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Exploring the Relationship Between Work Life Quality and Professional Ethics Among Dentists

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ABSTRACT. This study aimed to assess the relationship between Work Life Quality and Professional Ethics Among Dentists. A single-phase survey study involving 68 dentists was carried out. Data was collected using Work Life Quality, and Gregory's Work Ethics Questionnaires. The data was analyzed using descriptive analysis, unpaired t-test, Analysis of Variance, Pearson correlation coefficient, and a Simple Linear Regression Analysis. Our findings indicated that 51.5% of participants (n = 35) reported a high level of work-related quality of life and 88.2% of participants have a high work ethic. Significant differences were observed between the work quality of life and type of organizational activity (p = 0.019). Dentists in private practice reported the highest mean score (68.21), while those in public positions had the lowest (53.19). A significant positive correlation was between work quality of life and work ethic (r = 0.35, p = 0.003). The study found that a substantial proportion of dentists reported high work quality of life, which was positively correlated with their adherence to work ethics. These findings suggest that improving work ethics can enhance the quality of life for dentists in both professional and personal contexts.

Keywords: Work; quality of life; dentists; ethic; iran.

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Introduction

Dentistry is a rewarding but challenging profession that can negatively affect dentists' physical and mental well-being due to job demands and stress. High workloads and extended shifts may adversely influence one's quality of life, emphasizing the necessity of support and self-care for a sustainable work-life balance (Abraham et al., 2018; Bhat & Nyathi, 2019). A study found that 58% of general dentists experience work-related stress, with the primary causes being the need for high levels of concentration and time pressure. These factors significantly contribute to dentists' stress, emphasizing the importance of recognizing and addressing these stressors to improve their well-being and job satisfaction (Pouradeli et al., 2016).

Dentists' elevated stress levels increase their susceptibility to adverse health effects, including excessive worry, alcohol abuse, sleep disturbances, memory difficulties, and musculoskeletal problems. These conditions can harm their well-being, job performance, and satisfaction. To maintain a healthier and more fulfilling work life, it is essential for dentists to prioritize self-care, seek support, and adopt effective stress management strategies. (Basson, 2013; Kurşun et al., 2014; Abraham et al., 2018). In recent years, the concept of work quality of life has gained increasing attention. It refers to the overall well-being and satisfaction individuals experience in helping professions, reflecting both positive and negative feelings about their work. This concept highlights the importance of balancing the emotional and physical demands of such roles to maintain job satisfaction and well-being (Theofilou, 2013).

Work quality of life assesses the extent to which employees' personal needs are fulfilled through their work. It encompasses individual feelings and perceptions regarding aspects such as salary, job benefits, job security, comparisons with peers in other organizations, workplace environment, career advancement opportunities, autonomy in decision-making, and interactions with colleagues and the organization as a whole (Garg et al., 2012; Meyerson et al., 2020). The profession of dentistry, like other fields, encompasses values, behaviors, and relationships that build trust between dentists and their patients. However, these values and behaviors are shaped by individual characteristics that are expressed within the specific context of the profession (Hanks et al., 2022).

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Work ethics are principles and values that guide professional behavior and responsibilities in the workplace, such as commitment, respect, honesty, and adherence to rules. They reflect how responsible and attentive a person is, promoting success and trust in the workplace (Ghasemzadeh & Esmaeili, 2019). One of the important organizational goals is to improve employees' job performance by enhancing their work ethics in accordance with their educational qualifications (Sagheb Esmaeelpour et al., 2019). Work ethics has a positive and direct effect on employees' job performance (Bijaang et al., 2018). The study by Sun-Kyoung Lee identified several factors influencing the professional ethics of dental technicians and dental hygienists, including diligence, reduced leisure time, work orientation, and time-saving practices, all of which impact job satisfaction. Additionally, the study explored various elements of professional ethics and their causal relationships with job satisfaction (Lee & Seong, 2022). In a study by Kim, it was found that nurses' professional quality of life is influenced by ethical dilemmas and professional nursing values. Key factors affecting compassion satisfaction included age, the ethical dilemmas faced in client interactions, social awareness, professionalism in nursing, and the roles of nursing services. Factors contributing to burnout included being married, religious beliefs, and ethical dilemmas in human life and professional work domains. Additionally, secondary traumatic stress was linked to the human life domain, client interactions, and professional work-related ethical dilemmas (Kim et al., 2015). A similar result was reported by Tehranineshat in Iran (Tehranineshat et al., 2020). Dental professionals play a crucial role in delivering essential services to individuals and communities, contributing significantly to public health. However, there is limited understanding of dentists' work quality of life and its connection to work ethics. This study aimed to investigate the work quality of life and work ethics among dentists working in both public and private healthcare facilities.

