

# Swedish dentists' perceptions of their patients

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Swedish dentists' perceptions of patient behavior problems, levels of stress experienced by the dentists in relation to such behavior, and general problem areas in their occupational situation were investigated by means of a self-administered questionnaire mailed to a sample of 485 Swedish dentists. The questionnaire assessed 16 different patient behavior problems and an additional number of other occupationally related problem areas. A total of 342 replies (71.4%) were analyzed. The relationship between the occurrence of behavior problems and the resulting level of stress was inversely proportional. This implies that Swedish dentists feel confident in dealing with behavior problems in their patients. Furthermore, this study shows that most dentists (93%) feel positive about their work and believe that their work is highly appreciated by their patients (96%) and colleagues (84%). □ *Behavior; dentist-patient relations; occupation; opinion; stress*

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The relationship between the dentist and the patient is of utmost importance for the continuation of dental treatment and patient compliance (1). Behavioral problems during treatment affect both the technical and the interpersonal quality of dental care. The behavior of patients can create high levels of stress in dentists, which may affect the treatment and subsequently the patients.

Previous studies have indicated several treatment situations that dentists recognize as stressful: dealing with fearful patients, patients not providing an accurate history, or patients not maintaining good oral hygiene despite instructions (2, 3). Weinstein et al. (2) concluded that dentists experience problems with 20% of their patients. This was related to a lower quality of care for these patients.

The most frequent problem situations with patients have been shown to be non-payment of bills; maintenance of poor oral hygiene; presence of complicated oral conditions; presence of dental fear or other psychological problems; presence of influencing medical conditions; and reporting irregular dental behavior (3).

In a Swedish survey concerning occupational stress among dental personnel, Bejerot (4) found that approximately 60% of the dentists employed within the Public Dental Service system often experience psychological stress at work. This was mainly related to the respondent's own high demands for work performance, a tight time schedule, and economic aspects. High demands and expectations from the patients were considered to be one of the five most common stress factors. However, Bejerot did not analyze the dentist-patient relationship any further.

The aims of this investigation were to study the frequency and character of patient behavior problems as reported by Swedish dentists, the level of stress experienced by the dentists in relation to such behavior, and, in addition, general problem areas in work-related situations as reported by the dentists.

## Materials and methods

A sample of 500 Swedish dentists (308 men, 192 women) was randomly selected from

the list of members of the Swedish Dental Association. Among the selected individuals, 485 dentists met the criteria of being professionally active.

A questionnaire listing 16 different patient behavior problems in general dentistry was developed (the items are listed in Tables 2 and 3). The behavior problems were derived from previous similar studies (2, 3), our own experience, and suggestions from colleagues. To test the questionnaire, a pilot study was performed among 100 Swedish dentists.

The dentists included in the present study were asked to rate how often these behavior problems occurred in their daily practice (two or more times a day, once a day, once a week, less than once a week) and how stressful the dentists considered each type of behavior to be (very much, much, a little, not at all).

In addition, multiple-choice and open-ended questions were constructed to assess the dentists' opinions of occupational areas such as economy, expectations and demands of employers and patients, and whether quality of care was perceived as being affected by the dentist-patient relationship.

The questionnaires were sent out by mail. The dentists were asked to answer and return the questionnaires anonymously. In an effort to achieve a high response rate and still keep answers anonymous, the questionnaires were sent out three times to all the dentists.

All data collected were computerized, and both simple descriptive statistics and the Spearman rank correlation, the chi-square test, and the Mann-Whitney U-test were used for calculations and analysis. Significant differences for frequencies lower than 1% are not reported.

## Results

### *Sample characteristics*

Of the selected sample of 485 dentists, 6 were excluded owing to relocation. The number of returned questionnaires was 342 (71.4%). Five dentists (1.2%) had faculty positions at a university, 194 (56.9%) were

employed by the Public Dental Service (PDS), and 143 (41.9%) were private practitioners (PP). An analysis of the non-responders showed that PDS and PP dentists responded at a rate of 72.6% and 64.7%, respectively.

