

Lead Public Health Service Dentists' Leadership Qualities Evaluated by Their Superiors and Subordinates in Finland

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Abstract

Aim: To survey the leadership of the Finnish Public Dental Service (PDS) from the viewpoints of lead dentists themselves, their immediate superiors, their subordinates, and municipal decision makers during a period when the implementation of a major national dental care reform eliminating age restrictions in access to care in the PDS started. **Methods:** Data on leadership qualities and styles were collected from the lead PDS dentists and leading doctors, the directors of the municipal health boards and a random sample of public health service dentists (altogether N=1096) who were surveyed using a questionnaire sent by e-mail to those with an e-mail address and by post to those without. Factor analysis, chi-square, and non-parametric tests were used in analysis. **Results:** The response rates varied between the groups from 126 (54%) for directors of municipal health boards to 277 (76%) for public health service dentists. On average, 132 (72%) of the lead dentists and 108 (72%) of leading doctors but only 125 (46%) of the public dentists considered their lead dentist as a *good boss* ($P<0.001$). Lead dentists were thought to be better bosses in small (fewer than 20,000 inhabitants) than in large health centres. The higher the *good boss* characterisation, the better was the perceived work environment for dental care in the health centres ($P<0.001$) and the less resistance to change was experienced among public dentists ($P<0.001$). Most lead dentists who responded to this question (124; 70%) and half of their superiors (77; 50%) claimed that they often gave feedback and support to their subordinates. Few lead dentists as subordinates (38; 21%) and their subordinates (46; 17%) reported that they received frequent feedback and support. Lead dentists' decision-making authority at a municipal level was considered high by less than half (129; 47%) of their superiors. **Conclusions:** This study confirms the proposal that a combination of the traditional purposeful leadership and human-centred collaborative leadership is the most likely to achieve good results and a high level of work well-being. It also suggests that it is necessary to ensure that dentists who have to lead the implementation of change have sufficient leadership skills.

Key Words: Leadership, Public Dental Service, Lead Dentists, Leading Doctors, Public Dentists, Municipal Politicians, Dental Reform

Introduction

In Finland, oral health services are provided by both the public and private sectors. Public services have been offered throughout the country in health centres run by local municipalities. Half of the dentists have worked as salaried dentists in the Public Dental Service (PDS) and the other half privately in the densely populated areas of the country. Traditionally, the division of duties between the two sectors has been clearly defined, because only children, young adults, and some special needs groups were entitled to care in the public sector. Most adults had to rely on private services [1]. Prior to 2002, people born in 1956 or later official-

ly had access to subsidised care in the PDS or alternatively, when using private care, to reimbursement for basic care from the National Insurance Institute (NHI). In practice, sparsely populated and less centrally located municipalities offered public services for all their inhabitants whereas in the bigger cities, with high numbers of private practitioners, only children and younger adults received care from the PDS. A population- and sickness-related state subsidy was paid to the municipalities independent of the extent of their dental services.

In 2001-2002, the dental care provision system was reformed and the age limits restricting adults' use of the PDS were abolished. Reimbursement of

private dental care from the NHI was extended to cover all adult age groups. Improved oral health and lower edentulousness among adults and the elderly had increased treatment needs and put pressure on politicians [2]. The reform led to increased demand for dental care by adults in the PDS, where care was less expensive than in the private sector even after reimbursements. Long waiting lists for the PDS emerged, especially in towns and cities that before the reform had restricted adults' access to the PDS [3]. In spite of higher (increased) state subsidies to municipalities, the reform caused worries in many municipalities fearing that there would be increasing demand and insufficient numbers of dentists and other personnel to meet the demand. In municipalities, the local health boards are responsible for planning, organising, and evaluating public health care, including primary medical and dental care and prevention. Leading doctors are in charge of the entire public health services and under them, lead dentists are in charge of the municipal health centres' oral health clinics that provide dental services. The lead dentists in the PDS faced a challenging situation when they had to implement the reform [4]

Health care organisations are expert organisations characterised by strong professionalism [5]. However, when the leaders are clinicians it is challenging for the organisations because clinicians often feel independent of their employer [6], responsible to their patients in the first place and loyal to the medical or dental professions. Autonomy of work plays a significant role for them and this is supported by professional standards and norms. According to Sipilä (1996) [6], the authority of an expert leader is based on his or her position, competence, seniority and personal authority. Authority is a necessary but on its own an insufficient part of leadership [7,8]. Bennis and Nanus (1986) [9] have noticed that negative aspects connected with authority in new leadership theories have led to the conscious undervaluing of the meaning of power. However, power is the basic element needed to start and maintain an activity that changes intention into action [9]. In an expert organisation, leadership becomes especially challenging when reforms that influence the daily work of the employees are implemented.

