

# Required qualifications in the Swedish Public Dental Health Service as indicators of organizational ideology

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The manifestly required qualifications in job advertisements in the *Journal of the Swedish Dental Association* were analyzed as indicators of the organizational ideology in the Swedish Public Dental Health Service from the employers' viewpoint. All job advertisements that concerned dentists and managers on different hierarchical levels in general dentistry from January 1990 to December 1998 were included ( $n = 1152$ ). The number of vacancies was 1856. The textual material was analyzed by content analysis, permitting quantitative descriptions of the text and analysis of the latent characteristics. Words and phrases were classified into categories on different levels of abstraction developed from the theoretical background and the purpose of the study. Altogether 5705 required qualifications were categorized. The inter-coder reliability of the first-level categorization resulted in 81% correspondence of the classification, and  $\lambda = 0.90$ . Qualifications were more frequently required with higher hierarchical job positions, and personality characteristics were more frequent than technical competence and knowledge. Qualifications interpreted as related to economic goals occurred more frequently than those related to odontological goals. The qualification demands reflected the language of human resource management (HRM), emphasizing the 'soft' people-centered approach and was interpreted as an 'ideal' model of HRM. Dentists were regarded as a profitable organizational asset rather than participants in relations with patients. In conclusion, the results indicate an organizational ideology primarily of economic character. □ *Content analysis; dentists; human resource management; job advertisements; managers*

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Human service organizations (HSO) are working with people, and they are mandated to protect and promote the welfare of those individuals. The official goals of HSOs are usually vague and ambiguous, appealing to widely shared norms and values about human welfare in society (1). The formal manifest organizational goals are considered from a critical organizational theoretical approach to serve largely as legitimation for the organizations' real goals, which are shaped by complex webs of internal and external factors and interests, as the interests of legislative bodies, resource providers, employers, and employees (2). This complexity of internal and external demands will often lead to multiple and conflicting organizational goals (1).

The official goal of the Swedish Public Dental Health Service (PDHS) is legally stipulated as, among other things, good dental health and good care of patients (3). This social aspect of the work is mostly shared by the dentists employed (4, 5). During the past decades the interest of the employers in the PDHS has shifted focus towards the economic aspects of the activities primarily due to demands from politicians for reduced costs. In the wake of these demands, new management strategies have been introduced (6–8).

It is contended that the adopted managerial practices in the PDHS are similar to those of the general management doctrine human resource management (HRM) (9). The language of HRM emphasizes decentralized organizations with devolved responsibility to business units, teamwork, goal orientation, performance monitoring, reward systems,

strong organizational culture, cooperation, development, and customer orientation for organizational competitive advantage (10). The main policy goals of HRM have been proposed as integration of the human resources into the strategic planning process, employee commitment, flexibility, and quality (11).

HRM asserts that the employees are the most valuable organizational asset. The view of the utilization of the human resources is contradictory, however, as HRM is composed of both a human relations tradition and a strategic management approach (12). In critical analysis, this contradiction has been characterized as a distinction between a 'soft' and a 'hard' version of HRM. The 'soft' version reflects a model that regards the employees as a valued asset through their commitment, involvement, development, and skill, generated by motivation and leadership. In contrast, the 'hard' version reflects a business-strategic model regarding the work force as any economic factor and seeing HRM as a method of maximizing the economic return of the human resource (13–16). It is hypothesized that, in practice, the policies and language of the 'hard' version are used for workers in low position or peripheral to the organization, whereas those of the 'soft' version are for managerial or core workers (14, 15).

The dentists in the PDHS have experienced that the management control systems have increased—and mainly those similar to the 'hard' version of HRM. The changes have resulted in increased efficiency but also in worsened working conditions. The dentists perceive fewer opportu-

nities for self-determination, competence development, and initiative-taking than they desire. The changes have, however, been more positive for those in high job position (4, 5). The worsened working conditions have also been derived from the incompatibility of 'hard' control systems, such as performance monitoring and competition, in a profession working with people (5). Human service work is connected with indeterminate technologies and difficulties in evaluating the outcome of the work (1).

The indeterminate technologies and the dependence of HSOs on the services of professionals with a high degree of autonomy will cause the organizations to rely on selective recruitment with the aim to achieve ideological homogeneity among the employees and a work force with qualifications in accordance with the organizational objectives (1). The required and rewarded qualifications of both subordinates and top managers are of importance (17). Selective recruitment of individuals with values compatible with those of the organization is emphasized in HRM for the purpose of developing or maintaining the organizational culture (14, 15, 18). From this, one can assume that the required qualifications do not necessarily reflect the actual content of the work but rather the organizational ideology from the employers' viewpoint.