The characteristics of the selected dentists and differences with regard to gender and employment are shown in Table 1. The mean age was 42.5 (range, 26-64) years, and the average time in practice was 16.6 (range, 1-40) years. The average number of working hours per week was 35 (range, 10-55), and the mean number of patients seen per week 65.9 (range, 8-150). Over half of the dentists (57.3%) worked in small towns or in rural areas, whereas 42.7% had their offices within urban areas.

There were considerably fewer women working as PP dentists than men (31 versus 112;  $p < 0.001$ ). Private practitioners had their offices in urban areas more often than PDS dentists ( $p < 0.001$ ).

### *Frequency of problem behavior*

The frequency and ranking of behavior problems reported to occur at least once a day are shown in Table 2. Three behavior problems stood out as occurring more frequently than others: 'poor oral hygiene despite instructions' (54.0%), 'patients showing fear' (42.4%), and 'missing/being late for appointments' (37.8%). The most infrequent behavior problems were situations in which the patients more directly criticized or questioned the dentist (0.3%) or the treatment plan (1.5%).

Female dentists reported having patients who physically interrupted treatment more often than male patients (5.6% versus 1.9%;  $p < 0.001$ ). Male dentists reported having patients who gagged significantly more often than female dentists (12.8% versus 10.2%;  $p < 0.01$ , respectively).

PP dentists reported having patients who did not keep their mouth open during treatment and patients who gagged more frequently than PDS dentists (29.0% versus 14.1%;  $p < 0.001$ ; and 16.9% versus 7.9%;  $p < 0.05$ , respectively). PDS dentists more frequently encountered patients with poor

Table 1. Characteristics of participating Swedish dentists by age, gender, and position (PDS = Public Dental Service, PP = private practice)

No. of individuals	Males 213		Females 129		PDS 99 males 95 females (5 missing values = university-employed) 194		PP 112 males 31 females 143		Total group 342	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
Age, years	43.8	9.7	40.3	8.8	41.3	9.3	44.4	9.7	42.5	9.6
Years in practice	17.7	9.9	15.0	9.2	15.4	9.2	18.5	10.3	16.6	9.7
Working hours/week	37.0	6.1	31.6	7.3	33.4	7.1	37.2	6.5	35.0	7.0
No. of patients/week	69.2	25.2	60.2	25.0	66.9	27.4	65.3	22.7	65.9	25.5
Clinic situated*, %	1	2	3	2	1	2	3	2	1	2
Position†, %	41.2	5.4	8.6	44.2	35.8	49.7	14.5	52.1	45.8	2.1
Specialist/postgraduate‡, %	46.7	52.8	0.5	74.4	1.6	—	—	—	56.7	41.8
	1	2	1	2	1	2	1	2	1	2
	90.3	9.7	92.1	7.9	86.8	13.2	97.1	2.9	91.0	9.0

\* 1 = Urban; 2 = smaller cities; 3 = rural areas. † 1 = Public Dental Service; 2 = private clinic; 3 = university-associated. ‡ 1 = No; 2 = yes.

oral hygiene (58.6% versus 48.9%;  $p < 0.01$ ), who were missing or late for appointments (48.4% versus 24.7%;  $p < 0.001$ ), who acted uncooperatively (14.2% versus 4.9%;  $p < 0.001$ ), who did not follow the dentist's instructions/advice (28.1% versus 22.5%;  $p < 0.05$ ), and who did not appreciate the dentist's work (6.9% versus 1.4%;  $p < 0.001$ ) (Table 2).

*Perceived stress*

The level of stress experienced by dentists in relation to each type of behavior problem is shown in Table 3. There is an obvious inverse relationship between the rankings of frequency of occurrence and the level of stress the dentists anticipated during these situations (Spearman correlation,  $-0.35$ ;  $p < 0.001$ ). The situation involving a patient not appreciating the dentist's therapy was ranked as most stressful (71.3% reported this to create much or very much stress), followed by patients physically interrupting treatment (69.6%), patients missing or late for appointments (69.0%), and patients criticizing the dentist (68.1%). Dentists rated treating fearful patients as the least stressful situation (24.3%).

