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# Job satisfaction of registered dental practitioners

L Luzzi,\* AJ Spencer,\* K Jones,\* D Teusner\*

## Abstract

**Background:** This study was designed to measure job satisfaction among registered clinical dentists so as to identify issues which may influence recruitment and retention of dentists in active clinical practice.

**Methods:** A questionnaire measuring dimensions of job satisfaction was mailed to a stratified random sample of 80 private and 80 public sector dentists selected from the 1999 Victorian Dental Register.

**Results:** An adjusted response rate of 60 per cent was achieved (n=87). Analyses showed significant differences (ANOVA;  $p < 0.05$ ) in levels of satisfaction for various dimensions of job satisfaction by gender, age group and practice type. Differences in job satisfaction between male and female dentists related to the personal time dimension. Differences in satisfaction between dentists of different age groups were attributable to six dimensions: relationships with colleagues, relationships with patients, relationships with staff, personal time, community and administrative responsibilities. Differences between levels of satisfaction among private and public dentists related to the autonomy, relationships with patients, pay and resources dimensions.

**Conclusion:** There are various dimensions of job satisfaction that may be pertinent to issues influencing recruitment and retention of dentists. Differences that exist between levels of job satisfaction among private and public sector dentists, between male and female dentists and dentists of different age groups need to be addressed in order to improve recruitment and retention rates of dentists in active clinical practice in different sectors of the dental care system.

**Key words:** Job satisfaction, dentist, public sector, recruitment, retention.

**Abbreviations and acronyms:** ARCPOH = Australian Research Centre for Population Oral Health; GPs = general practitioners.

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## INTRODUCTION

Job satisfaction has been linked to various aspects of patient care and health system outcomes<sup>1</sup> as well as to general life satisfaction and job performance.<sup>2</sup> Job satisfaction has been discussed in relation to issues such as high turnover of dental staff, potential loss of productivity resulting from turnover and movement away from the dental field entirely. Low job satisfaction has been linked to high turnover of dentists and dental auxiliaries with resultant loss of productivity and reduced quality of patient care.<sup>3,4</sup> Changing workplace structures, financial changes and shortages in auxiliary staff all contribute to the changes experienced in the dental workplace and each have implications for recruitment and retention of dentists in active clinical practice.

Although the literature on job satisfaction is extensive, there is little research into job satisfaction among health service workers in Australia, and in particular, among dentists. Measures of job satisfaction among dentists may help to ameliorate issues impacting on recruitment and retention of dentists in active clinical practice since job satisfaction may be an important predictor of movements within the dental profession and intent to change jobs. In a study of job satisfaction among dentists in the US State of California, Shugars *et al.*<sup>2</sup> suggest that possible determinants of job satisfaction among dentists, such as dentist attributes and physical and emotional well-being need to be studied. Levels of job satisfaction among dentists practising in private and public sectors, between male and female dentists and among dentists of different age groups are therefore key issues to be examined. The existence of any systematic variation in levels of job satisfaction between dentists by these factors may give some indication of areas in which dentists' job satisfaction may be improved.

The purpose of this study was to examine job satisfaction among clinical dentists in Victoria, Australia and to examine differences in job satisfaction among private and public dentists and characteristics of dentists. The study was located within a broader context of identifying issues which may impact upon recruitment and retention of public sector dentists.<sup>5</sup> Aspects of job satisfaction were examined in order to

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**Table 1. Description of job satisfaction dimensions/sub-scales**

Autonomy	satisfaction with job independence which includes dealing with outside reviewers and treating patients according to the best clinical judgement
Relationships with colleagues	satisfaction with relationships with other dentists both personally and in the practice setting
Relationships with patients	satisfaction with dentist-patient relationships in terms of patient needs and their demands for treatment and time to develop good relationships
Relationships with staff	satisfaction with relationships with non-dental staff in terms of staff being supportive and reliable in the practice setting
Personal time	satisfaction with quality and quantity of time to self and family
Intrinsic satisfaction	satisfaction with the personal rewards of being a dentist in terms of finding clinical work personally rewarding, patient gratitude and having a positive impact on those in need
Community	satisfaction with the community in which the dentist practices in terms of feeling at home, belonging and being respected
Compensation	satisfaction with pay given level of training and experience and also compared with other dentists
Administrative responsibilities	satisfaction with paperwork requirements and the amount of administrative work to be done
Resources	satisfaction with the facilities and materials on hand for clinical practice

develop an understanding of specific issues which impact upon recruitment and retention of dentists. The specific aims of this project were to measure job satisfaction among clinical dentists in Victoria so as to identify issues that may influence recruitment and retention of dentists in active clinical practice and to determine what factors in job satisfaction are universal to dentistry versus those factors which separate private and public sector practice.

