Women's Leadership in the Public Dental Service in Finland

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Abstract
Aim: This study aimed to examine how leadership positions in the Public Dental Service (PDS) were distributed between women and men and how the female and male lead dentists perceived themselves as managers or leaders and whether their superiors, the leading doctors and municipal decision makers or their subordinates, the public dentists, found differences between female and male lead dentists as leaders. ***Methods:*** Gender aspects on the leadership qualities of the lead dentists in the Public Dental Service were evaluated by four professional groups using a questionnaire. The groups surveyed were: lead dentists (in charge of the municipal PDS clinics), leading doctors (lead dentists' line managers), the directors of municipal health boards, and the PDS dentists (subordinates to the lead dentists). Factor analysis, chi-square and non-parametric tests were used to analyse the data gathered. ***Results:*** Women made up 50% (96/192) of the lead dentists, 80% (211/263) of the public dentists, 31% (47/152) of the leading doctors, and 27% (33/124) of directors of the municipal health boards ($P<0.001$). Nearly all female (92%; 86/93) and 78% (70/90) of the male lead dentists considered themselves to be good *people-oriented leaders* ($P<0.01$) and three-quarters of the men (74%; 67/90) and 59% (54/92) of the women good *goal-oriented managers* ($P<0.05$). In the eyes of their nearest superiors, the female and male lead dentists were rated equally; they were given scores as *goal-oriented managers, people-oriented leaders* (both medians=3.2 on a scale from 1 to 4), and their ability (median=3.5) to take care of their tasks. Their *decision authority*, power in municipal decision-making (median=2.8), was considered weaker. Most, 67% (70/105), of the PDS dentists evaluated their female superiors and 50% (75/150) their male superiors good as *goal-oriented managers* ($P<0.001$), and 51% (54/105) considered their female superiors and 35% (53/150) their male superiors good as *people-oriented leaders* ($P<0.05$). ***Conclusions***: Female dentists had not become lead dentists in proportion to their numbers in the PDS. Those who had a leading position felt that they were good leaders, their superiors considered them as good as their male colleagues, and their subordinates felt they were better.

Key Words: Lead Dentists, Public Dental Service, Gender Differences, Leadership Styles, Work Well-Being, Position of Power

Introduction

In Finland, dental care has traditionally been a female profession [1]. In 1939 women's share in the profession was 72%. After the Second World War, in 1949, their share was at its highest, 77.5%. In 2009, 69% of the Finnish dentists were women: their share was highest (77%) in the PDS, next highest among university teachers (61%) and private practitioners (59%), and lowest among hospital dentists and specialists (35%) [2]. Until the last few decades, leadership and management has been a typical male profession, especially in the upper levels of hierarchy everywhere in the Finnish economy. Coming to the new millennium, most leaders in the middle management of social and health care were women, of those with a nursing background even as high as 98%, but of those with a physician background only 29% [3].

For some reason, female doctors do not apply for or obtain managerial positions as easily as men do. Perhaps this is because of old attitudes grounded in stereotyped behaviour patterns as described by van Engen and Willemsen (2004): "Men are independent, objective, competitive and better suited to become managers, whereas women are gentle, sensitive, passive and less suited to responsible positions in business. In childhood, girls enjoy turn-taking games which develop empathy for others and which regard rules more flexibly, while boys compete in games which require both cooperation and independence, but they also learn to adapt

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to the rules of the game" [4]. According to Buddeberg-Fischer *et al.* (2003), women and men have different personality traits, either biological or learned, still observable in working life [5]. They studied Swiss medical students in career planning and found out that "female graduates scored higher on traits such as helpfulness, relationship consciousness, empathy, family responsibility, and job security. Male students scored higher on traits such as independence, decisiveness, self-confidence, activity, income, and prestige". Their conclusion was that probably in this phase of life women's thoughts were more directed towards family and children, whereas men thought more about career and income [5]. It must be noted, however, that in terms of women's and men's roles, Switzerland is one of the most conservative countries in Western Europe.

