children	0.160	0.543	0.303	0.007	0.171	0.671	0.167	0.656
Having a second job	-4.11	0.005	-0.357	0.174	-0.326	0.291	-0.411	0.020
Years of working as a dentist	0.085	0.780	0.535	0.004	-0.173	0.663	0.166	0.702
Working hours	0.211	0.275	0.322	0.049	-0.143	0.630	0.182	0.503
Type of employment	0.480	0.009	-0.131	0.693	0.220	0.579	-0.134	0.805
Workplace	-0.384	0.084	0.251	0.371	-0.409	0.050	-0.150	0.618
Years from graduation	-0.894	0.008	0.892	0.159	0.146	0.841	-0.325	0.689
Intention to quit (ITQ)	-0.374	0.210	0.079	0.833	-0.435	0.043	-0.329	0.431
Doing exercise regularly	0.718	0.001	-0.251	0.473	0.216	0.604	-0.006	0.990
Taking enough rest	-0.065	0.523	0.210	0.490	0.058	0.878	0.025	0.944

The older dentists were significantly more agreeable, extravert, neurotic and conscientious.

Neuroticism and openness and was significantly associated with type of employment (Table 3).

**Table 3. The relation between personality traits and demographic variables**

Variables	Openness		Agreeableness		Extraversion		Conscientiousness		Neuroticism		Total score	
	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.
Gender	-0.079	0.776	-0.197	0.410	0.554	0.075	-0.099	0.718	0.018	0.909	2.375	0.311
Age	-0.939	0.064	1.787	0.001	0.589	0.026	1.255	0.007	-0.694	0.002	1.064	0.020
Marital status	0.397	0.082	-0.197	0.410	0.554	0.075	-0.099	0.718	0.018	0.909	0.330	0.311
Having children	0.479	0.122	0.610	0.232	0.574	0.025	0.081	0.813	-0.624	0.001	0.589	0.487
Having a second job	0.098	0.736	0.282	0.269	-0.455	0.165	0.114	0.696	-0.221	0.204	0.307	0.640
Years of working as a dentist	0.489	0.042	-0.616	0.038	-0.335	0.380	-0.533	0.041	0.144	0.530	-1.047	0.005
Working hours	0.271	0.302	0.515	0.017	-0.256	0.475	0.238	0.374	-0.701	0.001	0.450	0.597
Type of employment	0.649	0.004	0.440	0.076	0.431	0.300	0.002	0.997	-0.350	0.030	0.927	0.017
Workplace	-0.303	0.350	-0.471	0.023	-0.480	0.275	0.122	0.683	0.121	0.512	-0.315	0.581
Years from graduation	1.007	0.043	-0.851	0.054	-0.449	0.508	-1.049	0.021	0.431	0.330	1.572	0.450
Intention to quit (ITQ) their job	-0.491	0.034	-0.422	0.527	-0.765	0.003	-0.239	0.568	-0.343	0.185	-1.834	0.243
Doing exercise regularly	0.407	0.476	0.997	0.006	0.473	0.345	0.432	0.443	-0.398	0.043	1.117	0.018
Taking enough rest	0.076	0.902	0.288	0.370	0.228	0.645	-0.164	0.658	0.094	-0.217	-1.616	0.281

As can be seen in table 4, emotional exhaustion was significantly associated with depersonalization (p =0.001). Depersonalization was significantly correlated with lack of personal accomplishment (p =0.008) as well as openness to experience

(p=0.012). Besides, lack of personal accomplishment was significantly associated with neuroticism, conscientiousness, agreeableness, and openness to experience.

**Table 4. The p-value of the relation between burnout symptoms and NEO personality traits (by linear regression analysis)**

Variable	Emotional exhaustion	Depersonalization	Lack of personal accomplishment	Neuroticism	Conscientiousness	Extraversion	Agreeableness	Openness
Emotional exhaustion	-	0.001*	0.170	0.084	0.871	0.601	0.816	0.208
Depersonalization	0.001*	-	0.008*	0.165	0.061	0.986	0.124	0.012*
Lack of personal accomplishment	0.170	0.008	-	0.006*	0.008*	0.729	0.006*	0.014*

\* Statistically significant.



## Discussion

Burnout is a long-term response to stressors and intense emotions at work that is caused by a lack of control over job stress (20). Burnout can negatively affect the health system as well as the health of physicians by reducing the quality of patient care (1) and reducing the efficiency of physicians (21). It can also lead to premature fatigue and reduced working hours in clinics and bring about economic losses (22).

In the present study, 90.5% of dentists reported that they suffered from severe emotional exhaustion. In another study, Torabi Parizi et al. found that 30.46% of dentists in Kerman suffered from severe emotional exhaustion (12). However, Roghanizad et al. who surveyed the faculty members of the Azad University in Tehran showed that only 4% of them suffered from emotional fatigue (1). Du et al. showed that job burnout especially emotional fatigue was high among medical staff and physicians reported higher levels of burnout than nurses (23). However, the dentists in the present study reported significantly higher levels of severe emotional exhaustion. This difference can be attributed to the cultural and social differences between the research samples in the two studies. The cities in southern Kerman are located in deprived regions in the province and have different cultures and climates from the central areas of the province, and perhaps these issues could affect the respondents in the research sample.