Material and methods

In 2021, a cross-sectional study was carried out with approval from the Ethics Committee of Zanjan University of Medical Sciences. The research was conducted in both private dental settings and public institutions such as dental clinics and hospitals affiliated with Zanjan University of Medical Sciences, located in a city in northwest Iran. All dentists practicing in these centers were considered as target participants. Eligibility criteria for the study required participants to have at least one year of clinical experience and a willingness to participate. Dentists who had diagnosed physical or mental disabilities, a history of using psychiatric medications, recent experience of divorce, or had lost a close family member within the last six months were not included in the study. Participants were recruited through convenience sampling. Out of 76 dentists employed in both private and public centers who were invited to take part, 68 met the inclusion criteria and were enrolled in the study. The demographic questionnaire collected information on variables such as age, gender, years of work experience, type of organization, specialty area, monthly income, marital status, and whether they were native to the region.

The Work-Related Quality of Life Questionnaire (WRQoL-2) consists of 32 items rated on a scale from 1 to 5, covering seven key components: balance between work and personal life, satisfaction with the job, workrelated stress, autonomy at work, and overall satisfaction with work quality of life. Increased scoring is associated with enhanced satisfaction regarding work quality of life. Scores for each component are interpreted on a scale from 0 to 100 (Shabaninejad et al., 2012). The overall questionnaire score is divided into three categories: Scores ranging from 23 to 71 indicate a low level of work quality of life, 72 to 83 correspond to an intermediate level, and scores between 84 and 115 indicate a considerable work quality of life (Easton & Van Laar, 2018). The psychometric properties of the Persian version of the Work Quality of Life Questionnaire were tested and validated in Mazloumi's study, which approved the questionnaire with 24 questions. In their study, the Cronbach's alpha coefficient for the overall work quality of life was 0.921, with values ranging from 0.639 to 0.970 for its individual dimensions, indicating strong reliability (Mazloumi et al., 2017). In this study, the overall work quality of life scale demonstrated a Cronbach's alpha of 0.86, indicating good internal consistency. Gregory's Work Ethics Questionnaire consists of 23 questions across four dimensions: attachment to work, healthy workplace relationships, perseverance, and team spirit. Scores are calculated for each dimension and summed for a total score. A higher score reflects stronger work ethics: 23-54 indicates weak work ethics, 54-86 indicates moderate work ethics, and 86-115 indicates strong work ethics (Sezavar et al., 2013). The Persian version of the Professional Ethics Questionnaire was tested by Salehi et al. They assessed its face, content, and structural validity. They also confirmed the reliability of the questionnaire by calculating the Cronbach's alpha coefficient (0.80). The work ethic questionnaire showed good internal consistency, with a Cronbach's alpha of 0.88 in our study. Statistical analyses were carried out using SPSS version 16. The Kolmogorov-Smirnov test was applied to evaluate the normality of the data, and results confirmed a normal distribution. Descriptive statistics summarized the demographic information of the participants. A linear regression analysis was used to assess the relationship between demographic variables and the quality of work life at a 95% confidence level. To compare mean scores of work quality of life across different demographic groups, independent t-tests and one-way ANOVA were utilized. The Pearson correlation coefficient was also calculated to examine the relationship between work quality of life and work ethic scores.

Ethical consideration

This study was conducted as part of an approved research project. All procedures adhered to the ethical standards established by the regional research ethics committee. The study protocol received approval from the Ethics Committee of Zanjan University of Medical Sciences (Approval Code: IR.ZUMS.REC.1399.127). Written informed consent was obtained from all participants prior to their participation.

Results

A total of 68 dentists participated in the study. The demographic characteristics of the participants are presented in Table 1. The largest proportion of participants (48.5%) were aged between 25 and 34 years, followed by 35–44 years (35.3%) and 45–63 years (16.2%). The majority of respondents were female (57.4%), while males accounted for 42.6%.

