Burnout among dentists: Identification and prevention
Gorter, R.C.

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CHAPTER 7

BURNOUT, COPING AND SOCIAL SUPPORT
AMONG DUTCH DENTISTS

7.1 Introduction

Professional burnout is usually described as in Maslach & Jackson's definition: "... a syndrome of emotional exhaustion, depersonalisation, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind". The three burnout dimensions mentioned are not equivalent, but refer to three distinct aspects of the syndrome. Emotional exhaustion refers to feelings of being depleted of one's emotional resources, depersonalisation refers to a negative, callous, or excessively detached response to the recipients of one's services or care, while reduced personal accomplishment refers to a decline in one's feelings of competence and successful achievement in one's work. Emotional exhaustion is considered to be the key dimension, showing the most robust relationships with various job stressors, such as work overload, role problems, or lack of social support. Although burnout is generally considered an outcome of chronic occupational stress, research findings on this assumption have been equivocal, indicating the complexity of moderating factors.

One of the person-related moderating factors generally considered of decisive influence on the development of burnout is an individual's coping style. Coping represents the behavioural, cognitive, and emotional adaptation to circumstances, or, stated otherwise, the range of strategies to deal with stressors. Several authors emphasise an interactive process between an individual and the environment when dealing with stress. To a certain degree, an individual is expected to show consistency in coping style, such as escape or avoidance strategies versus control-oriented strategies.

Another moderating factor, social support, has proven to play an effective role in coping with stress. Social support was described by Cobb (as cited in Winnubst, p. 155) as: "...that piece of information which convinces people that others love them and care for them (emotional support), that others respect them and value them (affirmative support), and that they are part of a network of communication and mutual support (network support)...", although it should be
added that information support, and instrumental support are also often seen as a form of social support. Social support is not only relevant in the light of coping with stress, but also frequently studied in relation to burnout.\textsuperscript{11,12} The relation of social support with burnout is described as: “If an ... employee lacks adequate social support under conditions of high stress, there is a strong chance that he or she will suffer from strain. Stress and strain develop in a sequential process, and one of the outcomes is burnout”.\textsuperscript{11} Recently, a positive influence of social support (from co-workers) on burnout was demonstrated, notably contributing to less depersonalisation and to more personal accomplishment.\textsuperscript{13}

Research interest in both coping patterns and social support in relation to occupational stress and burnout is growing.\textsuperscript{9,13-17} For example, in a recent study, active coping - the attempt to come to grips with problems at work by cognitively analysing the situation and by concrete action in order to solve or overcome the problem - has shown a significant negative relation with emotional exhaustion, one of the key burnout dimensions.\textsuperscript{18} Schaufeli & Buunk\textsuperscript{12} state: “The way in which the individual copes with stress is ... considered crucial for the development of burnout”. One important conclusion from research on coping in relation to occupational stress and burnout is that escape or avoidance strategies are positively related to burnout, whereas control-oriented strategies, such as active coping, are negatively related.\textsuperscript{9,14,19} Social support cannot be seen apart from coping strategies. In stressful circumstances, people may seek social support as an active coping strategy.\textsuperscript{8} Both social support and coping strategy thus seem to play a crucial role in the development of burnout.

Most research on burnout was conducted among employees in larger organisations, with a majority of the subjects working as a nurse, welfare worker or teacher.\textsuperscript{20} The same can be said of studies on coping behaviour or experienced social support. Dentists, however, work under different conditions. In 1995, 80% of the Dutch male dentists from 35 years of age onwards, and 55% - 60% of their female colleagues, were owner of a solo practice. About 15% of the men, and 25% - 30% of the women were owner of a shared practice.\textsuperscript{21} Some other striking differences between dentists and employees in larger organisations are:
- for the general dental practitioner, being a free-entrepreneur, commercial aspects play a significant role, while at the same time strong regulations by government and insurance companies limit the freedom of enterprise, whereas in other human service professions this conflict is less dominant;
- in dentistry often several possible treatments are available with different costs, both negotiating about the optimal treatment and direct transaction of money are important elements of dental work, while dentists receive no training for this in dental school;
- the contents of work, in which technical skills are required, are not to be
compared with professions in which counselling and support is dominant.

Although burnout among dentists has been described several times, this was mostly based on case studies or senior opinions. Empirical studies on burnout among dentists have been conducted sparsely. These studies differ strongly in instruments used and presentation of results, which makes comparison difficult. For example, in some studies the Maslach Burnout Inventory is used but no basic psychometric characteristics are given, or the original scales are completely reformed.