Aim

Against this background, the aim of this study was to survey the leadership qualities of the PDS in

Finland from the viewpoints of lead dentists themselves, their immediate superiors, the next level of their superiors (the directors of the municipal health boards) and their subordinates and the PDS dentists who worked for them, at a time when the national dental reform was first implemented in 2003 and 2004 and big changes were required in the PDS.

Methods

The views of four groups on the leadership qualities of the lead dentists in municipal PDS clinics were investigated using a questionnaire designed for this purpose. The groups surveyed were: lead dentists (those in charge of municipal PDS clinics), leading doctors (their line managers, i.e. bosses), public health dentists who were subordinates to the lead dentists, and the directors of municipal health boards. The questionnaire distributed to the lead dentists was based on previous studies of Finnish primary care [5,6] and consisted of 124 questions in Finnish. The questionnaire distributed to the other groups was shorter but included the same core questions that are reported in this paper. These core questions related to leadership qualities and skills, leadership styles, authority, feedback and support, work well-being of the leaders and their subordinates, satisfaction with the leadership, and some background information (*Table 1*). Both closed and open questions were used. Four options were given to answer closed questions and statements. Two were positive and two negative. No neutral answer ("I can't say") was possible. The questionnaire was piloted by a random sample of dentists, doctors and directors. Following the pilot, some questions were discarded and the wording of others was clarified. For example, the quality of leadership of the lead dentists was assessed using 12 positive or negative statements such as "just" or "authoritative" (see *Figure 1*).

The names and e-mail addresses of all lead PDS dentists in Finland were provided by the National Research and Development Centre (STAKES). A random sample of subordinate PDS dentists was selected by the Finnish Dental Association. Names and e-mail addresses of leading doctors and directors of health boards were collected from municipal web pages and when they could not be found, a letter was sent addressed "to the leading doctor or head of health board in municipality NN". Those who had an e-mail address were asked to complete the questionnaire on the Internet.

Table 1. Summation of factors from the questions in the questionnaires into characteristics**1. From questions on qualities of leadership**

Good boss (Cr. alpha 0.860): summation of negotiating; just; empathetic/emotionally intelligent; reliable; authoritative (as negative); innovative; convincing; purposeful/persistent; passive/indolent (as negative); unsure (as negative).

Goal-oriented manager (Cr. alpha 0.856): summation of innovative; convincing; purposeful/persistent; passive/indolent (as negative); unsure (as negative)

People-oriented leader (Cr. alpha 0.813): summation of negotiating; just; empathetic/emotionally intelligent; reliable; authoritative (as negative).

Weak and/or good managers and leaders: 4-step sum variable was formed of managers and leaders where as-good-ones were classified in the uppermost quartiles and as-weak-ones in the three lower quartiles = weak manager and leader, good manager but weak leader, good leader but weak manager, good leader and manager (*Figure 4*).

2. From questions on enjoyment of work, satisfaction with leadership, work atmosphere, and feedback, the following sum variables were constructed using factor analysis:

Work well-being (Cr. alpha 0.686): my own work well-being graded from 4 to 10 (school grades in Finland); I am often exhausted by work (as negative); I have enough time to do my work; I feel that my superior's expectations conflict with reality (as negative); it is difficult to match working-life with private life (as negative); I often have feelings of inadequacy towards new clinical challenges (as negative); I have energy to learn new things.

Work environment (Cr. alpha 0.648): the atmosphere of dental care is good; I can go and talk to my superior informally; I get positive feedback from my fellow workers; re-training because of the change is sufficient; my superior supports getting acquainted with a speciality subject.

Feedback and support received (experienced) (Cr. alpha, public dentists, 0.713, lead dentists, 0.772): I often receive feedback from my superior; I receive plenty of support from my superior.