PP dentists found patients who did not pay bills stressful more frequently than PDS dentists (59.6% versus 47.2%;  $p < 0.01$ ). No differences with regard to perceived stress were found between PDS and PP dentists with regard to the following items: patients not appreciating the dentist's work, patients missing or being late for appointments, patients criticizing the dentist or questioning the treatment plan, patients not following instructions on oral hygiene, and patients talking too much. For the remaining nine items, the PDS dentists reported stress significantly ( $p < 0.05$ ) more often than PP dentists (Table 3).

*Influence on professional situation*

Table 4 shows the dentists' opinions of factors influencing their professional situations. A frequency of 97.1% of the respondents reported that their personal ambition of 'doing a good job as a dentist' much or

Table 2. Frequency (%) and rank of patient behavior problems occurring at least once a day (comparisons between males and females, Public Dental Service (PDS) dentists and private practice (PP) dentists) †

Behavior problem	Rank	Males, %	Females, %	Rank	PDS, %	PP, %	Rank	Rank	Total, %
Poor oral hygiene despite instructions	1	57.1	51.2	1	58.6**	48.9	1	1	54.0
Showing fear	2	44.8	38.3	2	44.8	38.5	2	2	42.4
Missing/being late	3	37.7	37.8	3	48.4***	24.7	4	3	37.8
Not following your instructions/advice	5	27.4	22.8	4	28.1*	22.5	5	4	25.7
Talks too much	4	27.6	17.3	5	21.5	26.2	3	5	23.7
Unnecessary head movements	6	16.3	17.2	6	17.3	14.9	7	6	16.6
Gagging	7	12.8**	10.2	8.5	7.9*	16.9	6	7	11.8
Not cooperative in the chair	12	8.6	13.3	7	14.2***	4.9	10	8	10.4
Not providing an accurate anamnesis	8	12.0	7.4	10	10.4	9.0	8	9	10.3
Not keeping mouth open	11	9.1	10.2	8.5	14.1***	29.0	11	10	9.5
Not paying bills	10	9.6	5.0	12	8.9	5.6	9	11	7.9
Not appreciating your work	14	4.4	4.8	13	6.9***	1.4	12	12	4.5
Physically interrupting treatment	15	1.9***	5.6	11	5.3	0	15	13	3.3
Not using made dentures	9	11.6	1.6	14	2.1	0.7	13	14.5	1.5
Questioning your treatment plan	13	6.2	0.8	15.5	2.6	0	15	14.5	1.5
Criticizing you as a dentist	16	0	0.8	15.5	0.5	0	15	16	0.3

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

† Frequencies &lt;1% not reported for significant differences.

very much influenced their daily professional situation. Demands or expectations from patients or economic considerations were important for their work for 81.6% and 64.5% of the respondents, respectively. PP dentists showed a feeling of being governed by economic factors to a greater extent than were PDS dentists (74.8% versus 57.9%;  $p < 0.01$ ). Significantly more PDS dentists than PP dentists reported that they felt pressured from having too many patients on a waiting list or under treatment (71.5% versus 68.7%;  $p < 0.05$ ) (Table 4).

Table 5 shows that between 84% and 96% of the participants believed their work was highly appreciated by colleagues, themselves, and their patients. Slightly fewer than every second PDS dentist (45.9%) felt that their work was appreciated by the employer. Significantly more PP dentists than PDS dentists thought their patients greatly appreciated the performed therapy (97.9% versus 94.8%;  $p < 0.01$ ). The same relationship was found between female and male dentists (98.4% versus 95.3%;  $p < 0.001$ ). The reverse result was found between the genders when the dentists were asked to evaluate the appreciation they received from colleagues (86.0% versus 61.7%;  $p < 0.001$ ) (Table 5).

To a specific question on whether the quality of dental care was influenced by the dentist-patient relationship, 35.2% of the sample stated that the quality of care was indeed affected. No differences between genders or PDS/PP dentists were found.