Occupational stress in dentistry is well-recognised, and recommendations about how to cope with stress as a dentist are published occasionally. The prevalence of burnout among dentists is currently being investigated in the Netherlands. Previous research on stress and burnout in relation to coping among dentists is not known to the authors, neither is research on (the lack of) social support and burnout. On the other hand, from research among Dutch physicians in general practice, who are considered to be comparable to dentists to a certain degree, some interesting results are available. It appeared that burnout among Dutch physicians was strongly related to specific coping patterns: those who had a more passive coping style and were less looking for social support showed higher levels of general burnout. At the same time, there was a strong negative relation between experienced social support and burnout. These findings give reason to assume that coping style and social support will influence burnout among dentists too.

The aim of the present study, therefore, was to investigate whether the relations between burnout and coping style, and between burnout and experienced social support, as described above, are present in the dental profession. It was hypothesised that dentists characterised by a passive coping style, will show higher levels of burnout, whereas dentists characterised by an active, or a social support seeking coping style will show lower levels of burnout. Furthermore, experienced social support was expected to be related negatively with burnout.

7.2 Method

7.2.1 Sample and procedure

In March and April 1997, a comprehensive questionnaire was sent to 950 Dutch dentists (800 men and 150 women). All dentists were registered as active general practitioners in the files of Movir Insurance, where up to 90% of the Dutch dentists have an insurance policy in case of incapacity for work. From this file, every sixth dentist was selected after stratification by gender, region (twelve provinces), and age group (four ten-year clusters by birth year). A total of 735 (77%) dentists responded; 614 (77%) of the men and 121 (81%) of the women. The participation
per region was between 73% and 89%, the participation per age group was between 76% and 83%. The questionnaires of 26 dentists were not usable (which is less than 3% of the total sample), mainly because they were reluctant to answer personal questions, or because they simply were not able to create time to do so. This left a total of 709 respondents, a 75% response rate. The sample consisted of 594 males (84%) and 114 females (16%) (for one person sex was not known). Mean age was 43 years (range: 21-62 years). Mean number of years of professional experience was 18 (range: 0 - 38 years). Of the respondents, 91% was born in The Netherlands, 77% had one or more children and 92% was married or sharing a household with partner.

7.2.2 Measures

**Burnout** was measured with the Dutch translation of the Maslach Burnout Inventory, the MBI-NL, developed by Schaufeli & van Dierendonck. The MBI-NL consists of 20 items that can be answered on a seven-point Likert scale, ranging from 0 ('never') to 6 ('every day') (Schaufeli & van Dierendonck excluded item 12 and 16 of the original MBI to enhance psychometric qualities). An example of an item to be rated by the respondent is: “I feel emotionally drained from my work”. Three sub-scale scores could be acquired: Emotional Exhaustion (EE; 8 items), Depersonalisation (D; 5 items), and Personal Accomplishment (PA; 7 items). High scores on EE and D, and low scores on PA are indicative for burnout. The MBI-NL provides no overall burnout score.

The psychometric characteristics of the MBI-NL, as used in this study, were satisfactory and comparable to the results reported in the Dutch manual (see chapter 4 of this thesis). A principal components analysis revealed a three-factor structure, that accounted for 53% of the variance. All items showed the highest loading on the scale they were supposed to represent. In Table 7.1 reliabilities are shown.

**Coping** was measured using three scales of the Utrecht Coping List (UCL). In the Netherlands, the UCL is the most frequently used instrument to measure coping and its psychometric qualities have been confirmed in several studies. The scales used in the present study have proven to be relevant in a preceding study among Dutch physicians. These scales, assessing different dimensions of coping, are: Active Attitude/Confronting (A; 7 items); Passive Reaction (PR; 8 items); and Social Support Seeking (S; 6 items). In the manual, the A-scale is described as: considering a matter from different angles, and acting with purpose and confidence in order to solve a problem. The PR-scale is described as: being fully preoccupied by problems and situations, withdrawing oneself worrying, not feeling able to
change a situation. The S-scale is described as: seeking comfort and understanding by others, expressing one's worries to others and asking for help.