The manifestly required qualifications can be found in job advertisements. Advertising is probably the most common way to find candidates for vacancies if there are no available internal candidates (19). It is the practice to advertise vacancies for general dentists in the PDHS, and those for top managers occasionally externally in the *Journal of the Swedish Dental Association* (Koch, Federation of Swedish County Councils, personal communication).

A research method applicable to analyze and make inferences from text is content analysis (20–24). The method makes it possible to use not only quantitative analysis of the text for a description of the occurrences of words or themes but also qualitative analysis to make inferences of the latent characteristics of the text. The method can therefore be useful in an analysis of the qualification demands in job advertisements in the *Journal of the Swedish Dental Association*, regarded as indicators of the organizational ideology in the PDHS from the employers' point of view.

The aims of the present study were 1) to examine the frequency and character of the required qualification in the job advertisements, 2) to ascertain whether there were any differences with regard to the required qualifications between different hierarchical job positions, and, finally, 3) to interpret the qualification demands from an HRM point of view, searching for evidence for the contention that its language has been adopted by the PDHS.

## Materials and methods

### Sample

The material consisted of job advertisements in the

*Journal of the Swedish Dental Association*. The job advertisements concerned vacancies for dentists and managers on different hierarchical levels in general dentistry in the PDHS. All relevant job advertisements ( $n = 1152$ ) during the period January 1990 to December 1998 were included in the study. The job advertisements could contain information of more than one job position (from 1 to 9), and the total number of job positions was 1856.

At registration, the job positions were classified in accordance with the intended professional hierarchical job position: district dentists ( $n = 1332$ ), assistant clinical managers ( $n = 56$ ), clinical managers ( $n = 445$ ), and top managers of the PDHS ( $n = 13$ ). In some of the job positions as district dentists, up to 50% of the working hours were as hospital dentists ( $n = 10$ ). These job positions were analyzed together with those for district dentists unless otherwise stated, making the total number of job positions for district dentists 1342. Full-time job positions as hospital dentist were not included in this study.

In Sweden approximately the same number of dentists work in the private as in the public dental sector. The PDHS has the treatment responsibility for children up to 19 years age, even though the treatment does not necessarily have to be performed by the PDHS itself (3). The PDHS is governed by political administrations, with the county council as the responsible authority. The activities are financed by county council taxes and government grants. The remuneration of dental care for adults is based on a fee-for-service system. The treatment is partly financed by government grants through the general dental insurance and partly by the patients themselves. Dental care for children is free of charge. For this treatment the district clinics are compensated through county council taxes, and the compensation is usually based on a capitation system (25), with an equal sum for each completed treated patient per year. County councils taxes also cover all other activities of the clinic, the rent of the clinics, and the salaries of the employees. The cost for these is determined through budgetary processes.

### Methods

Content analysis is the process of making inferences from textual material of various kinds, and the rules of this inferential process depend on the theoretical interests and research questions (22, 23).

A central part of content analysis is the classification of words or phrases from the text with similar meanings or connotations into fewer categories (23). The coding frame represents the operationalization of the research questions (20). To be able to make valid inferences, the classification procedure must be reliable and consistent (21, 23), even if reliability is not a sufficient condition for validity (21). Coding smaller units, such as words or phrases, makes it possible to achieve higher reliability than coding large units as paragraphs (23). The text can be coded by humans or by computer programs. Compared with computer-based content analysis, human coding involves reliability

problems, and a reliability test is therefore required (20–23).

Words or phrases have to be classified in only one category, in which they most clearly belong, and the categories have to be mutually exclusive to be used in statistical analysis without dubious results (21–23). The categories should be narrow enough to prevent neglect of substantial differences between words or phrases (23). After the initial coding process these categories are combined into content categories indicating the overall concern with different specific themes (22, 23). In addition, to uncover implicit characteristics in the texts on a higher level of abstraction, the categories with similar characteristics are grouped into fewer categories representing overarching general themes. For qualitative research this method is an analogue to factor analysis (26).

### *Discourse analysis*

The approach to analyze and make inferences of the latent characteristics of texts is usually called discourse analysis. The concept of *discourse* is ambiguous, with various dimensions. We refer to spoken language and written texts as representation, expression, and communication of ideologies (27, 28). The inference process has to be performed with the text or talk related to its context, such as settings or social roles of the participants (21, 24, 27, 28), because context features not only influence discourse but discourse may also define or change the context characteristics (27).

