

# Danish dentists' career satisfaction in relation to perceived occupational stress and public image

Rod Moore

The relationship between Danish dentists' perceptions of satisfaction with their career choice and beliefs about their occupational stress or public image was surveyed. A mailed questionnaire was completed by 216 randomly selected Danish private dentists in and around Aarhus. Of these, only 19% were dissatisfied and would not recommend dentistry as a career to young people, while almost 60% perceived dentistry as more stressful than other professions and 31% felt that dentists' public image was less than good or poor. Odds ratio (OR) analyses indicated that perceived career dissatisfaction was most prevalent in dentists aged  $\geq 45$  years (OR = 3.1) or who had practiced more than 18 years (OR = 2.7), with perceived poor role image (OR = 3.0) or high perceived stress (OR = 2.1). The contribution of perceived high stress approached, but did not attain statistical significance. There were no meaningful or significant relationships by gender or practice type, location or size. It was concluded that perceived public image of dentists had a meaningful association with dentist job dissatisfaction and that dentists' perceived stress also contributed. A majority of the dentists wanted the dental association to help change their public image.

Occupational stress has been shown to be adversely associated with dentists' job satisfaction in British (1,2), Swedish (3) and American studies (4). Studies have also shown that dentists' levels of satisfaction with their profession are related to age, income and relations with patients (5-8). An adverse association between dentists' perceived public image and job satisfaction has also been reported in one American study (9).

However, there has been no single investigation studying associations of perceived stress, public image and basic practice variables with dentists' job satisfaction that could provide estimates of their relative importance. Thus, the present investigation aimed to describe associations of Danish private dentists' perceptions of career satisfaction related to their practice, their perceptions of job stress and their perceptions of their image among the public. Other associated research questions also attempted to identify Danish dentists beliefs about their collective image and if the dental association should attempt to change it.

## Material and methods

### *Sampling protocol*

Subjects were 275 private dentists drawn randomly from the Danish Dental Association list of all private dentists ( $n = 425$ ) within the boundaries of Aarhus, Denmark. Considering demographics and a unique mix of urban and rural areas within its limits, Aarhus is considered quite similar to Denmark as a whole (10). Since present aims pertained to adult dentistry, no dentists in the Children's Dental Health Services were surveyed.

### *Survey instrument and protocol*

The mailed questionnaire survey about practice, professional satisfaction or image, perceived stress and patient anxiety consisted of 21 items, where 12 were included in this analysis.

Of the other nine items, which were reported elsewhere, seven pertained to dentists' beliefs about anxious patients and two pertained to rank ordering of dentists' stressful situations in daily practice.

Besides standard demographic items about dentists, such as gender, age and years of practice, four items covered type of dental practice: location (country, town or city), solo or group practice, number of dental chairs and total number of patients.

Items referring to dentists' perceptions of satisfaction, role image, or stress in practice were translated from surveys of dentists in the US (9,11) and Sweden (3) for ease in comparison with similar previous studies.

The main item that covered dentists' career satisfaction for

the present study was translated from an item validated in a US survey of over 2,081 dentists by Gerbert *et al.* (9): »Would you recommend this career choice to young people?« (1 = »definitely not« to 4 = »yes, unconditionally«). This single item reflects career satisfaction as a global construct similar to items described by Yablon & Rosner (6) and Shugar *et al.* (12).

The item that was used to measure dentists' perceptions of professional stress was translated from an item in a US survey of 977 US dentists by O'Shea *et al.* (11): »Compared with other professions, do you think that being a dentist is more, less or about the same amount of stress?« (1 = »more«, 2 = »less«, 3 = »same«). This item provided the best overall variance among perceived stress variables in the O'Shea *et al.* (11) study.

The main item covering dentists' perceived role image among the public was also drawn from the Gerbert *et al.* (9) study: »The mass media's and public's image of dentists is« (1 = »very good«, 2 = »good«, 3 = »less than good« and 4 = »poor«).

Another item was used to aid in describing and clarifying this image measure: »Patients evaluate a dentist more by personal style or behaviour than by perceived technical competence.« (1 = »strongly disagree« to 4 = »strongly agree«).

A third role image item was used to poll the possibility to improve dentists' images: »The dental association should use resources to improve dentists' mass media and public image.« (1 = »definitely not«, 2 = »don't know«, 3 = »yes, conditionally«, 4 = »yes, unconditionally«).

#### Data analysis

Besides description of response frequencies and ranking, associations between selected variables were assessed using bivariate odds ratios (OR),  $\chi^2$  – tests and Fischer's Exact tests for ordinal or nominal data or t tests for interval data. Associations between the dependent variable career satisfaction were calculated relative to independent variables.