Items are to be answered on a four-point Likert scale, ranging from 1 ("seldom/never") to 4 ("very often"). The higher a respondent scores on one of the scales, the more this dimension applies to the respondent. A (translated) example of an item on one of the scales (the A-scale) is: "Experiencing problems as a challenge". From principal components analysis it appeared that four factors could be extracted with Eigenvalue > 1, explaining 53% of the variance, while a three-factor structure explained 48% of the variance. All items had a loading as intended on these three factors. (Three items of the PR-scale also had high a loading on the fourth factor, but since their a loading on the PR-factor were reasonably good, the fourth factor was not retained). Scale reliabilities (see Table 7.1) were similar to the reliabilities given in the manual. Test-retest stability coefficients (17 months interval), as reported in the manual, were: A-scale $\alpha = 0.62$; PR-scale $\alpha = 0.74$; S-scale $\alpha = 0.69$.

Social support was measured using a 16-item questionnaire, an adaptation of a social support scale previously used among Dutch physicians\textsuperscript{31}, which in turn was adapted from a broadly used Dutch questionnaire for measuring work stress.\textsuperscript{35} Four subscales were included: Social support within the dental practice (SWP), Social support from colleagues outside the practice (SCO), Social support from the life partner (SLP) and Social support from family and friends (SFF). Each subscale had four items. A (translated) example of an item on one of the scales (the SFF-scale) is: "When problems in your work occur, are you able to talk about this with your family and / or friends". The higher a respondent scored on these scales, the more support he or she experienced. By summing the scores of the four scales a general social support score was obtained (GSS). The items could be answered on a four-point Likert scale, ranging from 1 ("never") to 4 ("always"), with an additional category "not appropriate". Principal components analysis resulted in the extraction of five factors with an Eigenvalue $> 1$, accounting for 69% of the variance. The first four factors represented the four scales, while all items on the topic of being appreciated in one's work also had a loading on the fifth factor. Since these items also loaded substantially on one of the four other factors, the fifth factor was not retained. The remaining four factors accounted for 62% of the total variance. When a second-order factor analysis was conducted on these four scales, one factor emerged, accounting for more than half (55%) of the total variance. This supports the use of a general social support scale. (See Table 7.1 for reliabilities). Product moment correlation coefficients of all items were strongest to the scale they were part of (range: $r = 0.64$ to $r = 0.86$), while correlations of items with the general social support scale (GSS) were high ($r = 0.70$ to $r = 0.83$).
7.2.3 Analyses

Mean scores of coping, social support, and burnout were calculated separately, using multivariate analysis of variance to test for gender differences. Pmcc’s between the separate scales were assessed. The hypotheses on the relation between burnout and coping, and between burnout and social support, as stated in the introduction, were examined using pmcc’s and t-tests. To retain an overall significance level of \( p = 0.05 \), a Bonferroni-Holm correction was conducted. Finally, some additional analyses, using oneway analysis of variance and regression analysis, were carried out on the assumed relations for a burnout risk group of dentists.

7.3 Results

7.3.1. Mean scores

*Coping*: Mean coping scores are shown in Table 7.1. Multivariate analysis of variance indicated gender differences: \( F(3,671) = 24.70, p < 0.001 \). Further inspection showed that these differences reached significance only on the S-scale, where women had a higher mean score: \( F(1,673) = 64.83, p < 0.001 \). In comparison with UCL standard scores, dentists had higher scores on both A and S.

*Social support*: Mean social support scores are shown in Table 7.1. Dentists experienced most support from their life partner (92% reported to feel supported “always” or “most of the time” by their partner), while the least support was experienced from colleagues outside the dental practice (69% felt supported “always” or “most of the time”). Overall, standards of experienced social support were high: 80% of the dentists reported to feel supported “always” or “most of the time” by the various sources of support. Multivariate analysis of variance showed no gender differences: \( F(4,427) = 2.31, \text{n.s.} \). No standard scores were available.

*Burnout*: Mean burnout scores are shown in Table 7.1. Multivariate analysis of variance showed no gender differences: \( F(3,668) = 3.09, \text{n.s.} \). In comparison with MBI-NL standard scores, dentists had significantly lower scores on EE and D, and higher scores on PA (see chapter 5 of this thesis for more details).
<table>
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<tr>
<th>Item</th>
<th>N=11</th>
<th>FSI</th>
<th>PFF</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>SRMR</th>
<th>p = 0.05</th>
<th>p = 0.01</th>
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<td>1. Emotional exhaustion (EE)</td>
<td>1.37</td>
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<td>2. Depersonalization (D)</td>
<td>0.69</td>
<td>0.69</td>
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<td>3. Personal accomplishment (PA)</td>
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<td>4. Active attitude / comforting (A)</td>
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<td>7. Support within practice (SWP)</td>
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<td>8. Support colleagues outside (SCO)</td>
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<td>9. Support the partner (SLP)</td>
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<tr>
<td>10. Support family / friends (SFF)</td>
<td>0.35</td>
<td>0.72</td>
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<td>11. General social support (GSS)</td>
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Table 1: MBI-NL means, standard deviations, reliabilities and intercorrelations (score of the scales) (n = 709)
7.3.2 Hypothesis-testing