## MATERIALS AND METHODS

### Design and sampling

This study utilized a cross-sectional survey of registered dentists in Victoria. A stratified random sample of 80 private and 80 public sector dentists was drawn from the 1999 Victorian Dental Register. The sample was stratified by sex and by public and private sector dentists.

### Data collection

An introduction letter and self-completed questionnaire were mailed to the randomly selected dentists with two rounds of follow-up mailings sent to non-respondents. The questionnaire collected information relating to dentist characteristics (i.e., age, gender, country of birth, year and school of graduation), area of dentistry (i.e., general practice or other), practice type (i.e., public or private) and job satisfaction.

### Data items

The questionnaire used for this research was based on a job satisfaction questionnaire developed by Williams *et al.*<sup>1</sup> for use among US general medical practitioners.<sup>6</sup> Job satisfaction items relating to the specifics of medical practice and to US medical service

delivery systems were re-worded to accommodate the use of the questionnaire with dentists. The questionnaire measured both specific dimensions of job satisfaction and overall job satisfaction of dentists.

The questionnaire contained a 38-item battery of statements which were used as predictors of job satisfaction and a 12-item battery of statements used as measures of global satisfaction with work as a dentist. The 'job satisfaction' scale assessed specific aspects of the job while the 'global satisfaction' scale was an all-encompassing viewpoint (i.e., a general assessment of satisfaction with dentistry).

The predictors of job satisfaction covered 10 conceptual and empirical dimensions of work, namely autonomy, relationships with colleagues, relationships with patients, relationships with staff, personal time, intrinsic satisfaction, community in which the dentist works, compensation, administrative responsibilities and resources. Brief descriptions of each of these dimensions are presented in Table 1.

The 12 global satisfaction items covered three conceptual and empirical sub-scales. These were global job satisfaction, global career satisfaction and global specialty satisfaction. Brief descriptions of these global domains are given in Table 2.

The items on the 'job satisfaction' component of the questionnaire were presented as statements pertaining to various aspects of the respondents job while items on the 'global satisfaction' scale were presented as statements relating to the respondents overall experience with dentistry.

Responses to statements were captured on a continuum from negative to positive. The participants were asked to indicate their level of agreement or disagreement with the statements on a five-point Likert

**Table 2. Description of global satisfaction sub-scales**

Global job satisfaction	overall satisfaction with job as a dentist in terms of finding clinical work personally rewarding, being pleased with his/her work and current practice
Global career satisfaction	overall satisfaction with his/her chosen career as a dentist and with his/her dental career meeting his/her expectations
Global specialty satisfaction	overall satisfaction with his/her chosen specialty, i.e., area and type of practice

**Table 3. Dimension and sub-scale reliability analysis**

		Number of items	Cronbach $\alpha$
Job satisfaction dimensions	Autonomy	5	0.5
	Relationships with Colleagues	4	0.8
	Relationships with Patients	4	0.6
	Relationships with Staff	4	0.7
	Personal Time	4	0.8
	Intrinsic Satisfaction	4	0.6
	Community	4	0.8
	Compensation	3	0.8
	Administrative Responsibilities	2	0.9
	Resources	4	0.7
Global satisfaction sub-scales	Job satisfaction (total)	38	0.9
	Global Job Satisfaction	5	0.8
	Global Career Satisfaction	4	0.8
	Global Specialty Satisfaction	3	0.8
	Global job satisfaction (total)	12	0.9

scale with '1' indicating strong disagreement (and hence strong dissatisfaction) and '5' indicating strong agreement (and hence strong satisfaction). Both positively and negatively worded statements were used to minimize the effect of a response set. Negatively worded items were corrected for direction of response in the analysis so that higher values indicated a greater degree of satisfaction.