According to Goleman (1995) [6], women are more sensitive than men to understanding feelings expressed as wordless cues. Rosener (1990) [7] emphasises that women are not likely to make their way to top management by adopting the traditional command-and-monitor style of leadership. Women are characterised by transformational interactive leadership: getting their subordinates to transform their own self-interest into the interest of the group through concern for a broader goal. Men are also more likely than women to use power that comes from their organisational position and formal authority. Also, van Engen and Willemsen (2004) state that women rather than men "tend to use more democratic and transformational leadership styles" [4]. According to Frankel (2005) [8], women lack the game spirit characteristic to men, and may leave their networks unused when aiming at their career goals. When others question their position as women or their right to feelings, typically their reaction is to give up and avoid making trouble. Women are seen as weak when they make excuses for their mistakes or apologise, which men seldom do. Furthermore, when it seems to the outsiders that women actually have power, they easily deny it.

In the first years of the 2000s, great legal reforms were made in Finnish dental care [9]. Earlier age limitations limiting access to the PDS were annulled and reimbursement of dental care costs in the private sector was enlarged to cover all adult age groups. The authors' earlier studies showed that lead dentists in the PDS faced a difficult task in leading the change, although they evaluated their own capabilities as leaders very highly [10]. It was also obvious that being a lead dentist in the PDS was not a highly desired job in comparison with clinical work and most lead dentists had part-time positions [11].

Aim

This study aimed to examine how leadership positions in the PDS were distributed between female and male dentists and the experiences of women and men as managers or leaders and, on the other hand, whether their superiors, the leading doctors and municipal decision makers, or their subordinates, the public dentists, found differences between female and male lead dentists.

The hypothesis was that in the PDS women and men appeared in leadership positions in the same proportion as there were women and men in the dental care profession in general, and that there would be no significant gender-related differences in the leadership styles, leadership attitudes, or work well-being of the lead dentists.

Methods

The influence of gender on the leadership qualities of the lead dentists was evaluated within four professional groups who were investigated using a questionnaire designed for this purpose. The groups surveyed were: (a) lead dentists (those in charge of the municipal PDS clinics), (b) leading doctors (lead dentists' line managers, bosses), (c) the directors of municipal health boards, and (d) the PDS dentists who were subordinates to the lead dentists. The questionnaire that was distributed to the lead dentists consisted of 124 questions in Finnish; the questionnaires to the other groups were shorter. The methods used and the ethical aspects of the study have previously been explained in detail [10,11]. The core questions used in this study dealt with the lead dentists' leadership qualities and skills, leadership styles, authority, feedback and support, and work well-being of the leaders and their subordinates, satisfaction with the leadership, and some background information (*Table 1*). Four options were given to answer the closed questions and statements. Two were positive and two negative. No neutral answer ("I can't say") was possible. For example, the quality of leadership of the lead dentists was assessed using 12 positive or negative statements such as "just" or "authoritative".

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

Table 1. *Summation of factors from the questions on characteristics in the questionnaires*