Feedback and support given (Cr. alpha superiors 0.626, leading dentists 0.471): I often give feedback to the lead dentist/I give feedback spontaneously and regularly in development conversations (two different claims for lead dentists); I give plenty of support to the lead dentist (superiors)/I listen to the opinions of my subordinates and support them (lead dentists).

Positive feedback to leadership (by PDS dentists) (Cr. alpha 0.894): I am satisfied with my superior's way of leadership; I fully trust my superior; my superior listens to the opinions of his or her subordinates; I support my superior in change leadership.

Goal orientation (leading doctors and heads of the health board) (Cr. alpha 0.704): goals set by politicians are clear; leading dentist has these goals internalised.

Work motivation (Cr. alpha 0.614): I am motivated to lead/to the work in PDS; I would prefer to be a clinician than a leader/I would prefer to be a private dentist than a public dentist (as negative).

Decision authority (leading doctors and directors of the health board) (Cr. alpha 0.637): leading dentist has enough independent decision authority; politicians know the opinion of the leading dentist when making political decisions; politicians decide only seldom or never against the opinion of the leading dentist; leading dentist has more responsibility than authority (as negative); influence of the leading dentist in municipal decision making is considerable.

Positive attitude towards change (heads of the health board, leading doctors, lead dentists and public dentists) (Cr. alpha 0.613): positive attitude towards the dental care reform; positive attitude towards the dental care of adults before the change; dental care of adults is good; task delegation is sensible; individual examination intervals are sensible; enlargement of reimbursements in private care was most important in the reform (as negative); I fear the deterioration of children's dental health (as negative); not enough attention has been paid to the dental care of people in working age, it was high time for the work-age groups to get access to the PDS.

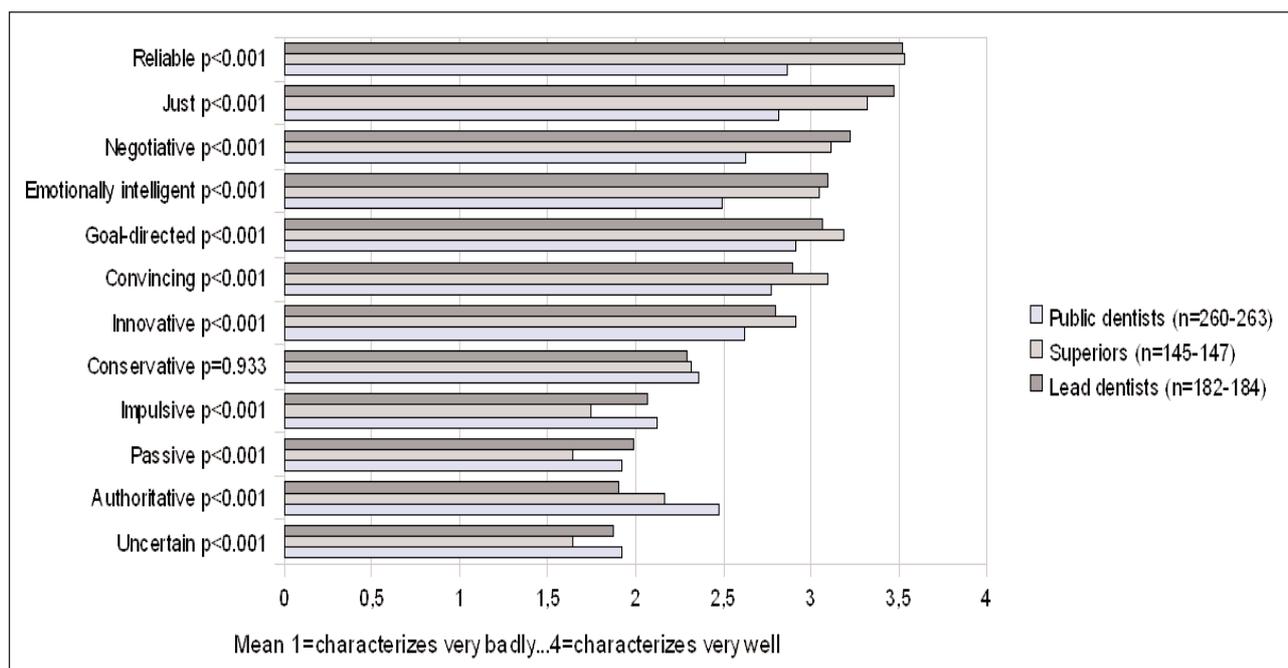


Figure 1. Characterisation of the leadership qualities of the lead dentists by the lead dentists themselves, and by their superiors (the leading doctors) and subordinates (the public dentists). Mean values given to each quality by the study groups.