### *The textual material*

In the job advertisements in this study there could be information about one or more job positions; 34% of the total number contained information about more than one. In most of these job advertisements the qualification demands were written separately for each job position. However, there were instances (23% of the multi-position job advertisements or 8% of the total number of job advertisement) in which the text referred to all or some of the job positions and for different hierarchical job positions. One can thus define an advertisement level and a position level.

One of the goals of the study was to investigate differences in required qualifications between dentists in different hierarchical job positions. Therefore, the general textual information was recorded in the registration procedure for each job position and not only on the job advertisement level. In the latter case, information on the job position level would have been lost. On the other hand, the used procedure leads to a certain risk of data bias, which has to be taken into consideration in the inferential process.

### *Coding procedure*

The requirements in the job advertisements had

different characters and were therefore in this study expressed by the generic concept of *qualification*. From the purpose of the study, all required qualifications besides sex affirmative action policies and possession of a formal dental degree were defined as relevant.

The qualification demands in the job advertisements were written with both words and phrases. The required qualifications were listed separately or mentioned within sentences about work tasks. The textual material was coded and classified manually from the goals of the investigation and from the earlier referred research. The words or phrases were at the initial stage coded into subcategories indicating *ability, attitude, behavior, competence, experience, interest, knowledge, and personality characteristics*. Furthermore, the words or phrases were also coded with regard to the intended orientation. The required qualifications were subdivided into *society, public organization, the PDHS, clinic, management, other occupational groups, patients, dentistry, dental health, odontology, and general*. *Odontology* was further divided with regard to *special patient groups and special clinical tasks*.

Before the coding process the relevant text was broken into as small units as possible. For example, the sentence 'well-certified many years' experience of dentistry' was divided into 'well-certified experience' and 'many years' experience'.

The phrases 'personality characteristics' and 'personal suitability' were used in two different ways in the texts: either as an independent concept as 'personality characteristics' or with the connotation 'personality characteristics like . . .'. The phrases were registered and coded in both wordings.

Some of the phrases concerned experiences of dentistry. They could be written as 'experiences of public dental health service', 'experiences of district dental health service', or as 'experience of dental care for children and adults'. The first two examples were coded with regard to the emphasis on public dental health service, in contrast to the last example, which stressed a more common dentistry experience and was coded together with other professional qualifications. Moreover, public organization was conceived as synonymous with political organization.

Some subcategories contained only one kind of word, whereas others contained many with similar meanings and connotations.

### *Category scheme*

A category scheme was developed containing mutually exclusive categories: 161 subcategories and 34 content categories (Table 1). The category scheme containing the subcategories can be obtained on request from the first author.

The first six content categories were named 'Development', 'Change', 'Quality', 'Societal orientation', 'Service', and 'Co-operation'. The 'Quality' category consisted of general phrases of this theme and not those that concerned odontological quality. Phrases with reference to public

Table 1. The latent categories and categorized content categories

'Soft' qualifications	'Hard' qualifications	Neutral qualifications	Qualifications of management	Odontological objectives	Professional qualifications
1. Development	12. Production	22. Personality	27. General	31. Management	34. Professional
2. Change	13. Economic	23. Personal maturity	qualifications of	odontological goals	qualifications
3. Quality	responsibility	24. Social features	management	32. Odontological	
4. Societal	14. Flexibility	25. Responsibility,	28. Administration	goals	
orientation	15. Teamwork	holistic	29. Management	33. Human service	
5. Service	16. Delegation	26. General	work, environment	orientation	
6. Cooperation	17. Planning and	qualifications	30. Management		
7. 'The system'	strategy		personnel matters		
8. Commitment,	18. Market				
enthusiasm	orientation				
9. Creativity,	19. Goal orientation				
initiative	20. Urging, distinct				
10. Environmental	21. Independence				
qualifications					
11. Data					
qualifications					

organization and dental health service were included in the seventh content category with intention to reflect the emphasis on the system. The eighth content category contained the words and phrases with reference to motivation, commitment, and enthusiasm, and the ninth those with reference to creativity and initiative.