Goal-oriented manager (lead dentists, superiors, and public [PDS] dentists) (Cr. alpha 0.813): Innovative; convincing; purposeful/persistent; passive/indolent (as negative); unsure (as negative).
People-oriented leader (lead dentists, superiors, and public [PDS] dentists) (Cr. alpha 0.856): Just; empathetic/emotionally intelligent; reliable; authoritative (as negative).
Decision authority (leading doctors and directors of health board) (Cr. alpha 0.637): Lead dentist has enough independent decision authority; politicians know the opinion of the lead dentist when making political decisions; politicians decide only seldom or never against the opinion of the lead dentist; lead dentist has more responsibility than authority (as negative); influence of the lead dentist in municipal decision-making is considerable.
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, lead 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).
Demand for services increased (Cr. alpha 0.758): Change of National Health Act extended dental care; change of laws increased demand; users of services moved from the private sector to the public sector.
Difficulties in the implementation of the reform (Cr. alpha 0.800) ($1<1.5$, $2\geq1.5$ on a scale 1-2): Demand exceeded the supply; prioritising needed; special arrangement needed; change resistance from different parties; change resistance from dental personnel.
Position as a subordinate (Cr. alpha 0.575): The goals imposed by the uppermost political management are clear; I know the expectations of the uppermost management towards my leadership, my position is conflicting with the goals imposed by politicians (as negative).
Position as a superior (Cr. alpha 0.409): Subordinates understand the goals imposed by management; I know expectations of my subordinates towards my leadership, my position is conflicting with expectations of subordinates towards my leadership (as negative).
Leadership more challenging (difficult) after the reform (Cr. alpha 0.529) ($1<2$, $2\geq2$ on a scale 1-3): Leadership has become more challenging; working pace has become more strained; management of change not easy.
Work well-being (Cr. alpha 0.694): My own work well-being graded from 4 to 10 (school grades in Finland); I hold up well under pressure; I have energy to learn new things; I am often exhausted by my work (as negative); it is difficult to match working life with private life (as negative).
Self-esteem (Cr. alpha 0.823): I feel that that I succeed as a leader; I feel that I am esteemed as a leader.
Mental reward (Cr. alpha 0.652): Challenge; creativity; independence of present work; possibility to influence the future of dental care; teamwork or acting among people; value of work to the society and fellow men.
Material reward (Cr. alpha 0.443): Good salary; possibility to work daytime; possibility to maintain clinical skills.
Supportive work environment (public dentists) (Cr. alpha 0.717): The atmosphere of dental care is good; I receive positive feedback from my fellow workers; I feel that the atmosphere in my own health centre is good.
Work control (Cr. alpha 0.553): I have enough time to lead; I have to do too much clinical work (as negative); I have to do too many items of secretarial work (as negative).
Reciprocal feedback and support to superior (from subordinates) (Cr. alpha public dentists 0.896): I trust my superior; I can go and talk to my superior informally; my superior listens to his or her subordinates' views; I am satisfied with my superior's way of leading; I support my superior in his or her leadership work; my superior sometimes acts against the opinion of the personnel (as negative).
Positive attitude towards change (Cr. alpha 0.613): positive attitude to the change of National Health Act; before that, positive attitude to the dental care of adults; dental care of adults is good; division of labour is sensible; individual time between dental examinations is sensible; change of Health Insurance Act is the most important (as negative); I am afraid of deterioration in the health of children's teeth (as negative); not enough attention has been drawn to dental care of working-age people; it was high time for the working-age group to get public dental services.
Leadership motivation (Cr. alpha 0.746): I am motivated to lead; leading the change is an interesting challenge; I am only a dentist among the other dentists (as negative); I would rather be a clinician than a leader (as negative); sometimes you have to act against the opinion of the staff; to avoid conflicts it's better to act as always before (as negative).

Association. The 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 the head of health board in municipality NN". All those who had an e-mail address were asked to complete the questionnaire on the Internet. The others were asked to return it by surface mail. The survey was carried out during the second half of 2003 and the first few months of 2004. Not all respondents answered every question.

Answers were entered into Excel® (Microsoft Corporation, Redmond, USA) spreadsheets, and PASW®Statistics 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 nonparametric tests were used, the latter in analysing skewed distributions and sums of variables. The level for statistical significance was set at $P<0.05$.

Results

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

Women made up 50% (96/192) of the lead dentists, 80% (211/263) of the public dentists, 31% (47/152) of the leading doctors, and 27% (33/124) of directors of the municipal health boards ($P<0.001$). In small health centres, 52% of the lead dentists were women whereas in large ones only 44% of the lead dentists were women ($P>0.1$). The average age of female lead dentists was 49 years and that of male lead dentists 50 years. The average age of subordinates was 48 years, for superiors it was 50 years, and for municipal decision makers it was 57 years. Women had been leaders on an average for 11 years and men for 15 years ($P<0.01$).

Applying for leadership and education

Compared with women (22%; 19/87), almost twice as many men (42%; 38/91) had applied for a position as a lead dentist in the PDS, whereas the remaining 68 women and 53 men had been asked or "forced" to take the position because there were few or no alternatives ($P<0.01$) (*Table 2*). In particular, men under the age of 50 years had actively applied for leadership positions. In this age group, half (49%; 23/47) of men and one fifth (21%; 9/44) of women had sought a leadership position themselves ($P<0.01$). There was no difference between males and females over the age of 50 years.