#### Scale development

The reliability of the dimensions/sub-scales was assessed by Cronbach's alpha coefficient of inter-item reliability. Cronbach alpha coefficients for each dimension and sub-scale are presented in Table 3. For the 10 dimensions of job satisfaction, Cronbach alpha values ranged from 0.5 to 0.9 indicating adequate reliability for each of the dimensions while Cronbach alpha values were all above 0.8 for items grouped within each global satisfaction sub-scale, also indicating adequate reliability for each of these sub-scales. The Cronbach alpha coefficients for the overall job satisfaction and global job satisfaction scales were both 0.9.

#### Data analysis

The data were weighted according to the population gender and practice type distribution, whereby practice type referred to dentists practicing in either the private or public sector. Weighting was employed to adjust for the differences in probabilities of selection for male and female dentists as the proportion of practising male and female dentists in Victoria (76 per cent cf. 24 per cent) varies from the sample proportions.<sup>5</sup> Thus, this weighting procedure produced unbiased estimates for all dentists in Victoria.

Dimension/sub-scale mean scores were calculated by summing the values of the items and dividing by the number of items. Not all respondents filled in every data item, and so when dimension/sub-scale mean scores were calculated, only those respondents who had provided at least 75 per cent of the responses for that dimension/sub-scale were included in the analyses.

Dimension/sub-scale mean scores were analyzed for associations with dentist characteristics and practice variables using one-way analysis of variance.

**Table 4. Characteristics of respondents (unweighted data)**

		n	%
Age group	25-34 years	<i>n</i> =86 29	33.7
	35-44 years	24	27.9
	45-54 years	21	24.4
	55-64 years	8	9.3
	65+ years	4	4.7
Gender of dentist	Male	<i>n</i> =86 43	50.0
	Female	43	50.0
Born in Australia	Yes	<i>n</i> =87 38	43.7
	No	49	56.3
Area of dentistry	General practice	<i>n</i> =87 83	95.4
	Other work in dentistry	3	3.4
	Currently not working in dentistry	1	1.1
Type of practice	Private	<i>n</i> =86 50	58.1
	Public	36	41.9
Country studied	Australia	<i>n</i> =83 66	79.5
	Overseas	17	20.5

**Table 5. Percentage in agreement and overall mean sub-scale scores for Global job satisfaction (weighted data)**

	%	Mean	SE
Global job satisfaction	89.1	3.85	0.08
Global career satisfaction	78.6	3.64	0.10
Global specialty satisfaction	55.4	3.32	0.11
Total	80.7	3.65	0.08

## RESULTS

### Response

A total of 87 dentists completed the questionnaire, providing a response rate of 60 per cent. The response rate was adjusted for non-contactables and dentists no longer practising. The response rate for private dental practitioners was just over 58 per cent and just under 42 per cent for public dental practitioners.

Table 4 presents the percentage of respondents by characteristics of dentists and practice variables. This table shows a higher proportion of respondents in the younger age groups with just over a third of the respondents aged 25-34 years. The majority of respondents indicated that 'general practice' was their main area of practice and just over 58 per cent of respondents reported that they worked in 'private practice'. Male dentists had an older age distribution than female dentists, with higher percentages in the age groups 45-54 years (31 per cent cf. 18.6 per cent), 55-64 years (16.7 per cent cf. 2.3 per cent) and 65+ years (7.1 per cent cf. 2.3 per cent). These differences were statistically significant (chi-square;  $P < 0.05$ ). From this point on all analyses presented are with the weighted dataset.

### Global satisfaction

The percentages of dentists responding on the agreement side of the midpoint for each global satisfaction sub-scale are shown in Table 5. Mean scale scores greater than 3 were taken to represent agreement, and hence satisfaction, with statements used to measure global job, career and specialty satisfaction. Approximately 89 per cent, 79 per cent and 55 per cent of dentists had mean sub-scale scores of greater than 3 on the global job, career and specialty satisfaction sub-scales respectively.

When the scales were summed to produce the overall global satisfaction scale, nearly 81 per cent of the sample had mean scores of greater than 3 indicating that the majority of respondents were satisfied with their job as a dentist. This was reinforced by the overall mean scores for each sub-scale which were all above 3.