The others were asked to return it by surface mail. The questionnaire was accompanied by an explanatory letter. The survey was carried out during the second half of 2003 and first few months of 2004. All respondents did not answer all questions and thus the n-values vary in the analyses and are usually between one and 15 respondents lower than the overall total number who answered. Answers were entered into Excel[®] (Microsoft Corporation, Redmond, USA) spreadsheets, and PASW[®] Statistics 15 and 18 (SPSS Inc, Chicago, USA) were used to analyse the data.

Health centres were classified as either small (serving fewer than 20,000 inhabitants) or large (serving 20,000 inhabitants or more).

For analysis, both separate variables and sums of variables were used. Sums of variables were formed by factor analysis (method: maximum likelihood, rotation: varimax) on a case-by-case basis and by using the mean function of SPSS. The reliability of sum variables was assessed using Cronbach's coefficient alpha, which is the more reliable the nearer it is to one on a scale 0-1. In the text, sum variables have been written in *italics* (Table 1). Where applicable, chi-square and non-parametric tests were used, the latter in analysing skewed distributions and sums of variables.

Because the names of respondents were not recorded in completed questionnaires, their

anonymity was maintained. They were under no obligation to complete and return the questionnaires if they did not wish to take part in the survey. As a result, it was deemed unnecessary to obtain ethical approval for the survey and the return of a completed questionnaire was taken as consent to take part in the survey.

Results

The questionnaires were answered by 194 (73% of the original sample of 265) lead dentists, 156 (67% of 233) leading doctors (superiors), 277 (76% of 365) public dentists (subordinates), and 126 (54% of 233) directors of health boards.

Leadership qualities

Figure 1 shows how the lead dentists themselves, leading doctors, and public dentists evaluated the lead dentists' leadership qualities. The lead dentists themselves and leading doctors scored the lead dentists higher than the subordinate PDS dentists on most positive aspects and lower on most negative aspects. Reliability, righteousness, and goal-directedness received high scores from all groups.

Using factor analysis, a sum variable *good boss* (Table 1) was formed from ten of the leadership qualities in Figure 1. Seventy-two per cent (108) of the superiors (leading doctors) who

answered the question, 71% (132) of the lead dentists themselves and 46% (125) of the PDS dentists (subordinates) considered the lead dentist as a *good boss* (points =3 in scale 1-4, $P<0.001$). Lead dentists were thought to be *better bosses* in smaller health centres (covering fewer than 20,000 inhabitants) than in larger ones ($P<0.001$). The *work motivation* ($P<0.001$) of the lead dentists was found to be better if they worked in bigger units in health centres ($P<0.001$). The higher the *good boss* characterisation, the better the reported work environment in the health centres ($P<0.001$) and the less resistance to change was experienced among PDS dentists ($P<0.001$).

Feedback and support

As shown in *Figure 2*, 124 of 178 lead dentists (70%) and 77 of 154 leading doctors (50%) thought they often gave *feedback* and much *support* to their own subordinates. However, few lead dentists as subordinates (38; 21%) and few of their own subordinates, the PDS dentists (46; 17%), reported that they often received *feedback and support*. The lead

dentists claimed that they gave much or very much feedback to their subordinates both unofficially and in formal discussions.

Leadership styles

Two more sum variables were formed from the ten remaining leadership qualities. These were the more distant task *goal-oriented manager* and the more empathetic *people-oriented leader*. Most (162; 88%) of the lead dentists felt they were good *leaders* but less than half (108; 41%) of their subordinates agreed ($P<0.001$). Slightly more than half (114; 62%) of the lead dentists felt to be good *managers*, but a higher proportion (112; 74%) of their superiors felt they were ($P<0.01$; *Figure 3*). Also, their subordinates felt that they were better *managers* (149; 56%) than *leaders* (108; 41%).