In order to avoid loss of information, representation of continuous variables such as age, years of practice and numbers of patients as dichotomies were thoroughly investigated using continuous or quartile versions (Table 1) before determining cut-offs for the values chosen.

The cut-off points listed in Table 2 were the result of either a meaningful, natural occurring dichotomous pattern in the data or the need to improve statistical power due to small subsample size where cells could be combined and the cut-offs were meaningful. Use of logistic regression adjusted odds ratios (OR<sub>adj</sub>) was limited to checking for effects on strength of associations of career dissatisfaction with significant variables as listed in Table 2, using three or four at a time, since some cell sizes prohibited adequate power.

Table 1. Sample characteristics of the 216 Danish dentists surveyed. Some frequencies below are lower than 216, as marked, due to missing data for that item. Groupings below by age, years in practice and size of practice were determined as the most meaningful for purposes of initial analysis as in the Methods. Averages ( $\bar{x}$ ) are listed below each of these variables.

Personal characteristics of the surveyed dentists		
<b>Gender</b>		
Men	: 133	(61.6%)
Women	: 83	(38.4%)
<b>Age (years old) (n = 212)</b>		
22-37	: 51	(24.4%)
38-44	: 51	(24.1%)
45-51	: 54	(25.4%)
52-75	: 56	(26.4%)
( $\bar{x}$ = 45.1 years; SD = 0.4)		
<b>Years in practice (n = 214)</b>		
1-10	: 55	(25.7%)
11-18	: 53	(24.8%)
19-25	: 56	(26.1%)
26-46	: 50	(23.4%)
( $\bar{x}$ = 18.5 years; SD = 9.9)		
<b>Practice characteristics of the surveyed dentists</b>		
<b>Size (number of patients) (n = 210)</b>		
0-799	: 44	(21%)
800-999	: 39	(18.6%)
1,000-1,273	: 75	(35.7%)
1,274-3,300	: 52	(24.7%)
( $\bar{x}$ = 1,058 patients; SD = 529)		
<b>Type Practice (n = 215)</b>		
Group	: 156	(72.6%)
Solo	: 59	(27.4%)
<b>No. of chairs</b>		
One	: 25	(11.6%)
> two	: 191	(88.4%)
<b>Location</b>		
Country	: 52	(24.1%)
Town	: 37	(17.1%)
City	: 127	(58.8%)

Other relationships related to dentists' career satisfaction, perceived stress and perceived image by the public were also explored to provide more detail about these constructs and potential problems facing dentists. The level of 0.05 was used to determine statistical significance of associations by means of two-sided P-values and 95% confidence intervals (CI) unless otherwise specified.

Table 2. Statistical model of career dissatisfaction associated with dentist perceptions of public image, stress and other dentist and practice variables drawn from initial analyses (N=214). (OR = Odds Ratios; CI = Confidence Intervals; n = number of dissatisfied dentists with each characteristic or trait listed).

	Career dissatisfaction		
	n:	OR:	95% CI:
<i>Personal characteristics:</i>			
Age ≥ 45 yr.	30/111**	3.1	1.5-6.6
Men	28/133	1.4	0.7-3.0
≥18 years practice	28/106**	2.7	1.3-5.5
<i>Practice characteristics:</i>			
No. patients >1000	24/127	0.9	0.5-1.8
Solo practice	13/59	1.4	0.6-2.3
No. chairs ≥2	40/191+	6.4	0.8-48.4
Location = City	23/127	0.9	0.4-1.7
<i>Public image (low)</i>	21/67**	3.0	1.5-5.9
<i>Perceived stress (high)</i>	30/129++	2.1	1.0-4.4
Chi-square significance:			
No asterisk = not significant			
* P ≤0.5			
** P ≤0.1			
+ Fisher's Exact Test P = 0.054			
++ Uncorrected $\chi^2 = 3.81$ , P = 0.051			
Corrected $\chi^2 = 3.14$ , P = 0.076			

## Results

### Sample characteristics

Response rate was 83% (228/275). Of these, three were specialists, three were employed in the children's public health service, five returned the survey but refused to answer on principle and one was retired from practice, for a useable response rate of 79% (216/275). See Table 1 for sample characteristics.