In small health centres, three times as many men (28%; 18/64) as women (9%; 6/64) had applied for the posts themselves ($P<0.05$). In large health centres, this kind of difference in candidate

Table 2. *Lead dentists' gender distribution in regard to applying for the leadership position (by age and size of the health centre), leadership education, working extra hours in PDS, leadership motivation, and extra hours in private sector, and as seen by female and male leaders respectively.*

Responses to variables	**Women (%)**	**Men (%)**	***P*-value**
Has sought a leadership position on own initiative	22%	42%	<.01
In the age group younger than 50 years, has sought a leadership position on own initiative	21%	49%	<.01
In a small health centre, has sought a leadership position on own initiative	9%	28%	<.05
Has received enough leadership education	40%	57%	<.05
Has not sought a leadership position, but has a rather or very *positive attitude towards change*	62%	79%	<.05
Has sought a leadership position, and has a rather or very good *leadership motivation*	95%	85%	<.05
Did extra clinical hours regularly in addition to ordinary work in the PDS	5%	27%	<.01
Had private consulting hours regularly in addition to ordinary work in the PDS	0	10%	<.001

numbers was not found. In their present work, a quarter (26%; 46/179) of the respondents belonging to both sexes considered advancing in their careers to be quite or very important, 43% (78/179) a little important, and almost a third (31%; 55/179) were indifferent ($P>0.1$).

Some variance was found between men and women with regard to *positive attitude towards change* and *leadership motivation* when examined from the viewpoint of whether or not the lead dentists had sought into their positions themselves. Of those women who had, 89% (17/19), and of those who had not, 62% (42/68), responded that they were rather or very much more favourable *towards change* ($P<0.01$). A similar difference was not seen in the male group: the corresponding figures were 76% (29/38) and 79% (42/53) ($P>0.1$). Of those lead dentists who had not sought their position actively (generally in small health centres), 62% (42/62) of women and 79% (42/53) of men had a rather or very *positive attitude towards change* ($P<0.05$).

The *leadership motivation* of the female lead dentists was somewhat better than that of the male ones when they had sought leadership positions themselves. The responses of nearly all women (95%; 18/19) and 85% of men (31/38) were from three to four points (on the scale 1-4) to part variables of this sum variable ($P<0.05$).

Most male lead dentists (57%; 51/91) and 40% (36/89) of the female ones felt that they had received enough leadership education ($P<0.05$) (*Table 2*). There were no significant differences between men and women in formal qualifications for an office; about two-thirds of all of them were licentiates in dental surgery and possessed no higher degrees or diplomas.

Working hours

In Finland, the normal working hours of the salaried public dentists in health centres was 37 hours per week. Within this time, both men and women devoted 40% to leadership and 60% to clinical work with patients. Only five women (5%; 96) and twelve men (13%; 96) spent all their working hours undertaking administrative tasks and saw no patients in normal working hours. In most health centres, there was a possibility to carry out some additional hours of clinical work, for which extra fees were paid to all dentists, both lead and subordinate. As shown in *Table 2*, of the female leaders only four out of 86 (5%) and 19 out of 91 (21%) of male undertook extra clinical hours regularly ($P<0.01$). None of the female lead dentists had regular consulting hours in the private