Leadership style and PDS dentists'

As shown in *Figure 4*, PDS dentists' *work well-being* and satisfaction with their superiors' leadership style (*positive feedback to leadership*) were better if they rated their superiors as good *leaders*

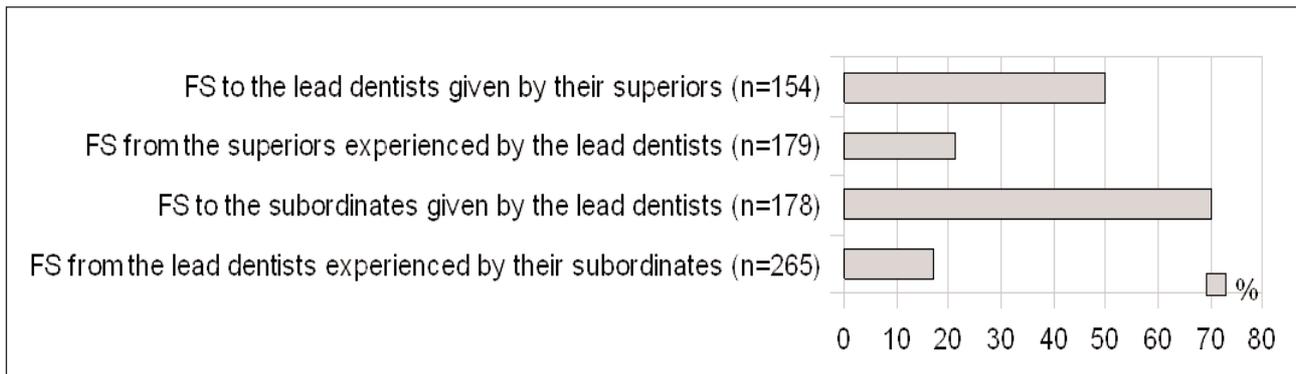


Figure 2. Percentages of positive answers to the statements "I often give/receive feedback" and "I give/receive much support" given by the lead dentists, their superiors and subordinates. FS =feedback and support.

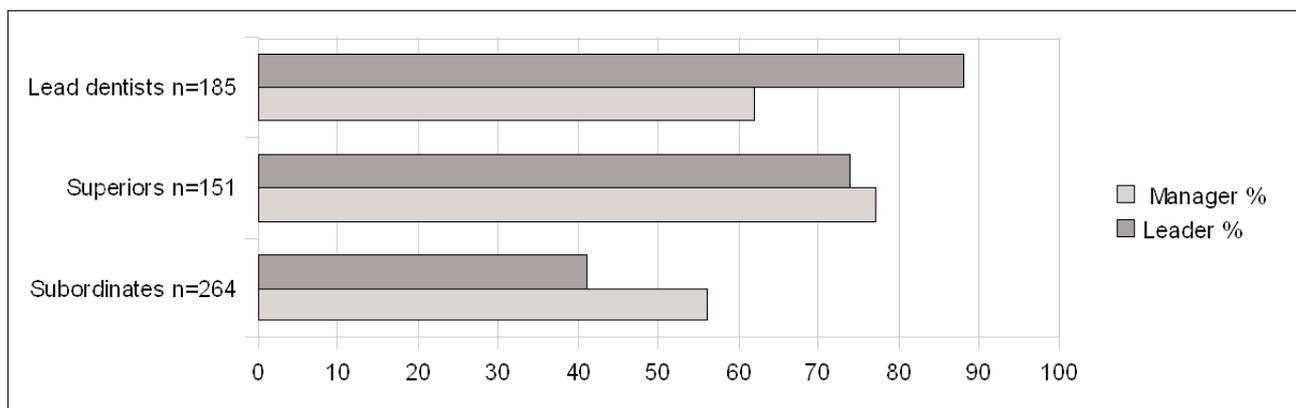


Figure 3. Proportions of the lead dentists, their superiors (leading doctors) and subordinates who thought that their lead dentist was a good Leader or a good Manager (sum variables). Percentages of the persons who gave at least the value 3 (on the scale 1-4).

and good *managers*, or good in either respect, than if they were rated weak. Good *leaders* and or *managers* were also thought seldom to act against the opinions of the staff. Subordinates also thought that they themselves got most *feedback and support* when their superior was both a good *leader* and good *manager*. In all aspects, these qualities were rated better when the lead dentist was considered a good *leader* but weak *manager* than if he or she was considered a good *manager* but weak *leader*. Independently of leadership style, the PDS dentists' understanding of the fact that their boss sometimes made decisions that were against the opinions of the staff was good.