### Job satisfaction

The percentages of dentists responding on the agreement side of the midpoint for each job satisfaction dimension are shown in Table 6. Mean scale scores greater than 3 were taken to represent agreement, and hence satisfaction, with statements used to measure

**Table 6. Percentage in agreement and overall mean dimension/sub-scale scores for Job satisfaction (weighted data)**

	%	Mean	SE
Autonomy	96.1	4.01	0.54
Relationships with colleagues	81.2	3.78	0.73
Relationships with patients	60.4	3.43	0.77
Relationships with staff	71.6	3.62	0.71
Personal time	59.9	3.28	0.99
Intrinsic satisfaction	83.6	3.63	0.64
Community	71.4	3.55	0.87
Compensation	49.2	3.13	0.85
Administrative responsibilities	34.8	2.78	1.24
Resources	84.4	3.79	0.78
Total	82.6	3.37	0.92

various aspects of job satisfaction. When the dimensions/sub-scales were summed to produce the overall job satisfaction scale, 82.6 per cent of the sample had mean scores of greater than 3 indicating that the majority of respondents were satisfied with various aspects of their job as a dentist. Aside from the administrative responsibilities dimension, the overall mean scores for each of the other nine dimensions were all above 3.

The three highest mean scores reported by dentists were for the autonomy, relationships with colleagues and resources dimensions (Table 6). The autonomy dimension measured satisfaction with the independence of action which included dealing with outside reviewers, having input into important decisions and treating patients according to one's best clinical judgement. The relationships with colleagues dimension measured satisfaction with relationships with other dentists both personally and in the practice setting, whilst the resources dimension measured satisfaction with the facilities and materials on hand for clinical practice.

Dimensions in which dentists were less satisfied were compensation and administrative responsibilities. The compensation dimension was measured by items relating to satisfaction with total remuneration package, whilst administrative responsibilities addressed satisfaction with paperwork requirements and the amount of administrative work to be done.

**Table 7. Job satisfaction dimension/sub-scale mean scores by gender (weighted data)**

	Male		Female	
	Mean	SE	Mean	SE
Autonomy	4.00	0.08	4.03	0.09
Relationships with colleagues	3.79	0.12	3.77	0.09
Relationships with patients	3.42	0.12	3.44	0.10
Relationships with staff	3.66	0.11	3.50	0.11
Personal time *	3.17	0.15	3.60	0.13
Intrinsic satisfaction	3.62	0.10	3.66	0.09
Community	3.57	0.14	3.47	0.13
Compensation	3.12	0.13	3.17	0.13
Administrative responsibilities	2.65	0.18	3.15	0.21
Resources	3.81	0.12	3.71	0.13
Total	3.31	0.16	3.59	0.06

\*( $P < 0.05$ ); ANOVA.



**Table 8. Job satisfaction dimension/sub-scale mean scores by age group (weighted data)**

	25-34 years		35-44 years		45-54 years		55+ years	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Autonomy	3.97	0.08	3.89	0.15	3.91	0.11	4.25	0.16
Relationships with colleagues*	3.89	0.11	3.57	0.18	3.56	0.17	4.23	0.15
Relationships with patients***	3.37	0.11	3.09	0.14	3.26	0.16	4.31	0.13
Relationships with staff***	3.70	0.13	3.39	0.15	3.33	0.13	4.22	0.18
Personal time***	3.36	0.16	2.73	0.26	3.12	0.18	4.17	0.16
Intrinsic satisfaction	3.66	0.08	3.38	0.15	3.57	0.15	3.94	0.18
Community***	3.52	0.13	3.19	0.21	3.42	0.19	4.33	0.15
Compensation	3.09	0.17	2.91	0.22	3.10	0.14	3.55	0.26
Administrative responsibilities**	3.21	0.23	2.66	0.29	2.17	0.21	3.27	0.34
Resources	3.78	0.12	3.49	0.26	3.82	0.14	4.15	0.16
Total	3.59	0.07	3.28	0.11	3.08	0.22	3.62	0.37

\*\*\*( $P < 0.001$ ), \*\*( $P < 0.01$ ), \*( $P < 0.05$ ); ANOVA.