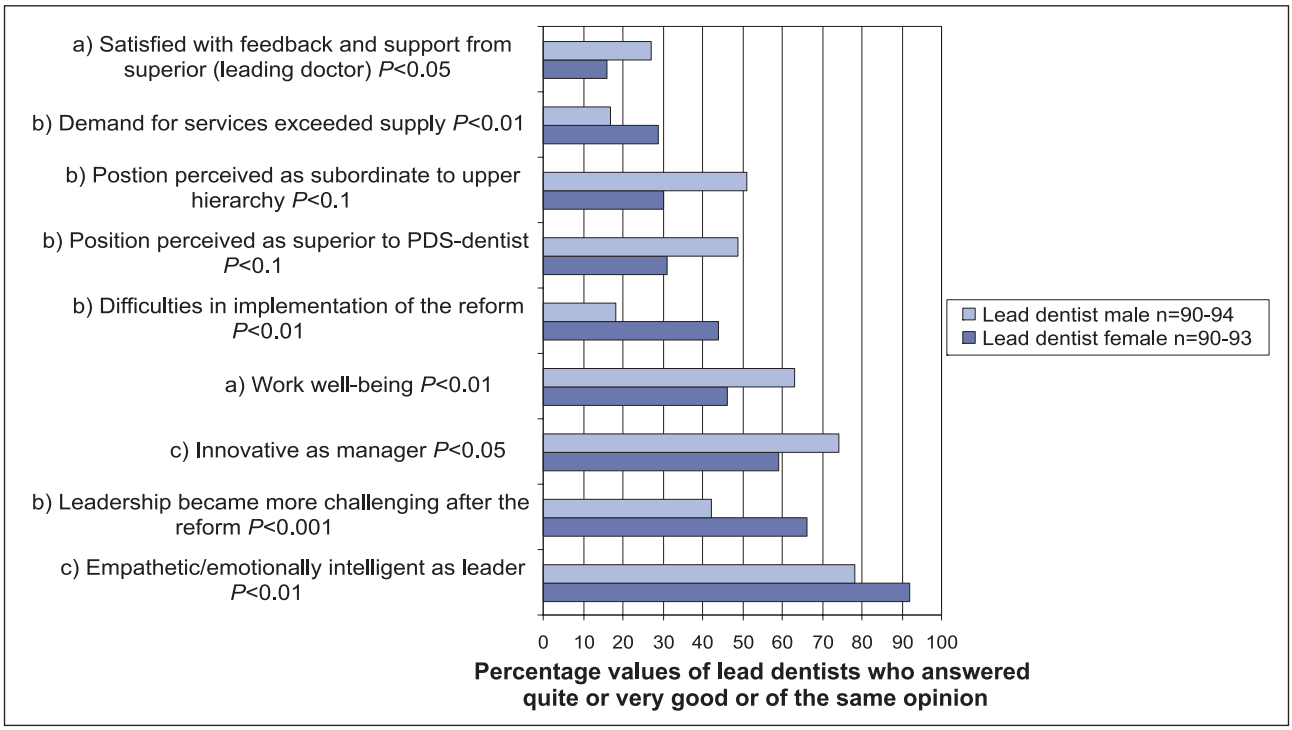

Figure 1. *Views of the female and male lead dentists on matters concerning (a) work well-being, (b) their position in the leadership hierarchy after the reform, and (c) leadership qualities. Percentage values of the lead dentists who had given points 3-4 (on a scale 1-4: 1=very bad or totally of the different opinion… 4=very good or totally of the same opinion).*

sector whereas ten of their 91 male counterparts (11%) did (P<0.001). Nevertheless, there were no different opinions between men and women about the level of wages for leadership work. Most (54%; 177) of all lead dentists thought that their salary was too low in comparison to that of their subordinates (PDS dentists), whose salary was often higher because their clinical productivity, based on treatment performed, was rewarded with extra pay in addition to their monthly salary. Three-quarters (78%; 139/178) of all the lead dentists thought that a good salary was rather or very important for their present work.

Lead dentists' own views on their leadership qualities

As shown *Figure 1,* nearly all women (92%; 86/93) and 78% of the men (70/90) considered that the quality empathetic/emotionally intelligent, belonging to the sum variable *people-oriented leader*, characterized them as leaders rather or very well (P<0.01). On the other hand, three quarters of the men (74%; 67/90) and 59% of the women (54/92) considered that the quality innovative, belonging to the sum variable *goal-oriented manager,* characterized them as managers rather or very well (P<0.05).

Implementation of the dental care reform

Half of all the lead dentists answered that the dental care reform had had no influence on their leadership work. Nevertheless, there were differences between women and men: 66% (61/93) of the women and 42% (39/93) of the men responded that *leadership* had *become more challenging after the reform* (P<0.001). Female lead dentists were also less in favour of the changes that had taken place in dental care provision after the reform. As shown in *Figure 1*, 29% (27/93) of the women and 17% (16/94) of the men believed that the *demand for services* had *increased* because of new patients who not had access to the PDS before often being in great treatment need, and because many patients moved from the private sector to the cheaper public sector (P<0.01). Women also thought that the *increasing demand* had caused problems for the PDS because of difficulties in prioritising those who should be given access first and because of resistance to change from their support staff. Thus, almost half (44%; 41/93) of the female and 18% (17/94) of the male lead dentists had experienced *difficulties in the implementation of the reform* (P<0.01).