Detailed analysis of non-responders was not possible since the local dental association (»5. Kreds«), who co-ordinated the mailings, required anonymous coding. However, given gender and age distributions of all practitioners in Århus, there appeared to be no meaningful differences with the sample. It should be pointed out that age differences by gender exist where mean age for men was 47.5 years (SD = 9.4) and mean age for women was 41.3 years (SD = 8.3) (t = 4.9; P < .001). Male dentists ( $\bar{x}$  = 21.3 yr., SD = 9.7) also had significantly

more practice experience than did females ( $\bar{x}$  = 14.2 yr., SD = 8.5) (P < .001).

### Danish dentists' perceptions of career satisfaction

Most of these Danish dentists seemed satisfied with their career choices and there were no statistically significant differences in career satisfaction by gender, practice location, number of patients, type of practice or number of chairs. Only 15.3% unconditionally and 66% conditionally would recommend dentistry as a career, to young aspirants, while 15.3% would probably not and 3.7% would definitely not.

Career dissatisfaction as reflected in the later two choices was most prevalent in dentists aged ≥45 yr. (OR = 3.1, CI = 1.5-6.6,  $\chi^2 = 8.2$ , P = .004) or with more than 18 years in practice (OR = 2.7, CI = 1.3-5.5,  $\chi^2 = 6.6$ , P = .01) as well as among dentists who perceived low public image (OR = 3.0, CI = 1.5-5.9,  $\chi^2 = 8.5$ , P = .004) and high stress (OR = 2.1, CI = 1.0-4.4, P = .08) (significant only with uncorrected  $\chi^2$  test). Associations with career dissatisfaction improved in strength with logistic analysis for dentists aged ≥45 yr. (OR<sub>L</sub> = 3.5, CI = 1.6-7.6, P = .002), but not for perceived high stress (OR<sub>L</sub> = 2.0, CI = .9-4.6, P = .09) nor low public image (OR<sub>L</sub> = 3.0, CI = 1.4-6.2, P = .004) when controlling for multiple chair practices.

### Perceived stress of dentists

Of the dentists surveyed, 59.7% perceived dentistry as more stressful than other professions with associations to job satisfaction as stated above. Another 37% perceived stress as »the same« and 3.3% as »less stressing«. Dentists' perceived stress was not statistically associated with perceptions of negative public image for any age group.

### Danish dentists' perceptions of their public image

A perception that dentists' professional image was less than good (27.8%) or poor (3.2%) in the mass media or public at large was reported by 31%. Overall, perceptions of less than good or poor role image were associated with career dissatisfaction as stated above.

Related to dentists' image perceptions and their patients, most dentists either fully (24.1%) or partly (67.1%) agreed that patients evaluate dentists based on style or behaviours more than by technical skills. Dentists varied in wanting the dental association to intervene in campaigning for a better public image: nearly 12% were negative, 25% did not know, 63% were positive.

## Discussion

The present investigation aimed to describe dentist or practice characteristics and dentists' perceptions of job satisfac-

tion, professional stress and public image for a sample of typical private dentists in Denmark. Results indicated that 19% of these Danish dentists were dissatisfied with their career choice, which was comparable to 18% in a Swedish study (3) and 33% in a British study (1).

As in those studies, dentists' dissatisfaction was related to age, stress and patient relation variables. However, it is important here to point out that career satisfaction is a combination of many things, some of which were only indirectly measured in the present study. *Born* (5) concluded that older male dentists that he had studied experienced a greater sense of personal identity with their practices than did younger male dentists and that they would be dissatisfied with the practice of dentistry if they had tended to entangle their home and professional lives, had experienced a »mid-life crisis« or had felt »trapped« in the profession. Such circumstances can contribute to career »burnout« phenomena (13,14). Present study did not directly measure personal crises or other life-stage events that could have contributed to professional dissatisfaction. However, studies in Finland (13) and Great Britain (14) indicated that dentists who tend to burnout, most often come to dislike the daily clinical and economic challenges of practice. Thus, indicators of personal and professional dissatisfaction inevitably overlap and reflect one another.

Another career satisfaction issue is income. At least one study has shown that dentists in general, and especially young dentists, tend to equate satisfaction with income more than do older dentists (6). It appears from the literature (5,6) that as dentists grow older they tend to become more naturally satisfied, since they may have usually found their »niche« economically and socially. Present results of Danish dentists showed the opposite – an association between increasing age and increased dissatisfaction. Although we did not directly measure income of the dentists in this study at the request of local dental association officials, one possible explanation might be that dissatisfaction may be the result of high economic pressures and time/product stress factors perceived by Danish private dentists (15). A possible hypothesis that economic and time pressures may be greater for dentists in Denmark than in other countries could not be tested here.