Content category 10 contained environmental qualifications, and the next one data qualifications. The next two content categories were intended to reflect quantitative and economic aspects of the work. The content category 'Flexibility' contained, besides flexibility and adaptability, words indicating attitudes to new methods of work—that is, responsiveness to changes. This should be compared with the 'Change' category that contained words indicating changes and work of changes in general. The next content category was named 'Team work'. 'Delegation' was intended to cover different aspects of delegation like delegation of freedom and responsibility in addition to delegation of work. Content category 17 was named 'Planning and strategy'. The next one was intended to reflect business matters and activities outside the organization. 'Goal orientation' contained phrases on goal orientation without specific direction. The next two content categories were labeled 'Urging, distinct' and 'Independence'.

The 22nd content category, 'Personality', contained general phrases with regard to the concept of personality such as 'personality', 'personal suitability', and 'personality characteristics'.

The content categories numbered 23–25 contained personal characteristics and were named 'Personal maturity', 'Social characteristics', and 'Responsibility, holistic'. The next content category, 'General qualifications', contained words and phrases with the connotations of general knowledge, competence, and experience without orientation—for example, 'great knowledge', 'good', and 'experience'.

The following five content categories (27–31) were

intended to reflect qualifications of management. 'Working environment', with the connotation of aspects of working condition, was distinguished from 'Personnel matters'. Content category 32 contained subcategories referring to odontological goals and quality of dental care from the content in the dental health law. 'Human Service Orientation' contained phrases that corresponded to the central part of human service organizations, which consists of professional-patient relations (1, 29). The last content category covered dental professional qualifications: clinical competence, odontological and clinical experience, and odontological interests.

Furthermore, from the theoretical background and with regard to the dental context and HRM with its two-dimensional models, the content categories were combined into latent categories on a higher level of abstraction labeled 'Hard' or 'Soft qualifications', 'Neutral qualifications', 'Qualifications of management', 'Odontological objectives', and 'Professional qualifications' (Table 1).

'Hard' and 'soft' qualifications were intended to mirror the two versions of HRM. Besides the contradiction between the 'hard' and 'soft' versions of HRM, there are concepts that simultaneously can be regarded as 'soft' and 'hard', such as teamwork (30) and flexibility (15, 30, 31). Teamwork and delegation of treatment-related tasks to dental assistants are used for optimal time and work-force utilization and higher economic performance (7, 8). Considering the dental context, 'Teamwork' and 'Delegation' and also 'Flexibility' were interpreted as 'hard' qualifications representing the goals of effective labor utilization. The content category 'Independence' was classified from the view of the employers and not from the employees' expectations about self-determination.

'Neutral qualifications' contained qualifications with ambiguous professional orientation related to both managers and dentists. 'Qualifications of management' and 'Professional qualifications' contained qualifications interpreted as related to managers and dentists, respectively.

The latent category 'Odontological objectives' included content categories referred to the dental health law (3).

### Reliability

The reproducibility or inter-coder reliability was measured. Assessment of the number of relevant words and phrases—that is, the operationalization of required qualifications in the textual material—and the first-level classification of the words were tested. All the job advertisements in issue four of each volume of the *Journal of the Swedish Dental Association* were selected to represent the whole studied period. The total number of selected job advertisements was 70, including 106 positions. Another dentist was informed both in writing and verbally about the theoretical background of relevant words and phrases and the developed category scheme and about instructions for the coding procedure. The category scheme containing the subcategories, with a few examples as explanation in some cases, was supplied to be used during the classification.

The number of words and phrases in the sample was 375 in the original classification, compared with 362 by the second coder. The inter-coder correspondence of the classification of these words and phrases into categories was 81%. Since percentage agreement is an inadequate measurement of the reliability (21), the strength of the reliability of the coding was measured with the Goodman–Kruskal lambda ( $\lambda$ ). This is a proportional reduction of error measurement, resulting in a coefficient of 0.90. The result implies that the knowledge of the first categorization gives a probability of predicting the second one correctly of 90% (32).

### Statistical analysis

The categories were described and analyzed in frequency distributions. Chi-square tests were applied for assessing the significance of frequency differences of categories in different job positions. When the groups were small or the expected frequencies less than five, the Fisher exact test was applied. For  $2 \times 2$  contingency tables the job positions were dichotomized into 'managers' (assistant clinical managers, clinical managers, and top managers of PDHS) and into 'district dentists' (district dentists and dentists working part-time as hospital dentist). The strength of the association in the  $2 \times 2$  tables was measured with odds ratios (OR) (33). The strength of association in the larger tables was measured with the Goodman–Kruskal lambda ( $\lambda$ ). All data analyses were performed in SPSS.