Lead dentists' position as subordinates and superiors

As shown in *Figure 1,* the female lead dentists experienced their *position as subordinates* in regard to the upper hierarchy (leading doctors and chairmen of health boards of PDS) as weaker than male ones. Thirty per cent (26/88) of the women and 51% (46/91) of the men evaluated their position as rather or very good (P<0.01). The difference in the *position as superiors* in regard to PDS dentists was not statistically significant, though: 31% (27/88) of the women and 49% (45/91) of the men thought that they had succeeded quite or very well (P<0.1).

Only 16% (14/89) of the women and 27% (24/90) of the men were satisfied with *feedback and support received* from their nearest superiors (leading doctors) (P<0.05). About half of both sexes saw that the decision-making power of their superiors was small when making decisions in PDS dental health care in municipal health boards.

Work well-being and control over work

Almost half (46%; 41/89) of the female and 63% (57/91) of the male lead dentists felt that their *work well-being* was rather or very good (P<0.01) (*Figure 1*). Combining work and home life (a separate claim of the sum variable *work well-being*) was not considered difficult by most respondents; 60% (53/89) of the female and 73% (66/90) of the male lead dentists denied this statement. Both female and male leaders had a *good self-esteem*: the median was 3 on a scale 1-4. They also appreciated their present work in the PDS: both the *mental reward* (median=3.3) and *material reward* (median=3.3), of their work was considered high. Lead dentists' own time management, *work control,* was more challenging for both sexes: its median was 2.3 on a scale 1-4.

Superiors' and decision makers' views on female and male lead dentists

In the eyes of their nearest superiors, the leading doctors and the municipal decision makers (politicians), the female and male lead dentists were highly and equally appreciated in almost all the qualities listed in the questionnaire. For example, lead dentists were given high scores as *goal-oriented managers* and *people-oriented leaders* (both medians=3.2), and on the confidence of their judgement and their ability to take care of their tasks (median=4), two-thirds (67%; 187/278) of the leading doctors and politicians gave them four points. The superiors also evaluated lead dentists' *decision authority* to be sufficient enough (median=2.8), but statistically significantly weaker (P<0.001) than their ability to take care of their tasks. There were no statistically significant differences in their eval-