Resistance towards the dental care reform

Most leading doctors and directors of the health boards had not noticed resistance to the dental reform on the part of health care personnel or users of services, or they themselves had not opposed the changes required. However, as shown in *Table 2*, of those 128 persons who had noticed resistance, a significantly greater proportion (35%) directed

health care in municipalities that had applied age limitations for adults before the reform than those governing municipalities that had already offered care for the whole population (13%) before the reform. It was also obvious that a greater proportion of the leading doctors and directors of health boards thought that the goals set by politicians were internalised by the lead dentists in those municipalities that had had no age restrictions before the reform. Furthermore, in municipalities where no resistance towards the reform was experienced, a greater proportion of the leading doctors and directors of the health boards felt that attitudes towards the reform among health care personnel were positive and they also thought that the lead dentist could influence decision making in the municipality better than the superiors in municipalities where there was resistance. Trust in the leadership of the lead dentist was greater in bigger municipalities than small municipalities (*Table 2*).

However, the lead dentists' *decision-making authority* at a municipal level was considered high

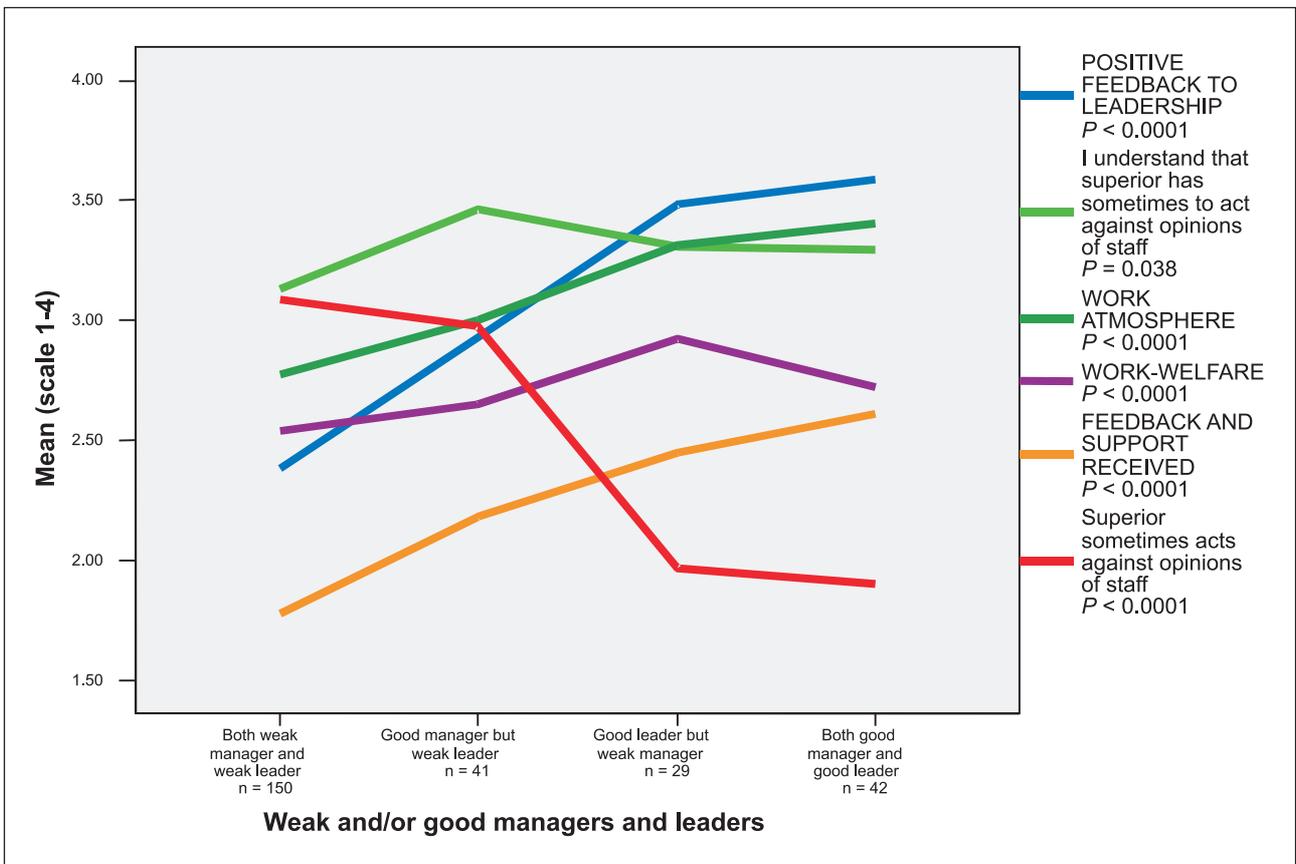


Figure 4. Lead dentists' leadership styles evaluated by PDS dentists in relation to the sum variables: their own "positive feedback to leadership", "work atmosphere/work environment", "work-welfare/work well-being", "feedback and support received" and to two separate statements "My superior sometimes acts against the staff's opinion" and "I understand that he or she has sometimes to do so".

Table 2. Opinions of the directors of the health boards and leading doctors on existence of resistance to the changes required by the national dental care reform, lead dentists' understanding about the health political goals in the local municipality, and attitude towards changes to dental care before the reform. Trust in and lead dentists' influence over decision making in relation to the size of the municipality

Dependent variable	Independent variable		P-value
	Width of dental care before the reform in 2000: limitations existed (n = 128)	Width of dental care before the reform in 2000: whole population had access (n = 128)	
Resistance to change exists	yes = 35%	yes = 13%	<0.001
Goals understood	≥3 = 75%	≥3 = 86%	=0.021
	Perceived change resistance: no (n = 207-210)	Perceived change resistance: yes (n = 67-68)	
Positive attitude to change	≥3 = 67%	≥3 = 56%	=0.038
Trust to leader	yes = 95%	yes = 84%	<0.001
	Population of health centre <20,000 (n = 193)	Population of health centre =20,000 (n = 77)	
Decision-making authority	≥3 = 42%	≥3 = 58%	=0.001

by slightly less than half (129; 46%) of their superiors. The decision-making authority was thought to be stronger in large than small health centres.