## Results

A total of 5705 words or phrases were recorded and classified. The share of job positions in the job advertisements with required qualifications relevant for the study

was recorded in 56%. Qualifications were required for all job positions for top managers of the PDHS, in 83% for clinical managers, in 79% for assistant clinical managers, and in 46% for district dentists ( $P \leq 0.01$ ). The highest numbers of required qualifications were 22 in job positions for clinical managers, 19 for assistant clinical managers, 16 for top managers in the PDHS, and 13 for district dentists.

### The distribution of content categories and latent categories

The most frequently occurring content category in the textual material was 'Professional qualifications' (17%). The next most common content categories were 'Cooperation' (10%), 'General qualifications of management' (9%), 'Management, personnel matters' (7%), 'Personality' (7%), 'Development' (7%), 'Flexibility' (4%), 'Creativity, initiative' (4%), and 'Change' (4%). Among the most infrequently mentioned content categories were 'Environment qualifications', 'Data qualifications', 'Societal orientation', and 'Personal maturity', which occurred in 0.1% each. With regard to the dental context, it is notable that 'Human Service Orientation' and 'Odontological goals' occurred in 1% each.

With regard to the content category 'Professional qualifications', the subcategories representing clinical competence occurred in 5.8% of the textual material, odontological and clinical experience in 9.7%, and odontological interests in 2%. It was more infrequently required for technical competence and knowledge than personality-related qualifications (that is, *ability, attitude, behavior, experience, interest, and personality characteristics*). The subcategories 'General odontological competence and knowledge', 'Special odontological competence and knowledge', 'Clinical competence', 'General knowledge', 'General competence', and 'Data competence' occurred in altogether 7% of the textual material.

The share of required qualifications categorized into the latent category 'Soft qualifications' was 34%. The next most common latent categories were 'Qualifications of management' (19%), 'Professional qualifications' (17%), 'Hard qualifications' (16%), 'Neutral qualifications' (11%), and 'Odontological objectives' (3%).

For job positions in the job advertisements containing required qualifications, words or phrases in a category could be mentioned one or more times. Of the 34 content categories, 32 occurred up to 4 times for the job positions. The content category 'Management, personnel matters' occurred up to 6 times for 20 job positions, and the content category 'Professional qualifications' was recorded 9 times for 2 job positions.

Frequencies were calculated as occurrence or not, irrespective of the number of times a category was found. The percentage distributions of the content categories and the latent categories are shown in Tables 2 and 3, respectively.

The latent categories 'Professional qualifications' and 'Odontological objectives' occurred simultaneously in 41% of the job positions. 'Soft qualifications' and 'Hard

Table 2. Percentage distribution of job positions with respective content category ( $n = 1856$ )

Content category	Percentage of job position	Content category	Percentage of job position
34. Professional qualifications	38.6	32. Odontological goals	3.7
6. Cooperation	30.4	12. Productivity	3.5
22. Personality	21.7	33. Human service orientation	3.2
27. General qualifications of management	17.1	3. Quality	2.8
1. Development	13.4	17. Planning and strategy	2.7
14. Flexibility	12.5	24. Social features	2.3
30. Management, personnel matters	10.6	20. Urging, distinct	2.2
2. Change	9.9	15. Teamwork	2.2
9. Creativity, initiative	9.8	21. Independence	1.2
7. 'The system'	8.6	25. Responsibility, holistic	1.2
8. Commitment, enthusiasm	8.1	31. Management odontological goals	0.7
16. Delegation	7.8	18. Market orientation	0.6
5. Service	6.7	29. Management, work environment	0.6
26. General qualifications	6.1	23. Personal maturity	0.4
19. Goal orientation	6.0	4. Societal orientation	0.4
13. Economic responsibility	5.2	10. Environmental qualifications	0.2
28. Administration	4.1	11. Data qualifications	0.2

qualifications' occurred simultaneously in 46%, whereas 'Soft qualifications', 'Hard qualifications', and 'Qualifications of management' occurred simultaneously in 47% of the job positions.

#### *Relation between job positions and content categories*

The most frequent content category for district dentists was 'Professional qualifications', which occurred in 33% of the job positions. The content category 'Co-operation' occurred in 24%, 'Personality' in 16%, and 'Flexibility' in 13% of the job positions, with a large difference between the occurrence of these content categories and the others. For managers, the most frequently occurring content categories were 'General qualifications of management' (61%), 'Professional qualifications' (54%), 'Co-operation' (48%), 'Personality' (38%), 'Management, personal matters' (37%), and 'Development' (35%).