American (11), British (1) and Swedish (3) studies have affirmed that dentists perceive the most stress when patients do not »appreciate« them, especially criticising or showing outright hostility toward them. Related to devaluing the dentist and the dentists' activities, dentists' images as »inflictors of pain« were also ranked highly as a stressor in the recent study of these same Danish dentists (15) as well as a British study (1) and an American study (11).

Still other studies have indicated that inflicting pain on patients and the inability to obtain adequate pain control was a direct source of occupational stress and dissatisfaction for many dentists (16,17), with a surprising number of dentists who have considered changing occupation as a direct result (17). In other studies, such clinical stressors were followed closely in magnitude by management issues such as maintaining a practice and a schedule when patients were late, skipped appointments or did not pay their bills (3,11). The image of the dentist, then, is also meaningfully influenced by the phenomenon of anxious patients and can indirectly contribute to dentists' job dissatisfaction, since they exhibit unpredictable behaviours and require more time and management (15). Given the economic and time pressures of private practices, treatment of anxious patients might best be facilitated by a financial system other than present fee-for-service dental fees, for example, an hourly rate similar to psychotherapists.

The main focus of the present study was to explore and describe the relationship of career satisfaction with dentist perceptions of their stressfulness and their public image. Although the majority responded positively, many Danish colleagues expressed career dissatisfaction, perceptions of undue stress and negative public image. We found that perceptions of negative public image were meaningfully different among dentists who were dissatisfied with their careers compared to dentists who expressed satisfaction enough to recommend the profession to young aspirants.

We also found that nearly all the dentists believed that patients evaluated them more by their personal style or behaviour rather than by their technical competence. Thus, it appears that there is a need for many dentists to learn psychological strategies for successful patient management that could improve conditions for treatment and prevention of dental anxiety, of pain and possibly relieve potential stress and job dissatisfaction. Talking with patients, taking extra time and allowing brief rest pauses during anxious moments and after pain or discomfort are all approaches with long histories to improve treatment of anxiety or pain (18,19). Furthermore, coursework in stress and practice management, optimum staff communication and learning about normal career developmental stages might help many dissatisfied dentists (20).

As a professional social issue, these Danish dentists wanted the dental association to take actions to improve their collective image. Such actions and improved dentist-patient interactions would hopefully aid dentists in achieving increased job satisfaction and prevent professional burnout.

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### Dansk resumé

*Danske tandlægers faglige tilfredshed relateret til deres opfattelse af eget arbejdsstress og image i befolkningen*

Forholdet mellem danske tandlægers opfattelse af tilfredshed med deres valg af professionel karriere og deres opfattelse af arbejdsstress og deres image i befolkningen blev undersøgt. Et postomdelt spørgeskema blev udfyldt og returneret af 216 privatpraktiserende tandlæger i en randomiseret stikprøve fra Århus og omegn. Af disse var kun 19% utilfredse og ville ikke anbefale en karriere i tandpleje til yngre mennesker.

Tres procent opfattede tandlægefaget som mere stressende end andre professioner, og 31% mente at tandlæger har et mindre godt eller dårligt image i befolkningen. Odds ratio (OR) sandsynlighedsberegninger viste at opfattelsen af utilfredshed med jobvalg var tre gange hyppigere blandt tandlæger i alderen 45 år eller over (OR = 3,1) end blandt de yngre tandlæger. Dette svarer også til at have været i praksis i mere end 18 år (OR = 2,7).

Blandt de »utilfredse« var det mere sandsynligt at de opfattede tandlægefaget som mere stressende end andre professionelle fag (OR = 2,1; ikke signifikant), og at deres image blandt befolkningen var negativt (OR = 3,0). Justerede odds ratios øgede styrken af disse associationer kun for alder. Der var ingen signifikante associationer med køn, praksistype, placering eller størrelse.

Næsten alle de deltagende tandlæger opfattede at patienter evaluerer tandlæger mere ud fra deres adfærd på klinikken end ud fra deres kliniske kompetence. På baggrund af disse fund kan det konkluderes at privatpraktiserende tandlægers opfattelse af deres image i befolkningen havde et betydningsfuldt forhold til professionel utilfredshed og at praksisstress også bidrog. Et flertal af tandlægerne så gerne Tandlægeforeningen gøre noget for at ændre på deres image.

Nogle af tandlægekollegerne syntes at have behov for at lære mere om styring af deres egne arbejdsvilkår og om processen omkring opnåelsen af faglig tilfredshed.

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### Author

Rod Moore, DDS, PhD

Department of Community Dentistry and Public Health, Dental Phobia Research and Treatment Center (FoBCeT), Royal Dental College, Aarhus University, Aarhus, Denmark