Eighty-two per cent of the respondents stated that they were satisfied with their choice of profession, with PDS/PP dentists revealing a frequency of 77.5% and 87.9%, respectively.

## Discussion

This study shows that Swedish dentists perceive several patient behavior types as problematic. Much or very much stress was felt by 71.3% ('patients not appreciating dentist's work') to 24.3% ('patients showing fear') of the sample. With the exception of 'patient cancellations', which was rated among the

most stressful areas and also among the most frequent behavior problems, most other areas showed an inverse relationship with regard to the level of stress and frequency of occurrence. Thus, the least stressful item (patients showing fear) was the second most frequently mentioned type of behavior, and the third least stressful type of patient behavior was the most frequently mentioned area (poor oral hygiene). Self-appreciation and the levels of appreciation felt from the dentists' patients and colleagues were very high, but only half of the PDS dentists felt that their work was appreciated by their employers.

The response rate (71.4%) was considered acceptable since the questionnaires were sent out anonymously, no personal contact was taken, reminders of reply were only sent out twice, and the topic of the study might be regarded as of minor interest to some dentists. Further analysis of the non-responders was not feasible since the questionnaires were answered anonymously.

The results indicate that dentists often encounter patient behavior problems. These results were similar to those of studies performed in the United States (2, 3, 5). Among the five highest-ranked problem situations, three have no direct connection to the dental office: poor oral hygiene despite instructions, missing/late for appointments, and not following instructions/advice. This implies that patients do not evaluate or give priority to oral health to an extent that satisfies the expectations of their dentists, which touches on the problem of motivating patients to comply with suggested therapy. This has been shown to be very disturbing for a dentist (6, 7). Alcouffe (8) has demonstrated that a more psychologic approach, aiming at a cognitive reorientation, results in better compliance and improved oral hygiene. It has also been shown that the less absolute difference there is between the entire set of preferences of the dentist and those of the patient with regard to the dental appointment, the more satisfied the patient, which results in better compliance (9). These results underline the need for a better insight among dental personnel into psychologic aspects of the dentist-patient interaction, as

Table 3. Frequency (%) and rank of stress levels (very much, much) dentists anticipate in relation to patient behavior problems (males-females, Public Dental Service (PDS) dentists-private practice (PP) dentists)

Behavior problem	Rank	Males, %	Females, %	Rank	PDS, %	PP, %	Rank	Rank	Total, %
Not appreciating your work	1	72.0	70.1	3.5	72.1	70.5	1	1	71.3
Physically interrupting treatment	2	69.6	69.6	5	75.8*	60.6	4	2	69.6
Missing/being late	3	68.4	70.1	3.5	67.7	70.4	2	3	69.0
Criticizing you as a dentist	4	64.4	74.0	1	71.6	62.8	3	4	68.1
Not cooperative in the chair	5	64.3	69.4	6	71.8**	59.4	6	5	66.2
Unnecessary head movements	6	62.6	66.7	7	73.2***	52.2	8	6	64.2
Gagging	7	57.4	63.8	9	66.0**	51.4	9	7	59.8
Not keeping mouth open	10.5	52.4*	65.6	8	67.0***	45.7	11	8	57.4
Not providing an accurate anamnesis	12	48.3***	70.2	2	64.3***	46.0	10	9	56.6
Not following your instructions/advice	8	52.9	61.9	10	65.3***	44.0	13	10	56.3
Questioning your treatment plan	9	52.7	58.3	11	54.2	54.7	7	11	54.8
Not paying bills	10.5	52.4	53.4	12	47.2**	59.6	5	12	52.8
Not using made dentures	13	46.6	51.6	13	54.0*	41.4	14	13	48.5
Poor oral hygiene despite instructions	14	43.0	46.0	14	43.9	44.6	12	14	44.1
Talks too much	15	32.5	41.3	15	37.2	34.5	15	15	35.8
Showing fear	16	24.3	24.4	16	33.5***	12.1	16	16	24.3

\*  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

Table 4. Frequency and rank of the dentists' opinion on factors influencing (very much or much)† their professional situation (PDS = dentists employed by the Public Dental Service; PP = private practitioners)