Va	Variable		%
	25-34	33	48.5
A co (voor)	35-44	24	35.3
Age (year)	45-63	11	16.2
	Woman	39	57.4
Sex	Man	29	42.6
	5>	32	47.1
Moult biotomy	5-15	28	41.2
Work history	15<	8	11.8
	Private	33	48.5
Practice environment	Public	17	25.0
Practice environment	Both (Private and Public)	18	26.5
	General	37	54.4
	Root canal treatment	3	4.4
	Prosthesis	4	5.9
	Children	2	2.9
Type of specialization	Radiology	4	5.9
	Orthodontic	5	7.4
	Gum surgery	5	7.4
	Advanced dental surgery	3	4.4
	Diseases of the oral and facial region	2	2.9
	Restorative	3	4.4
	Enough	31	45.6
	Fair	12	17.6
	Good	19	27.9
Self-declared monthly earnings	Very well	5	7.4
, ,	Excellent	1	1.5
D	Single	20	29.4
	Married	48	70.6
Personal marital background	Divorced	0	0
	Yes	31	45.6
Being a native residency	No	37	54.4

Table 1. Frequency distribution of participants' characteristics (n = 68).

Regarding professional experience, nearly half of the participants (47.1%) had less than 5 years of work experience, 41.2% had between 5 and 15 years, and only 11.8% had more than 15 years of experience. In terms of organizational affiliation, 48.5% of the dentists worked exclusively in the private sector, 25.0% in the public sector, and 26.5% were involved in both sectors.

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More than half of the participants (54.4%) were general dentists. The remaining participants were distributed across various specialties, including orthodontics (7.4%), gum surgery (7.4%), prosthodontics and radiology (each 5.9%), root canal treatment and restorative dentistry (each 4.4%), oral and maxillofacial surgery (4.4%), oral and maxillofacial disease (2.9%), and pediatric dentistry (2.9%).

In terms of self-reported monthly income, 45.6% of participants considered their income to be 'enough,' 27.9% rated it as 'good,' 17.6% as 'fair,' 7.4% as 'very well,' and only 1.5% as 'excellent.' Most participants were married (70.6%), while 29.4% were single; none reported being divorced. Finally, 45.6% of the dentists indicated they were native to the region (Table 1).

The mean total work quality of life score among participants was 63.53 (SD = 18.29). According to the classification criteria, 27.9% (n = 19) of dentists had a low level of work quality of life, 20.6% (n = 14) fell within the moderate range, and 51.5% (n = 35) demonstrated a high level of work quality of life.

The results indicate that 88.2% of participants have a high work ethic, with no individuals falling into the low work ethic category. Additionally, 11.8% of participants scored in the moderate range. A significant positive correlation was observed between work related quality of life and work ethic. This means that individuals with higher work ethics experienced better work quality of life, with a significance level of p = 0.003 and a correlation coefficient of r = 0.35. Among the components of work quality of life, the work control domain had the highest mean score of 67.15 (SD = 21.15), whereas the work—home relationship domain recorded the lowest mean score at 56.98 (SD = 22.88).

The results show a generally high work ethic, with the strongest aspects being perseverance and diligence (mean = 26.76) and attachment and interest in work (mean = 25.95), though there is some variability in responses. Healthy relationships in the workplace also scored well (mean = 26.17) with little variation. However, team spirit and participation received a lower average score (20.95). The overall work ethic score was 99.85 out of 115, reflecting a strong work ethic among participants (Table 2).

Variables	Subscales	Mean (ranged 100-0)	SD	Minimum	Maximum
	Workplace autonomy	67.15	21.15	0	100
Work life quality	Public comfort and welfare	65.80	19.87	0	100
	Homework communication	56.98	22.88	0	100
	Satisfaction with profession and job	64.58	19.39	4.17	100
	Stress at work	61.39	24.02	0	100
	working conditions	61.27	23.42	0	100
	Total quality	63.53	18.29	9.78	100
Work Ethic	Attachment and interest in work	25.95	4.19	11	30
	Perseverance and Diligence at Work	26.76	3.02	19	30
	Healthy and Humane Relationships in the Workplace	26.17	2.69	20	30
	Team Spirit and Participation at Work	20.95	2.84	15	25
	Total Work Ethic Score	99.85	9.88	73	115

Table 2. The average scores and standard deviations of overall work quality of life and work ethic (n = 68).