Comparisons between the required qualifications and the dichotomized levels of job positions were analyzed in  $2 \times 2$  tables (Table 4). There was a significantly higher share of required qualifications for managers for almost all the content categories. The only significant higher share for district dentists was for the content categories 'Service', 'Odontological goals', and 'HSO'. However, there was a

10 times increased chance of finding the 'HSO' category for those dentists with up to 50% working hours as hospital dentists ( $OR = 10.1$ ,  $P < 0.001$ ).

There was an 11-fold increased chance of finding the content category 'Development' for managers ( $OR = 10.6$ ,  $P < 0.001$ ). However, since this category contained many aspects of this theme, a further analysis by the subcategory 'Attitude professional & personal development' was performed. The frequency of this subcategory was 0.5% in the textual material, and the analysis showed a five times increased chance of finding this subcategory for district dentists ( $OR = 5.0$ ,  $P \leq 0.05$ ).

#### *Relation between job positions and latent categories*

There was no significant difference between dentists and managers in the occurrence of the latent category 'Odontological objectives'. All other latent categories were more strongly associated with managers than with district dentist. The OR for 'Soft qualifications' to be found for managers was 4.6; for 'Hard qualifications', 3.6; for 'Neutral qualifications' 3.8; for 'Qualifications of management', 373.3; and for 'Professional qualifications', 2.4.

The relationships between the four levels of job positions and the latent categories are shown in Table 5. The analysis showed a strong association between 'Qualifications of leadership' and job position. For top managers of the PDHS, none of the qualification demands concerned odontology.

Table 3. Percentage distribution of job positions with respective latent category ( $n = 1856$ )

Latent category	Percentage of positions
'Soft' qualifications	42.1
Professional qualifications	38.6
'Hard' qualifications	30.4
Neutral qualifications	26.1
Qualifications of management	20.3
Odontological objectives	5.9

## Discussion

It can be fruitful to study the complexity of announced and unannounced organizational goals for a better understanding of organizational activities (2). The real organizational goals can be uncovered by an analysis of the

Table 4. The association of dichotomized job positions and occurrence of content categories. Percentages and odds ratios. Only the occurrence of the categories is stated

Content category	Dentists (n = 1342)	Managers (n = 514)	OR	P
1. Development	4.9	35.4	10.6	***
2. Change	3.4	26.8	10.3	***
3. Quality	2.9	2.5	0.9	NS
4. Societal orientation	0.1	1.2	7.9	**
5. Service	8.8	1.4	0.1	***
6. Cooperation	23.8	47.9	2.9	***
7. 'The system'	6.8	13.2	2.1	***
8. Commitment	8.0	8.6	1.1	NS
9. Creativity, initiative	5.4	21.2	4.7	***
10. Environmental qualifications	0.0	0.6	7.9	**
11. Data qualifications	0.1	0.4	2.6	NS
12. Production	3.4	3.7	1.1	NS
13. Profit/economic responsibility	0.1	18.5	151.9	***
14. Flexibility	12.7	12.1	0.9	NS
15. Teamwork	2.5	1.4	0.6	NS
16. Delegation	8.3	6.2	0.7	NS
17. Planning and strategy	0.1	9.6	141.3	***
18. Market orientation	0.0	2.1	29.3	***
19. Goal orientation	4.7	9.5	2.1	***
20. Urging, distinct	0.2	7.4	35.6	***
21. Independence	0.3	3.7	12.8	***
22. Personality	15.7	37.4	3.2	***
23. Personal maturity	0.0	1.6	21.2	***
24. Social characteristics	0.7	6.2	8.8	***
25. Responsibility, holistic	1.1	1.2	1.0	NS
26. General qualifications	3.7	12.5	3.7	***
27. General qualifications of management	0.2	61.3	706.5	***
28. Administration	0.2	14.4	75.1	***
29. Management, work environment	0.0	2.3	32.1	***
30. Management, personnel matters	0.3	37.4	199.5	***
31. Management odontological goals	0.0	2.5	34.8	***
32. Odontological goals	4.5	1.6	0.3	**
33. HSO	4.2	0.6	0.1	***
34. Professional qualifications	32.7	54.1	2.4	***

OR = odds ratio; HSO = human service organization.