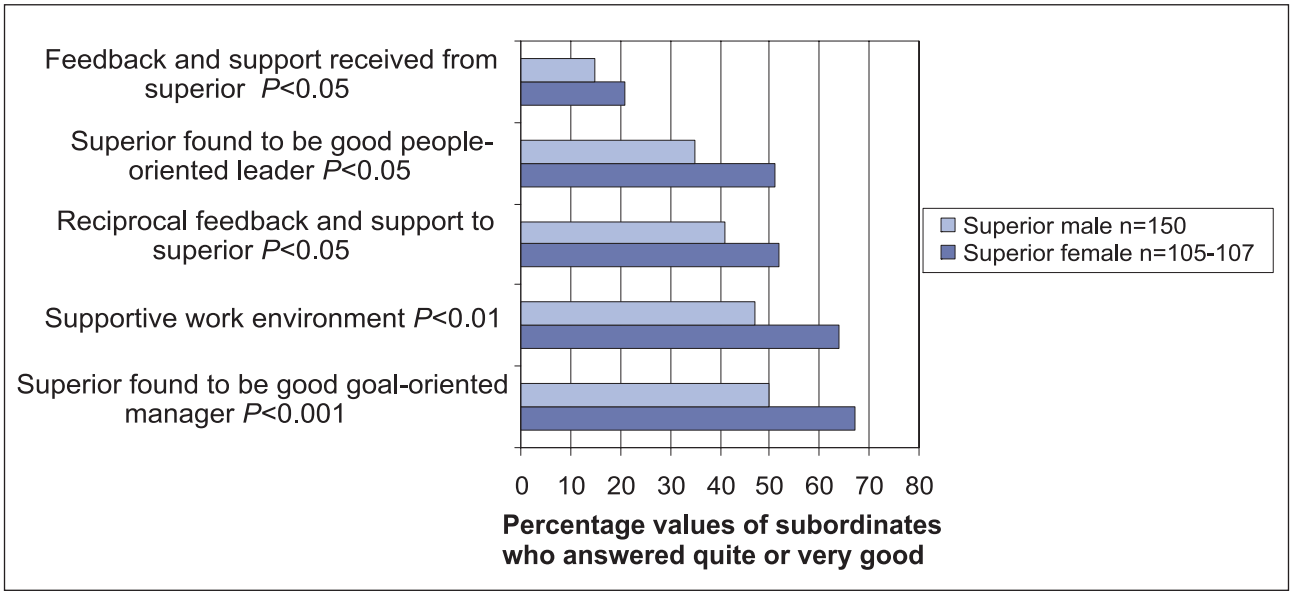

Figure 2. *Views of the subordinates (PDS dentists) on the qualities of leadership of their superiors (lead dentists). Percentage values of the subordinates who had given points 3-4 (on a scale 1-4: 1=very bad or totally of the opposite opinion…4=very good or totally of the same opinion).*

uations between female and male lead dentists in this respect.

Subordinates' views on female and male lead dentists

As shown in *Figure 2*, 67% (70/105) of the PDS dentists evaluated their female superiors and 50% (75/150) their male superiors quite or very good as *goal-oriented managers* ($P<0.001$), and also 51% (54/105) evaluated their female superiors and 35% (53/150) their male superiors quite or very good as *people-oriented leaders* ($P<0.05$). On the sum variable *reciprocal feedback and support to superior (from subordinates)*, 52% (55/106) of the subordinates gave quite or very good points to their female superiors and 41% (62/150) to their male superiors ($P<0.05$).

However, only 21% (22/106) of the subordinates felt that they received quite or very much *feedback and support* from their female or male (15%; 23/150) superiors ($P<0.05$). When their superior was a woman, the subordinates felt that their *work environment was more supportive* and included positive feedback from fellow workers (64%; 69/107 regarded it as fairly or very good) than when their superior was a man (47%; 71/150; $P<0.01$).

The gender of the lead dentists had no statistically significant connection to the personal *work well-being* of their subordinates.

Discussion

As mentioned earlier, dental care in Finland has traditionally been a female profession, and it was also seen to be so in this study. Half of the lead dentists (50%) and 80% of their subordinates (PDS-dentists) were women. When rising higher in the hierarchy, only about a third (31%) of the leading doctors, and slightly more than a quarter (27%) of the municipal decision makers were women. In 2004, 36% of all municipal councillors elected in Finland were women and slightly less than a quarter (22 %) of the chairpersons of the municipal councils were women [12], which is close to the percentage of Finnish politicians reported in this study The medical profession has been more male-dominated than the dental profession. In the early 20th century, the great majority of physicians were men, but the share of working-age female physicians has increased sharply over the last decades and was 57% in 2010. In the Public Health Service (in the health centres), they filled 62% of the posts. Male physicians are more often teachers, researchers or have administrative posts than their female colleagues, as reflected in a study that found that 69% of the leading doctors were men [13]. The reason for the fact that even today a greater proportion of doctors than dentists are men is conjectural. Both medical and dental professions have been highly appreciated and well-paid in Finland. Dental students have been motivated towards their career

choice by a shorter period of education and more convenient working conditions (daytime work with fewer emergency duties) than are experienced by physicians [14].

According to Aaltio-Marjosola (2001) [15], the Finnish labour market has been divided in two ways according to occupational segregation. First, horizontally, according to the quality of work being either technical and male-dominated or being care-centred and female-dominated, and secondly, vertically, according to decision-making structures. In the dental profession, both these perspectives could be seen in this study. Looking at this aspect horizontally, the dental profession is care-centred and thus female-dominated and looking at it vertically, leadership is a male position especially in the upper hierarchy of health care [3]. Perhaps that was why there were proportionately more men among the lead dentists than their percentage share of the PDS-dentists positions held would have suggested, a finding that was in conflict with the hypothesis for this study. In particular, younger men were more eager than women to seek leadership positions in the PDS. This was in accordance with the findings by Buddeberg-Fisher *et al.* (2003) [5].