The data in the present study indicated that there was a statistically borderline significant relation between neuroticism and emotional exhaustion, which could account for the high number of dentists who suffered from emotional exhaustion. Previous research has shown that burnout is associated with neuroticism and neurotic people are emotionally unstable and prone to mental illness (24). The present study showed a significant positive relation between emotional exhaustion, years from graduation, having children, and working hours. This finding was in line with the results reported by Torabi et al. (12). Similarly, Du et al. (23) reported that emotional exhaustion was statistically correlated with working hours. Furthermore, Roghanizad et al. (1) showed that people whose average working hours were less than 15 hours per week experienced less

emotional fatigue. Moreover, Al-Dubai also reported higher levels of burnout in physicians who worked longer hours (25). Other studies in France and the United States have also shown that those who work longer hours are at greater risk for emotional exhaustion, because they are unable to balance work and life (26, 27). Another study showed that work-family conflict was one of the contributing factors to emotional fatigue in the German medical community. Younger age, female gender, poor marital status, long working hours, and low job satisfaction were reported as predictors of burnout syndrome in physicians (28). A systematic review conducted by Singh et al. showed that younger age, male gender, long working hours, high workload, and some personality types were among the causes of burnout in dentists (29).

The average level of emotional exhaustion as a burnout symptom was higher in the present study compared to the rate reported by Pantenburg et al. (30) in Germany. The reason for this difference could be due to differences in the research sample, because Pantenburg et al. (30) surveyed physicians. Moreover, the research setting can also be an effective factor.

The present study showed 92.9% of the dentists had severe depersonalization. Besides, it was shown that depersonalization had a statistically significant relation with age, the workplace, and the intention to quit their job. This finding was contrary to observations made by Torabi et al. who showed that only 14.1% of dentists in Kerman suffered from severe depersonalization (12), and Roghanizad et al. who showed only 7% were suffering from severe depersonalization (1). This discrepancy can be attributed to the living environment of individuals as well as differences in the research samples. The reason for the difference in the results reported in the current study and the study conducted by Roghanizad et al. (1) is that their respondents were the faculty members of Islamic Azad University. The results of the present study concerning the relation between the intention to quit their job and depersonalization were consistent with a study by Pantenburg et al. (30).

The results of the present study found that 28.6% of the dentists reported severe lack of personal accomplishment. Hoseini et al.

(13) reported that all dentists working in Birjand had low personal accomplishment. Another study showed that 71.76% of dentists in Kerman had low personal accomplishment (12). These conflicting results could be accounted for by the cultural differences in the samples under study.

The mean score for lack of personal accomplishment reported in this study was 34.51, which is similar to the score (36.3) reported by Pantenburg et al. (30). The present study showed that the lack of personal accomplishment was correlated with neuroticism, conscientiousness, agreeableness, and openness to experience. A study by Safari et al. on faculty members of Azad University, Azadshahr Branch, also showed that conscientiousness and agreeableness were significantly correlated with burnout (31). In the present study, no statistically significant relation was found between burnout and extroversion. In a similar vein, Bohloli and Paziriye who surveyed faculty members of medical universities reported a significant negative relation between burnout and extraversion (18). It has been shown that extroverts are sociable, friendly, and interested in participating in gatherings, parties, and conversations. Extroverts love excitement and mobility and have hope for success in the future. This leads to a decrease in the level of emotional exhaustion experienced by them. Besides, extroverts experience more positive emotions, and these positive emotions have a positive effect on their evaluation of the future and their sense of efficacy (32).

The data in the present study also indicated that there was no statistically significant difference between the male and female dentists in terms of personality traits. However, contrary to the present study, Bohloli and Paziriye showed

that women were significantly more open to experience, more agreeable, and conscientious than men (18). The reason for this difference could be attributed to the research sample as the participants in the present study were dentists in the same occupational group with similar responsibilities.

One of the limitations of this study was that since the data were collected through self-report questionnaires, some of the answers provided by the participants could be incorrect, which was beyond the researchers' control.

### Conclusion

The present study reported a high level of job burnout in dentists working in Bam, Kahnooj, and Jiroft. There was a statistically significant relation between depersonalization and openness to experience. Besides, lack of personal accomplishment was significantly correlated with neuroticism, conscientiousness, agreeableness, and openness to experience. Having an awareness of burnout and its potentially dangerous consequences, as well as knowledge about its prevention and treatment is essential. Different treatment methods, stress alleviation techniques such as mindfulness and group activities, and strict relaxation of working hours are recommended to reduce burnout in dentists.

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### Conflict of interest

The authors declared no conflict of interest.

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