\*  $P \leq 0.05$ ; \*\*  $P \leq 0.01$ ; \*\*\*  $P \leq 0.001$ .

required and rewarded qualifications of the employees and top managers (17). In this study the analysis of the manifestly required qualifications in job advertisements in the *Journal of the Swedish Dental Association* showed that the required qualifications concerned personality-related qualifications rather than technical competence and knowledge. The required qualifications combined into the latent category 'Soft qualifications' occurred most frequently. The latent categories 'Soft qualifications', 'Hard qualifications', and 'Qualifications of management' occurred together more frequently than 'Odontological objectives' and 'Professional qualifications'. On an individual level, qualifications were more frequently required for managers than for district dentists. 'Odontological objectives' and 'Professional qualifications' occurred more infrequently the higher the managerial

position, and 'Neutral qualifications' occurred more frequently for managers than for district dentists.

The present results indicate an organizational ideology in the PDHS that mainly concerns economic and not odontological goals, despite the official rhetoric, but in line with other studies (6–8). The emphasis on qualification demands related to economic goals is further in congruence with the theory of influence on organizations by different interest groups (1, 2). The PDHS is dependent on political administrations for financial resources, and hence, politicians must be considered a powerful group whose demands have to be met for further resources.

A focus on economic interests may have consequences for the dental treatment strategy. The fee-for-service system can be an economic incentive for overtreatment or towards more profitable treatments. In contrast, the capitation system can lead to undertreatment (25). Because the compensation for the treatment of children is financed by county council taxes, parts of the treatment are delegated to hygienist and nurses for efficient time utilization and increased time availability of the dentists for treatment of adults (7, 8). This treatment strategy can unfortunately lead to fewer opportunities for the dentists to plan the treatment from the holistic view of the patients (34). The increased economizing in the PDHS may also result in a conflict of interests for the dentists between the official goal of dental health and caring for the patients and the dentists' loyalty to the employers. The ethical norms must, however, be the governing principle for the delivered treatment (35).

Considering the nature of dental care, with its core as the dentist–patient relation in clinical situations, it is notable that the results imply that dentists are mainly considered profitable organizational assets and not participants in relations with patients (36). Moreover, the stronger relationship between dentists working partly as hospital dentists and the content category 'Human service orientation' as compared with district dentists, indicates that dentist–patient relations are regarded as important mainly for patients with special needs. From the theory of HSO, the relation between patient and personnel is, however, always crucial for the outcome of work (1, 29).

The higher frequency of the category 'Professional qualifications' for managers than for district dentists may be due to the tradition of managers with professional competence in care organizations. Managers without professional competence are not easily accepted (17). Additionally, in the PDHS, the assistant clinical managers and the clinical managers spend most of their time on clinical work.

Qualifications classified as technical competence and knowledge were more infrequently required than personality-related qualifications in the job advertisements. Qualifications with higher hierarchical job position, indicating a greater concern for the 'right' individuals in higher job positions, were further more frequently requested. The reason why dental competence was not emphasized can be that this competence is taken for

Table 5. Percentages and lambda. Latent categories were dependent variables in the measure of association

Latent category	Dentist (n = 1342)	Assistant clinical managers (n = 56)	Clinical managers (n = 445)	Managers of PDHS (n = 13)	$\lambda$	P
'Soft' qualifications	32.1	73.2	67.2	84.6	0.24	***
No	67.9	26.8	32.8	15.4		
'Hard' qualifications	22.5	37.5	51.5	92.3	0.04	***
No	77.5	62.5	48.5	7.7		
Neutral qualifications	18.4	44.6	45.6	76.9	0.01	***
No	81.6	55.4	54.4	23.1		
Qualifications of management	0.7	73.2	70.6	100.0	0.59	***
No	99.3	26.8	29.4	0.0		
Professional qualifications	32.7	73.2	52.4	30.8	0.07	***
No	67.3	26.8	47.6	69.2		
Odontological objectives	6.3	5.4	4.7	0.0	NS	
No	93.7	94.6	95.3	100.0		

PDHS = Public Dental Health Service.

\*  $P \leq 0.05$ ; \*\*  $P \leq 0.01$ ; \*\*\*  $P \leq 0.001$ .

granted. On the other hand, selective recruitment with an emphasis on personality-related qualifications is in congruence with the practices in other organizations (15, 30, 37–39). It has been characterized as a 'soft' form of labor control, introduced as a result of the difficulties of direct and technical supervision of work as the organizations devolved a greater degree of flexibility or discretion to the labor (38). Limited organizational control is specially related to human service organizations. The visibility and observability of the staff–client encounters are usually limited, and direct monitoring of professionals is regarded as an infringement of their autonomy (1).