Discussion

There have been few studies on leadership in the Finnish PDS [10,11]; this is probably because prior to the reform of 2003 under the oral health care provision system, unlike the rest of health care, public dentistry had no responsibility to provide care for the entire population. The PDS was expected to take care of children and youngsters in the first place and the municipalities had a rather free hand deciding whether or not to include adults in the system. The official statutes defining the age limit for oral health care were seen as a recommendation. It was seen as more important for the NHI to subsidise private care. When the dental care reform was introduced, 2.1 million adults (41% of the population) became eligible for public services or reimbursement of private care. This meant big changes in most local PDS clinics and the municipalities running them. In Finland, the organisational culture in the public health service has been described as bureaucratic and leader-centred [12].

Collecting data for this study was an arduous and time-consuming process, because the e-mail addresses were difficult to find and those that could be found were often incorrect. This was true especially for leading doctors and directors of health boards. In addition, many respondents felt that the Internet-based questionnaire was inconvenient to fill in and asked for a paper version. After several

mailings and sometimes phone calls, the final response rate of the leading dentists (73%), their superiors (67%), and subordinates (76%) can be considered satisfactory when compared with an earlier study which reviewed response rates in dental questionnaire studies [13]. In this study, the mean response rate of questionnaires mailed to dentists was 64% [13]. The response rate of municipal politicians (directors of health boards) was lower (54%). This was possibly because these directors were busy and oral health care was only a small part of their work. Nevertheless, in spite of this, over 50% responded, perhaps indicating that the dental care reform and its implementation was an important matter in the local municipalities.

Leadership is a process where an individual influences a group of other individuals to achieve a common goal. In the implementation of a reform, the leader has to win over his or her employees' trust and get them to commit to the change. A change is about giving up the old and coming to terms with the new, and it is not always a success [6]. This study showed that a great majority of the lead dentists' closest superiors trusted their leadership. However, at the highest hierarchical level of health care in the municipalities only a quarter of the superiors had noticed resistance towards the dental care reform, indicating a great distance between everyday work in the dental clinics and the highest leadership, especially when earlier studies had shown that other attempts to introduce bigger changes in the Finnish public service had been met with strong resistance [12].