No significant associations were found between work quality of life and demographic factors (p>0.05). Additionally, the type of dental specialty did not show a statistically significant relationship with work quality of life (p>0.05); however, radiologists had the highest mean work quality of life scores among the specialties examined. Moreover, residency status was not significantly related to work quality of life (p>0.05), although participants with native residency reported slightly higher work quality of life scores.

Significant differences were observed between the work quality of life and type of organizational activity (p = 0.019). Dentists in private practice reported the highest mean score (68.21), while those in public positions had the lowest (53.19) (Table 3).

A linear regression model was used to examine the relationship between work related quality of life and several demographic variables. Among these factors, income was the only variable significantly associated with work quality of life. Specifically, individuals with higher income levels had 0.27 units greater work quality of life scores (p = 0.027) (Table 4).

Table 3.The mean scores and statistical comparisons of overall work quality of life among participants based on demographic characteristics (n = 68).

Variable		Mean	SD	F	P-value	
	25-34	64.55	20.03		0.755	
A cro*(rroom)	35-44	59.69	17.53	1.05	0.355	
Age*(year)	45-63	68.87	13.42	1.05		
	5>	59.27	3.82		0.194	
Work history*	5-15	67.19	2.75	1.68	0.194	
	15<	67.79	4.37	1.08		
	Private	68.21	17.18		0.019	
me of organizational activity.	Public	53.19	20.49	4.20	0.019	
pe of organizational activity*	Both (Private and Public)	64.73	14.71	4.20		
	General	67.27	20.57			
	Root canal treatment	63.76	22.01			
	Prosthesis	66.03	6.66			
	Children	43.47	1.53			
The second secon	Radiology	68.20	12.11			
	Orthodontic	58.04	16.63		0.540	
	Gum surgery	53.26	16.76	0.86	0.562	
	Oral and maxillofacial surgery	50.36	16.60	0.80		
Type of specialization*	Oral and maxillofacial disease	61.95	4.61			
	Restorative	61.59	9.37			
	Enough	58.16	21.21			
	Fair	65.94	15.45		0.152	
Self-declared monthly earnings *	Good	67.44	12.03		0.132	
	Very good	70.86	19.03	1.74		
	Excellent	90.21	0.00	1.74		
	Single	59.67	20.85			
Personal marital background	Married	65.14	17.09	1.27	0.264	
Personal marital background	Divorced	0	0	1.47	0.204	
Sex **	Female	61.64	18.17	-		
SEX	Male	66.07	18.45	-	0.327	
Residency	Native (Yes)	66.97	19.80	-		
****	No	60.66	16.64	-	0.158	

^{**} independent T-test, *ANOVA test.

Table 4. Linear Regression Analysis of Demographic Predictors of Work Quality of Life.

Variable	В	OR*	P value	95.0% CI**	
Age(year)	-3.504	-0.154	0.430	-12.328	5.320
Sexuality	-2.376	-0.070	0.582	-10.962	6.210
Work history	0.480	0.228	0.273	-0.389	1.348
The type of organizational activity	-1.189	-0.060	0.643	-6.290	3.912
Type of specialization	-0.125	-0.025	0.875	-1.711	1.460
Monthly income rate	4.274	0.276	0.027	0.504	8.044
Marital status	2.444	0.067	0.616	-7.257	12.145
Being native	-5.985	-0.178	0.233	-15.915	3.945

*Odds Ratio (OR), **Confidence Interval for B(CI).

Discussion

This study aimed to examine the work-related quality of life and professional ethics of dentists working in Zanjan, a city in northwestern of Iran. The results showed that most participants experienced a high quality of work life. Work plays a vital role in an individual's life, demanding significant time, energy, and skills to achieve financial independence and maintain overall well-being. An individual's positive perception of their work can significantly enhance their quality of life. This study supports prior evidence indicating a positive connection between professional and personal quality of life (Narehan et al., 2014; Razak et al., 2016).