The results gave further evidence for the contention that HRM has been adopted by the PDHS. The content in the job advertisements covered more aspects of HRM than Bejerot (5) did, but there are still some noteworthy results. There is a stronger association between the 'hard' aspects of HRM and managers in comparison with district dentists. This is not in line with what is hypothesized about the use of the language and policies of the 'hard' model for peripheral or direct workers (14, 15) or with the experiences of dentists and managers (5). One of the policies of HRM concerns devolved responsibility to line managers for the management of the human resources (11, 14, 15, 40). The results probably mirror this phenomenon. The results can also be evaluated from the fact that there is no clarity about empirical referents of the terms 'core' and 'peripheral', and a worker can simultaneously be defined as both (15). With regard to the PDHS as a professional organization, the dentists may indeed be direct workers but can also be counted as 'core' workers whose work is important for the organizational competitive advantage. Considering this, the results are not that remarkable.

This study showed a more frequent occurrence of qualification demands interpreted as 'soft' in comparison with 'hard', whereas the dentists in the PDHS experienced a dominance of the 'hard' aspects of HRM (5). Additionally, the frequency of the content category 'Management, personnel matters' for managers can be

interpreted as an intention to manage the subordinates by a 'soft' form of HRM. Required qualifications in job advertisements for managers have been interpreted as representing 'ideal managers' in the *zeitgeist* (39), and the present results probably mirror not only the 'ideal staff' but also an 'ideal' form of HRM. The discrepancy between the representation of HRM and the experiences of dentists and managers is, however, in congruence with the criticism of HRM. It claims that the managerial behavior in practice does not correspond with the 'ideals' of HRM, since HRM is subordinate to business policies, and the economic objectives predominate over the human considerations (10). It is also pointed out that the rhetoric of the people-centered 'soft' approach of HRM can be used to camouflage the cost reduction approach of the 'hard' version and what in reality is going on in the organizations (41).

A closer examination of the qualification demands corresponding to the interests of the dentists showed that qualifications related to creativity and initiative were rather infrequently required and were more often found for managers. The results can indicate support for the experiences of the managerial changes in this respect. Dentists in the PDHS have also experienced greater discrepancy between the opportunities for initiative and self-determination than private practitioners (4, 5). The occurrence of qualification demands corresponding to the dental professionals' view of sustainable work may have consequences for the outcome of the recruitment process in the future. In most developed economies, over the next decades there will be a reduction of young people coming onto the labor market. Thus, the employees may be in a position to choose their employer rather than the other way around (41). Additionally, job features with opportunities for personal control, utilization, and development of competence and of clarity about goals and work role requirements can have a positive impact on the individual well-being (42). There is therefore another reason for managerial practices that not only enhanced the organiza-

tional performance but also afford opportunities for enhancement of the individual well-being.

The results should be interpreted with both the advantages and the disadvantages of the method as a background. One of the benefits of text analysis is the unobtrusiveness of the method that prevents errors into the analyzed data otherwise introduced through interaction between investigator and subject (20, 21, 23). Others are the possibilities to study historical texts (20) and naturally occurring texts (27).

The manual coding of the textual material and created category scheme can be seen as a weakness from the point of view of reliability (20, 21, 23). However, the mentioned qualifications in the job advertisements were subdivided into words and phrases before the coding, and the created categories on the first level were narrow; thus these coding procedures increase the possibilities to achieve high reliability. The measurement of the reproducibility of the text categorization indicates a rather high consistency of shared understandings of word meanings and category definitions (23).

The categorization of the required qualifications into latent categories on a higher level of abstraction was made with regard to HRM and its two-dimensional models. The text categorization should, however, be regarded from the contention that, conceptually and empirically, HRM has no fixed forms. HRM policies and practices can be both 'hard' and 'soft' (43). It should therefore be emphasized that the inferences of the latent characteristics of the qualifications were made with the data related to the dental context.

A fact that has to be taken into consideration in the inferential process comes from the assumption that different county councils may have used different words and phrases. The result can hence be influenced by the number of job advertisements from the different county councils. Therefore, the material will be studied further for increased knowledge about the ideology of different county councils.

In conclusion, the present study reinforced the contention of an organizational ideology in the Swedish PDHS primarily of economic character. The organizational view of the dentists was interpreted as a profitable organizational asset rather than participants in relations with patients. The study also confirmed the contention that the language of human resource management has been adopted by the PDHS. The representation of HRM, emphasizing the 'soft' aspects, was interpreted as an 'ideal' managerial model. The organizational ideology may differ between county councils and change over time, and therefore, these questions need to be studied further.

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