It was also obvious that the directors of municipal public health care did not value lead dentists'

influence in municipal decision making very highly and thus the lead dentists' position was, in fact, far from a leading position. The lead dentists had authority in everyday matters but not in health policies, such as the extent to which oral health care was offered to all members of the community. This finding could have several explanations. First, oral health care in Finland and many other countries has traditionally been rather isolated from general health care [14]. Secondly, all lead dentists have not participated, or been present or been allowed to participate in the meetings of the health boards and in many cases leading doctors have presented the dental matters. Thirdly, lead dentists, as professional experts, were possibly loyal to their trade union (chamber), which was more in favour of increasing reimbursements for private care from public funds than opening the PDS to the whole population.

In the PDS, the main tools chosen for implementation of the reform were recruiting new dentists and, because there was a shortage of dentists, dental hygienists. Consequently, delegating tasks from dentists to dental hygienists and also to dental nurses became important [4]. After the reform, PDS dentists' clinical work became more demanding because the PDS started to treat more adult patients than before; the patients were older and often in need of complicated treatments. Many of the PDS dentists, especially in bigger cities, had previously often spent their time caring for younger patients with good oral health, resulting in frequent examinations and easy preventive treatments. This frustrated many dentists who felt that they were in urgent need of further education in prosthetics, periodontology, and endodontics because the sudden demand for more complex treatments increased remarkably [15]. The problems arising from changes in daily routines, more demanding tasks, task delegation and long waiting lists [4,15] were followed by local newspapers. This may explain the PDS dentists' less favourable opinions of their lead dentists as bosses. This is worrying, because contrary to their subordinates' opinion the lead dentists evaluated their own capabilities as *leaders* very highly. Also, they felt that they were better as *people-orientated leaders* than *goal-oriented-managers*. So which is better from the point of view of the work environment, being a leader or a manager? As for the psychological well-being of lead dentists themselves, being an innovative and goal-oriented manager was reported as being important. On the contrary, their subordinates' evaluations and

work well-being spoke in favour of various qualities of the superior's emotional intelligence and being a people-oriented leader. Nevertheless, most of the lead dentists felt motivated to lead and to some extent also had the courage to make difficult decisions that went against their subordinates' opinions.

The results of this study are in agreement with the Managerial Grid model of behavioural leadership [16] in that they suggest that both task-orientation and people-orientation are required to be a good boss. Most lead dentists (65%) thought they often gave *feedback and much support* to their subordinates but only 17% of their subordinates agreed with them. This experience seems to be a universal characteristic of many organisations [17]. Subordinates, and in this case also lead dentists as subordinates, thought that they did not receive enough support from their superiors. According to an earlier study about leading doctors in Finland [18], they were not interested in leading and they had too little time to do it. Lack of time was also a problem for lead dentists and only about one in four claimed to have enough time to lead. Many of them had to participate in the clinical work to help with the long waiting lists.

It has been suggested that the necessary traits for successful leaders are inborn. However, Lampou (2002) [19] and Guarriello (1996) [20] refute this prevailing opinion that leaders are born, not made. Guarriello (1996) emphasised that leadership is a science that can be taught, learned and practised. In addition to intrapersonal skills, such as motivation and interpersonal skills, empathy and emotional intelligence [21], a good leadership education seemed to help leaders themselves and their subordinates to stand the pressures of change. In the light of this study, it seems that the lead dentists faced a difficult task in leading the change. In all groups, most respondents who had taken the opportunity to express their opinions on the reform stated that with regard to lack of resources, the transfer period was too short.

Conclusion

In summary, the results of this study suggest that among other things, it is necessary to ensure that dentists who have to lead the implementation of change have adequate leadership skills. Further, this study confirms the proposal that a combination of the traditional purposeful leadership and human-centred collaborative leadership is the most likely to achieve good results and a high level of work well-being.

Contribution of each author

PA was the principal investigator, planned the study, collected data, performed statistical analyses, and wrote the manuscript.

EW was the main supervisor, participated in planning and designing the study, and wrote the manuscript.

Both authors have read and approved the final manuscript.

Statement of conflict of interests

Neither author is aware of any conflict of interest.

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