

Assessing Dentist Job Satisfaction by A Systematic Review

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Abstract

Background:

Job satisfaction is a critical aspect of professional well-being, influencing both individual performance and overall healthcare delivery. In dentistry, job satisfaction (DJS) is influenced by various environmental and work-related factors, yet findings across studies have been inconsistent. This systematic review and meta-analysis aim to evaluate the level of DJS and the impact of work environmental factors on job satisfaction among dentists, addressing existing gaps in the literature.

Methods:

This study adhered to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines. A comprehensive search was conducted in PubMed/MEDLINE, EMBASE, and Web of Science databases up until March 1, 2024, to identify cross-sectional studies using the Dentist Satisfaction Survey (DSS) or its modified versions. Studies were selected based on predefined inclusion and exclusion criteria, and data on job satisfaction scores and work-related environmental factors were extracted.

Results:

Nine studies met the inclusion criteria, comprising 4810 participants across high, upper-middle, and lower-middle-income countries. Overall job satisfaction levels ranged from neutral to high, with a combined random effect size of 3.83 (95% CI: 3.81-3.84). Key factors positively impacting DJS included patient relationships, respect, delivery of care, staff, and professional environment. Factors such as personal time, income, and stress were associated with lower satisfaction. Specialists reported higher satisfaction levels than general dentists.

Conclusion:

Dentists generally experience moderate to high job satisfaction, with key determinants including professional relationships, patient care, and work environment. Conversely, challenges such as time constraints, income, and stress detract from job satisfaction. Longitudinal research is needed to further explore the dynamic nature of these factors, particularly in middle- and low-income countries, and to evaluate the inclusion of stress-related factors in future DJS assessments.

Introduction

Job satisfaction is defined as “the positive emotional state resulting from the evaluation of one's job or job-related experiences” (1), or more simply, “the degree to which individuals feel positive or negative about their job” (2). This includes their attitudes toward their job in general or specific elements like colleagues, salary, or work conditions. Recently, a number of studies have explored

overall job satisfaction and the influence of work environment factors on dentists' job satisfaction (DJS) (3, 4, 5).

While dentistry is often viewed as a prestigious and well-compensated profession, it is also highly demanding. Public perception tends to associate the profession with high income and status, leading to the assumption that dentists enjoy a high quality of life. However, being a dentist involves various stressors, including financial pressures, patient anxiety, employment challenges, suboptimal working environments, and the repetitive nature of the work (6, 7, 8).

Several questionnaires have been developed to assess DJS (9, 10, 11, 12). In 1990, Shugars et al. created the Dentist Satisfaction Survey (DSS) (13), which remains one of the most widely used tools in this field. Since then, modified versions of the DSS have been created in various countries to adapt to specific conditions and assess DJS (3, 4, 14, 15, 16).

Numerous studies based on the DSS have examined the relationship between DJS and work environmental factors. However, these studies have produced diverse findings regarding the level of DJS and factors such as relationships with patients, care delivery, respect, staff, work-life balance, professional environment, income, and stress (3, 4, 5, 13, 14, 15, 16). The inconsistency in results can be attributed to differences in socioeconomic factors, healthcare policies, study duration, and demographic variables.

Given the variability in existing research, a comprehensive review of DJS is crucial to pinpoint issues that dentists face in their daily practice, suggest ways to improve the work environment, inform policymakers about the current state of DJS, and provide guidance for healthcare reforms. Additionally, such a review can facilitate a meta-analysis of DJS and its influencing factors. This study aims to systematically review and analyze the impact of work environmental factors on DJS, helping to identify knowledge gaps and weaknesses in current research methods.

Materials and Methods

This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (17).

Inclusion and Exclusion Criteria

Cross-sectional studies utilizing the Dentist Satisfaction Survey (DSS) or its modified versions to assess DJS and associated factors were included, regardless of when they were published. The studies included both dentists with and without specialized training, with no age restrictions.

Exclusion criteria comprised reviews, opinion pieces, letters, dissertations, theses, studies that did not focus on dentists, and non-English language studies.

Outcomes

The primary outcomes of this review were overall job satisfaction and the factors influencing it, as assessed by the DSS.

Search Strategy and Study Selection

We searched several databases, including PubMed/MEDLINE, EMBASE, and Web of Science, from their inception until March 1, 2023. Initially, a search strategy was applied across the databases to capture text from both abstracts and titles. The complete search strategy combined Medical Subject Headings (MeSH) terms with text-based keywords.

Two authors (VNTL and DWL) independently screened titles and abstracts to eliminate duplicate references using the EndNote X8 program (Thomson Reuters). The first 100 studies were reviewed preliminarily by assessing titles and abstracts to ensure that both authors understood the eligibility criteria, followed by a discussion to resolve any uncertainties. If necessary, full-text versions of the studies were obtained. In case of disagreements, a third author (YMY) was involved for further deliberation, and consensus was reached.