### Mean job satisfaction scores by gender

When examining mean job satisfaction scores for each dimension/sub-scale by gender, only mean scores on the personal time dimension were significantly different between male and female dentists. Female dentists reported a higher mean score compared to male dentists. The personal time dimension was measured by items pertaining to work encroaching on personal time, work schedule leaving enough time for family life, interruption of personal life by work and amount of on-call work required to take. These results are presented in Table 7.

### Mean job satisfaction scores by age group

Table 8 shows the differences in mean scores of the 10 dimensions of the job satisfaction scale by age group. There were significant differences in mean scores on six of the 10 dimensions of job satisfaction by age group, namely relationships with colleagues, relationships with patients, relationships with staff, personal time, community in which the dentist works and administrative responsibilities. Dentists aged 55 years or more were significantly more satisfied on these dimensions than the younger age groups. On average, the 35-44 year age group and the 45-54 year age group reported lower scores in comparison to the youngest and oldest age groups. In general, respondents aged 55 years or more had the highest mean scores on all dimensions followed by the youngest age group.

**Table 9. Job satisfaction dimension/sub-scale mean scores by practice type (weighted data)**

	Private		Public	
	Mean	SE	Mean	SE
Autonomy *	4.07	0.06	3.75	0.18
Relationships with colleagues	3.82	0.08	3.59	0.19
Relationships with patients *	3.51	0.08	3.04	0.22
Relationships with staff	3.58	0.09	3.54	0.19
Personal time	3.35	0.11	3.53	0.25
Intrinsic satisfaction	3.62	0.07	3.74	0.19
Community	3.55	0.10	3.40	0.23
Compensation ***	3.30	0.09	2.41	0.23
Administrative responsibilities	2.87	0.16	3.03	0.30
Resources **	3.88	0.09	3.22	0.20
Total	3.48	0.10	3.31	0.17

\*\*\*( $P < 0.001$ ), \*\*( $P < 0.01$ ), \*( $P < 0.05$ ); ANOVA.

### Mean job satisfaction scores by practice type

The mean scores for the 10 dimensions of job satisfaction by practice type whilst controlling for age and gender differences are presented in Table 9. There were no significant differences between the levels of satisfaction expressed by public and private dentists on six of the 10 dimensions of job satisfaction. Dimensions in which public dentists reported significantly lower mean scores than private dentists were autonomy, relationships with patients, compensation and resources. Despite the significant differences on the autonomy, relationships with patients and resources dimensions, mean scores for both public and private dentists were still on the agreement side of the midpoint on these dimensions indicating overall levels of satisfaction rather than overt dissatisfaction with these particular areas of their job. However, private and public dentists expressed varying levels of satisfaction on the compensation dimension. The mean score for private dentists was above the midpoint of 3 indicating moderate satisfaction with their compensation package. But the mean score for public dentists on this scale fell below the midpoint of 3 indicating dissatisfaction with their compensation package. Public sector dentists reported feeling more inadequately compensated given their skills and the services they provide than private dentists. Public sector dentists also expressed dissatisfaction with their pay when comparing their remuneration package with other dentists.

## DISCUSSION

Before discussing the findings it seems appropriate to first discuss the limitations of this study. Firstly, the respondents only included registered dentists in Victoria and so the findings can only be generalized within this population. In addition to this, the study did not include dentists who were no longer practising or who had left practice and so mean satisfaction scores may be higher (indicating stronger satisfaction) as a result. Secondly, a relatively small sample was used for this study coupled with a lower response rate among public dental practitioners. This could potentially introduce non-response bias within this group and

potentially within the total sample. Furthermore, the overall response rate achieved (i.e., 60 per cent) was moderate especially considering there were two follow-up letters. This may place some constraints on the results and their interpretation. However, the sample was weighted to produce a more representative sample for analyses.

Overall this study has revealed that dentists in active clinical practice are reasonably satisfied with their job. Global satisfaction was high with dentists reporting overall satisfaction with their job, career and specialty. Similarly, an overall measure of job satisfaction indicated that dentists were reasonably satisfied with the various components of their job. For the dimensions of job satisfaction, satisfaction scores were higher for autonomy, relationships with colleagues and resources, but lower for compensation and administrative responsibilities.