Dental professionals face numerous stressors due to the nature of their work and direct patient interactions. These include high workload, time pressure, demanding patients, complex treatments, and the

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responsibility for patient satisfaction and safety. Emotional stress from managing patient anxiety, pain, and difficult cases also adds to the pressure. Together, these stressors can significantly affect the well-being and quality of life of dental professionals (Sakr, 2023). Furthermore, dentists' work-related stress is associated with burnout, potentially diminishing their quality of work life (Basson, 2013).

Javier Molina-Hernández's study, involving 336 participants with an average age of 37.6, found high levels of job satisfaction and positive work environments, with only 3.8% experiencing burnout. Professional experience positively predicted work environment and burnout levels, while weekly work hours significantly predicted job satisfaction. There were no significant differences based on gender. The study concluded that dentists working over 20 hours per week and with more experience had better well-being at work, underscoring the importance of reducing burnout to enhance work engagement and patient care (Molina-Hernández et al., 2021).

Burnout contrasts sharply with work satisfaction. In our study, seventy-three percent of dentists reported being satisfied with their work quality. Dang's study also showed that dentists generally experience moderate to high job satisfaction, with specialist dentists being more satisfied than general dentists. Key factors affecting job satisfaction included patient-dentist relationships, respect, type of care provided, workplace relationships, and the work setting. These findings align with those of the present study (Dang et al., 2021). Work satisfaction plays a crucial role in employment choices, and the migration of dentists has emerged as an increasing concern for certain communities (Restrepo-Pérez et al., 2024).

An important aspect of health policy is developing strategies to enhance dentists' job satisfaction, which improves their work quality of life. The study found that dentists working in private centers reported higher levels of job satisfaction and work quality of life. Additionally, linear regression analysis showed a significant association between income and work quality of life, with higher income linked to a 0.27 greater likelihood of job satisfaction. In the study of Shabaninejad et al. (2012) found a significant association between physicians' quality of work life and their satisfaction with both the amount and timing of their monthly salary (Shabaninejad et al., 2012). Mahmoud et al. (2015) demonstrated that workplace facilities influence work quality of life, showing that better work environments correlate with higher satisfaction levels (Mahmoud et al., 2015), Contrarily, Shabaninejad et al. (2012) reported no significant link between workplace facilities and work quality of life (Shabaninejad et al., 2012). In the present study, no notable relationships were identified between other demographic factors and dentists' work quality of life. The literature outside dentistry presents mixed results regarding the impact of demographic variables on work quality of life, as evidenced by the contrasting findings of Shabaninejad et al. and Mahmoud et al. (Shabaninejad et al., 2012; Mahmoud et al., 2015). Despite these inconsistencies, prior research indicates that demographic characteristics can play a role in shaping work quality of life, a consideration important for public health officials and policymakers.

The results of the present study indicated that participants exhibited a high level of work ethic. The relationship between work of life quality and work ethic was found to be a direct and significant correlation. A study by Razavi evaluated Iranian dentists' attitudes toward principles of professional ethics in Isfahan, reporting an average score of 133.02 ± 13.16. Significant differences in scores were found based on education level, marital status, and completion of ethics courses. While dentists generally had a good attitude toward professional ethics (Razavi et al., 2023).Our results are consistent with Razavi's study. There is no available study that specifically examines the relationship between work quality of life and work ethic among dentists. However, similar research in nursing populations, such as Khanzadeh et al.'s study on nurses in hospitals affiliated with West Azerbaijan University of Medical Sciences (2018), aligns with our findings (Khanzadeh et al., 2019). Similarly, in Mahdieh et al.'s study on the impact of ethical values on the work quality of life of nurses, with work ethic as a mediating factor, the results indicated that ethical values had a positive and significant effect on both professional quality of life and work ethic. However, work ethic itself did not significantly influence professional quality of life (Mahdieh & Azadeh, 2019). Data were collected using selfreported measures. Additionally, due to the absence of a specialized questionnaire tailored to dentists' quality of life, a general instrument was utilized. Therefore, the results of this study should be interpreted and generalized with consideration of these limitations.

Conclusion

Our findings revealed that more than half of the dentists surveyed reported high levels of work quality of life and strong work ethics. Considering the association between organizational activity, income, and quality of life among dentists in the public sector, targeted interventions to improve their overall well-being are

warranted. Furthermore, the positive correlation observed between professional quality of life and work ethics suggests that strengthening ethical practices may contribute to enhancing dentists' quality of life both professionally and personally.

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