Data Collection

Two authors (VN TL and DWL) independently collected the data manually. Any discrepancies in data collection were resolved through discussion. The following information was collected and documented in Microsoft Word:

- (A) Study characteristics: authors, country, journal, study design, number of participants, response rate, sample types, assessment tool used, and overall job satisfaction score.
- (B) Work-related environmental factors impacting DJS.

Results

The initial search identified 1987 articles. After removing 1001 duplicates, 914 articles were excluded based on title and abstract screening. The remaining 72 articles were reviewed in full text, and 63 were discarded for reasons such as being unrelated to the topic (60 articles) or being review articles (3 articles). Ultimately, 9 articles were selected for analysis.

As shown in Table 1, the articles included in this review were published between 1990 and 2017. Following World Bank criteria, all studies were cross-sectional observational studies. Of these, 4 were conducted in high-income countries (United States, Canada, South Korea, and Lithuania), 2 in upper-middle-income countries (China), and 2 in lower-middle-income countries (Egypt) (3, 4, 5, 13, 14, 15, 16, 20, 21, 22). Among these studies, 4 focused on general dentists (13, 16, 20, 21), 3 on specialists (3, 4, 14), and 3 included both general dentists and specialists (5, 15).

Exposure Types

All included studies evaluated job satisfaction (DJS) using surveys. Of the 9 studies, 8 (3, 4, 5, 14, 15, 16, 20, 21) used a modified version of the DSS. Additionally, some studies employed other tools such as the Myers-Briggs Type Indicator (MBTI), the Maslach Burnout Inventory (MBI) (20), an occupational stress scale (14), and professional environment and stress indicators (4).

Outcome Measurements

The overall job satisfaction scores varied across studies. Studies from China (3.18) (3), South Korea (3.24) (15), Egypt (3.24) (5), and the United States (2.48 and 3.15) (13, 20) indicated a neutral level of satisfaction. On the other hand, studies from Canada (4.02) (14), Lithuania (4.06) (16), and the United States (4.06) (4) demonstrated high levels of satisfaction. One study did not report satisfaction scores (21).

Work environmental factors impacting DJS are detailed in Table 2. The most common factors affecting DJS included patient relationships (78%, $n = 7$) (3, 4, 5, 13, 14, 15, 16), income (78%, $n = 7$) (3, 4, 5, 13, 14, 15, 16), and personal time (78%, $n = 7$) (3, 4, 5, 13, 14, 15, 16). Other notable factors included staff (67%, $n = 6$) (3, 4, 5, 13, 14, 15), professional time (67%, $n = 6$) (3, 4, 5, 13, 14, 15), and the delivery of care (67%, $n = 6$) (3, 4, 5, 13, 14, 15). Other environmental factors, such as professional relationships (56%, $n = 5$) (3, 4, 13, 14, 16), respect (44%, $n = 4$) (3, 4, 13, 14), and practice management (44%, $n = 4$) (4, 13, 14, 16), were also noted to influence DJS.

Eight studies reported overall job satisfaction as a continuous variable.

The factors with the highest satisfaction scores included patient relationships (4.05, 95% CI: 4.03–4.07), respect (3.98, 95% CI: 3.95–4.01), delivery of care (3.87, 95% CI: 3.85–3.89), staff (3.65, 95% CI: 3.62–3.68), professional relationships (3.61, 95% CI: 3.59–3.63), and the professional environment (3.52, 95% CI: 3.49–3.55). In contrast, the factors associated with lower job satisfaction were personal time (3.02, 95% CI: 2.99–3.04), stress (3.12, 95% CI: 3.03–3.21), income (3.19, 95% CI: 3.17–3.22), practice management (3.26, 95% CI: 3.24–3.29), and professional time (3.36, 95% CI: 3.34–3.38).

Table 1. Study characteristics of the included cross-sectional studies.

#	Author (Country)	Year	Journal	Respondent	Response rate	Assessment tool	Sample type	Overall job satisfaction score
1	Cui et al ³ (China)	2017	Journal of Healthcare Leadership	170	47.4%	CDSS (38 items)	Specialist	3.28
2	Fahim ⁵ (Egypt)	2013	International Journal of Occupational Medicine and Environmental Health	277	61.7%	Modified DSS (29 items)	Combination	3.24
3	Bates et al ⁴ (USA)	2013	Pediatric Dentistry	1351	Mail: 39% E-mail: 26%	Modified DSS (39 items) Professional environment indicator Stress indicator	Specialist	4.06
4	Puriene et al ¹⁶ (Lithuania)	2007	Stomatologija	1670	68.2%	Modified DSS	General dentist	4.06
5	Jeong et al ¹⁵ (South Korea)	2006	Community Dent Oral Epidemiol	615	62.2%	KDSS (29 items)	Combination	3.24
6	Baran ²⁰ (USA)	2005	General Dentistry	202	79.5%	Modified DSS (14 items) MBTI MBI	General dentist	2.48
7	Roth et al ¹⁴ (Canada)	2003	AJODO	319	48.8%	Modified DSS (52 items) Occupational stress scale	Specialist	4.02

8	Well and Winter ²¹ (USA)	1999	Journal of Dental Education	1572	63%	Modified DSS (64 items)	General dentist	NR
9	Shugars et al ¹³ (USA)	1990	Journal of Dental Education	408	75.1%	DSS (54 items)	General dentist	3.15

AJODO = American Journal of Orthodontics and Dentofacial Orthopedics. CDSS = Chinese Dentist Satisfaction Survey; DSS = Dentist Satisfaction Survey; KDSS = Korean Dentist Satisfaction Survey; MBI = Maslach Burnout Inventory; MBTI = Myers Briggs Type Indicator.