When comparing aspects of job satisfaction among private and public dentists, public dentists reported lower mean scores for four of the 10 dimensions of job satisfaction, namely autonomy, resources, relationships with patients and compensation. The resources dimension was measured using items relating to facilities and materials on hand for clinical practice. Scores may be lower for public dentists on this dimension as a result of funding limitations within the public sector. Funding limitations in the public sector may also impact upon autonomy within the job and patient relationships. Public sector dentists are limited in their ability to offer services and treatments. This may not only impact on the ability to treat patients according to their best clinical judgement but such systemic factors may also contribute to the frustration felt by patients which in turn affect dentist-patient relationships which can lead to reduced job satisfaction. Also, many patients seen in the public sector come in for emergency care so public dentists may feel more overwhelmed by patient needs and may feel that they do not have enough time to develop good patient relationships because of the nature of the patient's visit.

Male and female dentists differed significantly on the personal time dimension with female dentists reporting higher scores on this dimension. Gender differences highlighted that women are more satisfied on the Personal time dimension which measured satisfaction with quality and quantity of time to self and family. Many female dentists may work less than full-time but as employment status was not collected in this study it is difficult to ascertain if this is the reason women are reporting higher levels of satisfaction on this dimension. However, Teusner and Spencer<sup>7</sup> have found that female dentists work significantly fewer hours than male dentists. Introducing more flexible working hours into the workplace for both sexes might reduce dissatisfaction with the job encroaching on personal time.

Age of the dentist was significantly associated with six of the job satisfaction dimensions, namely

relationships with colleagues, patients and staff, personal time, community in which the dentist works and administrative responsibilities. Variation in job satisfaction by age highlighted that those dentists aged 35-44 years and 45-54 years were less satisfied with various aspects of their job compared to their younger and older counterparts. Dentists aged between 35 and 54 years may be in the peak of the demands placed on them by their dental career and may find themselves under increased stress and pressure associated with building and sustaining a viable practice. Dissatisfaction with job has been associated with work pressure and perceptions of control over work practices, with surveys of dental practitioners in the United States indicating that low job satisfaction is related to the experience of job-related stress.<sup>8</sup>

In a survey of morale and job satisfaction among registered general medical practitioners conducted by *Australian Doctor*,<sup>9</sup> findings revealed that half of Australian GPs would not choose general practice again if they could 'turn back the clock'. Disaffection with the profession was attributed to key factors relating to remuneration, government interference, career path concerns and intrusions of the job into family life. The key to satisfaction with general practice work for many GPs was to move to rural areas, work part-time, and/or give up bulk-billing. The issues pertaining to job satisfaction in this particular survey of GPs are supported by other studies into job satisfaction and well-being of health practitioners and lend to our understanding of the multi-faceted issues influencing recruitment and retention within a health profession, and hence the dental labour force.<sup>5</sup>

Recent data released by the Australian Research Centre for Population Oral Health has revealed a projected shortfall of dental supply by the year 2010.<sup>10</sup> Shortages in dental professional supply will have a detrimental impact on the oral health of Australians. There are already high levels of unmet dental need within the Australian population, with the more disadvantaged segments of the population experiencing greater levels of unmet need. This situation will only worsen as access to dental services becomes more limited. The demand for dental services is expected to increase with time, especially in light of Australia's ageing population. The oral health and oral health needs of Australians are changing and, as more adults are retaining their teeth for longer, the demand for dental services will also be affected. Despite the projected increase of dentists by the year 2010, it is anticipated that the increase will fail to meet the needs and demands of the growing and increasingly dentate population.