An interesting finding was that although half of both the female and the male lead dentists thought that a leader's salary was too low, compared with ordinary PDS dentists, predominately only male lead dentists compensated their lower income level by doing extra clinical work in the PDS outside normal hours or by working in the private sector. This may indicate that traditional male and female roles are still maintained and the responsibility for home and housework is frequently a women's role whereas providing money to maintain the family is a man's role. This view accords with the findings of Turpeinen and Toivanen (2008), who claimed that these traditional gender roles are still present in Finland [16] and they are also found elsewhere in the world [17].

Overall, both the female and male lead dentists felt that they were good leaders and their views on dental care and administrative matters were very much alike. However, female dentists seemed not to have been fully capable of breaking the "glass ceiling" into a higher position in the professional/administrative hierarchy. Instead, they had either voluntarily or because of the pressures (real or imaginary) from their surroundings given way to their male "rivals". Perhaps female dentists thought that they did not have enough competence for a leadership position. The female lead dentists in this study felt that they had had less leadership education than their male colleagues, although their formal qualifications for an office were as good as those of men. One explanation is that the female dentists underestimated their abilities, as Frankel (2005) [8] and Buddeberg-Fischer *et al.* (2003) [5] suggested women often do.

Nearly all female and male lead dentists evaluated their *leadership motivation* better when they had applied for the leadership position than when they had not. In this situation, most (89%) of the female lead dentists reported that they were more favourable *towards change* than when they had become leaders against their will (62%). No such difference was observed between men. It is possible that those women, who had decided to seek leadership positions on their own initiative, had adopted more open-minded attitudes towards the sometimes-troublesome procedures needed in the *implementation of the dental care reform* in the PDS. Because the reform resulted in long waiting lists in many municipalities, especially in the bigger cities, *demand for services exceeded supply* and this caused resistance from various parties, mostly the support staff of dental clinics. All of this, together with the increased stress arising from the faster pace of work, made management and *leadership more challenging* especially for female lead dentists [11], who were shown to be more sensitive to their subordinates' feelings and more stressed than their male colleagues.

In this study female lead dentists felt that their *position* both *as* a *superior* and as *subordinate* was weaker than that of their male colleagues. Men did not experience as much discrepancy between the expectations of the municipal politicians and the reality of dental services in the PDS as women did. Men were certain that they had successfully mediated the goals set by politicians to their own subordinates and thought that they had also been successful in their own leadership work without bigger conflicts indicating better self-confidence [5].

The leading doctors and chairmen of municipal health boards evaluated both the female and the male lead dentists very highly and equally in all the leadership qualities studied.

Unlike the upper hierarchy, the subordinates were in many respects more in favour of their female than male lead dentists. The PDS dentists thought that their female superiors were better *goal-oriented managers* and *people-oriented lead-*

ers than the male ones. They also felt that when their superior was a woman, the working atmosphere was better. However, in the eyes of the PDS-dentists, giving *feedback and support* to them was both the female and the male lead dentists' worst stumbling block.

In summary, the female lead dentists in this study felt that they were in many important respects equal to their male colleagues. They highly appreciated the opportunities of their present work, such as independence and the possibility to influence the future of dental care, but also material values, such as a good salary. But women found the changes after the reform more constricting and their position more difficult than men. The leadership skills of both female and male lead dentists were assessed as being at a similar high level by the upper hierarchy (their superiors at work). The subordinates of the lead dentists considered that in respect of a gender, their female superiors were better as bosses.

Conclusion

The results of this study suggest that in the Finnish PDS, female dentists had not become lead dentists in proportion to their numbers in the workforce; in this respect, the situation was nearly the same as among physicians in health centres in Finland. Women had not been able to, or not been motivated to break the unseen "glass ceiling", preventing them "from rising to the upper rungs of the corporate ladder".

Contributions of each author

- PA: Principal investigator, planned the study, collected data, performed statistical analyses, and wrote the manuscript.
- EW: Main supervisor, participated in planning and designing the study, and wrote the manuscript.

Statement of conflict of interest

Neither author is aware of any conflict of interest.

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