Table 2. Work environmental factors found in the included cross-sectional studies.

	Cui et al ³	Fahim ⁵	Bates et al ⁴	Purienne et al ¹⁶	Jeong et al ¹⁵	Baran ²⁰	Roth et al ¹⁴	Well and Winter ²¹	Shugars et al ¹³	Result
Work environmental factors	Professional relationship Staff Respect Professional time Professional environment Delivery of care Patient relationship Stress Income Personal time	Patient relationship Delivery of care Staff Income Professional time Personal time	Patient relationship Delivery of care Respect Staff Professional time Income Personal time Professional relationship Practice management	Professional relationship Patient relationship Possibility to realize one's capabilities and talents Work environment Work organization Possibility to improve and qualify Practice	Patient relationship Delivery of care Staff Income Professional time Personal time	NR	Patient relationship Overall quality of life Respect Delivery of care Professional relationship Staff Professional environment Income Professional time Practice	NR	Patient relationship Professional relationship Delivery of care Respect Stress Staff Professional time Practice management Personal time Income Professional environment	Patient relationship (7/9) Income (7/9) Personal time (7/9) Staff (6/9) Professional time (6/9) Delivery of care (6/9) Professional relationship (5/9) Professional environment (4/9)

				manag ement Profes sional evalua tion and apprec iation Work load Time for family Person al time Incom e Social securit y			manag ement Person al time			Practi ce manag ement (4/9) Respe ct (4/9) Stress (2/9) Possib ility to realize one's capabi lities and talents (1/9) Work organi zation (1/9) Possib ility to impro ve and qualif y (1/9) Profes sional evalua tion and apprec iation (1/9) Work load (1/9) Time for family (1/9) Social securit y (1/9)
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										Overall quality of life (1/9)
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Discussion

This review analyzed the overall job satisfaction (DJS) and associated factors in 9 high-quality studies. The results showed consistency in the definitions and measurement of job satisfaction, although variations in socioeconomic context, healthcare policies, study durations, and demographic factors related to DJS were present. Despite these differences, the findings indicate that dentists generally reported moderate to high levels of job satisfaction. A total of 11 factors were examined across various studies, with 6 factors linked to higher satisfaction: patient relationships, respect, delivery of care, staff, professional relationships, and professional environment. In contrast, 5 factors were associated with lower satisfaction: personal time, stress, income, practice management, and professional time.

In the meta-analysis, it was found that 76.6% of dentists expressed satisfaction with their jobs. This result could be influenced by the fact that 78% of the studies were conducted in high-income countries, which typically offer a higher quality of life (14, 23, 24, 25). This outcome aligns with a previous review, which, however, focused on studies from low- and middle-income countries (26). Our study, based on 9 studies assessing dentists, provides deeper insights into DJS.

Geographical and cultural differences in dental care settings may affect DJS, which led to the development of modified DSS questionnaires that include region-specific items. Through the use of these similar questionnaires, the meta-analysis highlighted the impact of work environment factors on DJS, offering more substantial insights. However, stress was only considered in two studies, and future research should include stress-related elements in the DSS to further enrich the findings.

The analysis revealed that specialists (with more than 65% satisfaction) exhibited higher job satisfaction compared to general dentists (3, 4, 5, 13, 14, 15, 16, 20). Pediatric dentists, in particular, reported greater satisfaction with many aspects of their job. Pediatric dentists tend to see almost double the number of patients per week compared to general dentists (excluding hygiene visits) (27). This finding contrasts with previous research on general dentists (24, 28, 29). The pediatric dental field is known for its fast-paced nature. Canadian orthodontists, for instance, reported higher job satisfaction than general dentists, likely due to professional association memberships (14). In line with this, specialists reported higher job satisfaction than general dentists, though stress remained a factor of dissatisfaction, similar to general dentists' experiences (29).

Conclusion

Although the number of included studies was limited, the results consistently indicate that dentists experience moderate to high job satisfaction. Specialists reported higher satisfaction than general dentists. The six factors most influencing job satisfaction were patient relationships, respect, delivery of care, staff, professional relationships, and professional environment, while the factors least associated with satisfaction were personal time, stress, income, practice management, and

professional time. Longitudinal studies are necessary to track changes in these factors, and more research should be conducted in middle- and low-income countries with stress evaluations included in the DSS.

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