Given the most recent concerns over the projected shortfall in availability and distribution of dental services throughout Australia in the next six years,<sup>10</sup> important considerations in the dental labour force are therefore issues impacting upon the recruitment and retention of dentists. In a qualitative study of job

satisfaction among Victorian dentists, clinician 'burnout' (arising from situational sources of job-related and interpersonal stress<sup>11</sup>) and a lack of autonomy were factors perceived to influence retention. Factors influencing recruitment included role modelling, controllable lifestyle and career pathways.<sup>5</sup> In a qualitative study of job satisfaction among dentists in New South Wales, issues pertaining to recruitment and retention of dentists in New South Wales were not dissimilar.<sup>12</sup>

This research has revealed that there are various dimensions of job satisfaction that may be pertinent to issues impacting on recruitment and retention of dentists in active clinical practice and coincide closely to the findings of the qualitative research carried out. Job satisfaction is potentially an important predictor of movements within the dental profession and intent to change jobs. High turnover of dental professionals, particularly within public dental services throughout Australia, has consequential impacts on both services delivered and costs. In order to improve recruitment and retention rates of dentists in active clinical practice, and given the concerns over the projected shortfall of dental supply throughout Australia in the next six years, the issues identified within this research need to be addressed. The instrument used in this study to measure dentist job satisfaction can be used to highlight the strengths and weaknesses of the profession as viewed by dentists in active clinical practice. Overall high levels of satisfaction with autonomy of the job, relationships with colleagues, the personal rewards of being a dentist and resources available to practice could be used to promote and support the profession nationwide to help boost recruitment. Lower levels of satisfaction with remuneration and administrative responsibilities suggest that these areas in particular need addressing in terms of recruitment and retention of dentists. Shepherd<sup>13</sup> conducted research into strategies which addressed issues relating to recruitment and retention of health care workers and suggested that workplaces need to find ways in which to offer employees competitive pay, status, potential to achieve personal growth, flexible hours and defined career pathways.

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#### REFERENCES

1. Williams ES, Konrad TR, Linzer M et al. Refining the measurement of physician job satisfaction: results from the Physician Worklife Survey. SGIM Career Satisfaction Study Group. Society of General Internal Medicine. *Med Care* 1999;37:1140-1154.
2. Shugars DA, Hays RD, DiMatteo MR, Cretin S. Development of an instrument to measure job satisfaction among dentists. *Med Care* 1991;29:728-744.
3. Chapko MK, Bergner M, Beach B, Green K, Milgrom P, Skalabrin N. Development of a measure of job satisfaction for dentists and dental auxiliaries. *Community Dent Oral Epidemiol* 1986;14:76-79.
4. Burman D, Locker D, Otchere D. Ontario dental assistants' job satisfaction: relationship to work stress and intention to change jobs. *J Can Dent Assoc* 1990;56:617-620. Erratum in: *J Can Dent Assoc* 1990;56:899.
5. AIHW Dental Statistics and Research Unit. The 1999 Victorian Oral Health Services Labour Force Planning Project. Adelaide: AIHW Dental Statistics and Research Unit, The University of Adelaide, 2000 (Report; 79 pp).
6. Konrad TR, Williams ES, Linzer M et al. Measuring physician job satisfaction in a changing workplace and a challenging environment. SGIM Career Satisfaction Study Group. Society of General Internal Medicine. *Med Care* 1999;37:1174-1182.
7. Teusner DN, Spencer AJ 2003. Dental Labour Force, Australia 2000. AIHW Cat. No. DEN 116. Canberra: Australian Institute of Health and Welfare (Dental Statistics and Research Series No. 28).
8. Newton JT, Gibbons DE. Levels of career satisfaction amongst dental healthcare professionals: comparison of dental therapists, dental hygienists and dental practitioners. *Community Dent Health* 2001;18:172-176.
9. Overs M. GP morale low: half regret career choice. *Australian Doctor*, Special report; 27 August 1999.
10. Spencer AJ, Teusner DN, Carter KD, Brennan DS 2003. The Dental Labour Force in Australia: The Position and Policy Directions. AIHW Cat. No. POH 2. Canberra: Australian Institute of Health and Welfare (Population Oral Health Series No. 2).
11. Osborne D, Croucher R. Levels of burnout in general dental practitioners in the south-east of England. *Br Dent J* 1994;177:372-377.
12. AIHW Dental Statistics and Research Unit. The 2002 New South Wales Oral Health Workforce Planning Project. Adelaide: AIHW Dental Statistics and Research Unit, 2002. (Report; 117 pp).
13. Shepherd D. The collaborative roles of universities and hospitals in addressing the allied health manpower shortage. *J Allied Health* 1990;19:287-295.

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