	Males, %	Females, %	PDS, %	PP, %	Total, %
Own ambition to achieve a good treatment	97.2	96.9	96.4	97.9	97.1
Patients' demands	81.7	81.4	84.2	79.2	81.6
Too many patients under treatment and/or on waiting list	66.0	65.2	71.5*	68.7	66.0
Economic conditions	65.5	62.5	57.9**	74.8	64.5
Demands from employer	‡	‡	73.4	‡	‡

\*  $p < 0.05$ ; \*\*  $p < 0.01$ .

† Excerpt from the original four-item scale, test of significance based on the four-item scale.

‡ Omitted because PP dentists often are their own employer.

well as a better understanding of techniques for behavioral change.

Most of the investigated behavior problems were perceived as stressful by the dentists. This result is in agreement with a study by Corah et al. (3). Patients missing or late for appointments were both frequently encountered and ranked as stressful in the present study. The participating dentists probably considered this patient behavior problem from an economic and appointment-schedule point of view. Still, several investigations have emphasized that patients who are missing/late for appointments are often individuals with dental fear (10–12). Situations with patients showing fear or talking too much (which could be interpreted as an indicator of dental fear) are frequently

encountered in the clinic. Interestingly, neither of these situations, even though ranked as the second and fifth most frequent behavior problems in the present study, were ranked as particularly stressful among the participating dentists. This implies that Swedish dentists feel confident in treating patients with dental fear and that fear is not considered a behavior problem of major importance for the outcome of treatment. However, the dentists in this study most likely interpreted dental fear as the anxious feeling associated with dental visits, which is common and widespread among people, rather than severe dental fear or phobia. In a study from the United States (13) it was concluded that most dentists were concerned about patients with dental fear, but that most

Table 5. Frequency and rank of the dentists' reported feelings of received appreciation (very much or much)† (PDS = dentists employed by the Public Dental Service; PP = private practitioners)

From	Males, %	Females, %	PDS, %	PP, %	Total, %
Patients	95.3***	98.4	94.8**	97.9	96.2
Yourself	94.1	82.8	92.6	94.1	93.3
Colleagues	86.0***	61.7	85.9	80.5	84.1
The head of the clinic‡	—	—	82.1	—	—
The employer‡	—	—	45.9	—	—

\*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

† Excerpt from the original four-item scale, test of significance based on the four-item scale.

‡ Only frequencies of PDS dentists because PP dentists mostly are their own employer.

dentists will not do anything to actively treat or reduce patient anxiety. The present study did not aim to investigate how the dentists handled the stressful situations, and further research should be undertaken to examine Swedish dentists' views on the need and techniques for treating patients with dental fear.

As many as 75% of the dentists evaluated their own performance positively. In addition, their work was also very much appreciated by patients and colleagues. These results show a high degree of confidence in personal ability and certainly reflect a professional attitude. It is interesting to find that PDS dentists report higher frequencies of stress for many of the items than PP dentists. PDS dentists also report that they feel a lack of appreciation from their employers. This is in agreement with the findings of Bejerot (4). Feelings of low appreciation and lack of trust can be hard to cope with and especially so if the PDS dentists also feel strong demands or pressure from the employer to be highly productive and achieve imposed goals. This can affect the perception of patient behavior problems. These relationships are very complex, and there is an obvious need for more knowledge in this area.

Among the participating dentists, 35% were convinced that the quality of care is affected by the relationship between the dentist and the patient. Weinstein et al. (2) found significant correlations between dentists' perceptions of patients and the quality of treatment given to the patients. This may indicate that dentists perceive differences among their patients, which in turn can influence how the patients are treated. Thus, the dentist-patient relationship seems to play an important role and can affect both the dentists and the patients in different ways.

In conclusion, Swedish dentists frequently encounter patient behavior problems. The

present study has, however, demonstrated that Swedish dentists feel confident in dealing with these problems and that they regard their work as being highly appreciated by themselves, their patients, and their colleagues.

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