Coping and burnout: As can be seen in Table 7.1, passive coping correlated positively with emotional exhaustion and depersonalisation, and negatively with personal accomplishment. Active coping, and social support seeking correlated positively with personal accomplishment, and negatively with emotional exhaustion and depersonalisation. To investigate the relationship between the urge to use a certain coping style and the level of burnout that is experienced, a distinction was made between subjects with a strong urge to use a certain coping style, and subjects without this urge. In concordance with the manual, a strong urge was defined as belonging to the 20% highest scores. As is shown in Table 7.2 in more detail, when the subjects with a strong urge to use a passive coping style (N=176) were compared with subjects without this urge, the passively coping subjects showed higher levels of emotional exhaustion and depersonalisation, and lower levels of personal accomplishment. When subjects characterised by an active coping style (N=165) were compared with subjects without an active coping style, the actively coping subjects showed lower levels of emotional exhaustion and depersonalisation, and higher levels of personal accomplishment. Subjects with a social supporting seeking coping style (N=140) had lower levels of emotional exhaustion (p < 0.005), but no differences appeared on depersonalisation or personal accomplishment. This partly confirmed the first hypothesis.

Social support and burnout: As can be seen in Table 7.1, social support correlated negatively with emotional exhaustion and depersonalisation, and positively with personal accomplishment. A distinction was made between subjects with little and much social support. Scores on GSS of 48 or higher, indicating that a subject experienced social support on all four subscales “usually” or “always”, were considered high, while scores below 48 were considered low. As is shown in more detail in Table 7.2, those experiencing little social support - about 20% of the respondents - had significantly higher levels of emotional exhaustion and depersonalisation, while levels of personal accomplishment were significantly lower. This confirmed the second hypothesis.
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<thead>
<tr>
<th></th>
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<th>SD</th>
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<td>Low</td>
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<td>0.01</td>
</tr>
</tbody>
</table>

**Table 7.2** Results of differences in means on the three scales of the MBI-NT: High versus low on the three coping styles, and high versus low on experienced social support.
7.3.3 Additional analyses

Apart from the actual hypothesis testing, some additional analyses were conducted in order to develop more insight in the relation between burnout, coping, and social support.

Coping and burnout: Following the procedure that was performed in a study among Dutch physicians\(^3\), burnout risk groups were created by taking the median on each scale of the MBI-NL as a dividing point. Those dentists with relatively unfavourable scores on both emotional exhaustion, depersonalisation, and personal accomplishment were the so called “high risk group” (21% of the respondents). Those dentists with relatively favourable scores on both emotional exhaustion, depersonalisation, and personal accomplishment were the so called “low risk group” (25% of the respondents). All other dentists, the remaining 64%, were in the so called “neutral group”. In Table 7.3 mean scores are shown on the three coping styles and level of burnout risk group. Using one-way analysis of variance, it appeared that mean scores on active coping were significantly lower for the high risk group: \(F(2,677)= 47.92, p < 0.001\). Post hoc analysis (Tukey's Honestly Significant Difference) confirmed that all comparisons between groups resulted in statistical significance. Mean scores on passive reaction were significantly higher for the high risk group: \(F(2,681)= 128.56, p < 0.001\). Post hoc analysis (Tukey HSD) confirmed that, again, all groups differed significantly. Mean scores on social support seeking were significantly lower for the high risk group: \(F(2,680)= 6.46, p < 0.005\). Post hoc analysis (Tukey HSD) showed that the high risk group differed significantly from the low risk group and from the neutral group. Multiple regression analysis (stepwise) was conducted to determine the extent to which the three coping style variables explained variance in each of the three burnout subscales. For each of the dependent measures, the amount of explained variance was significant: coping styles explained 42% of the variance on EE, 8% of the variance on D, and 18% of the variance on PA (see Table 7.4).

Social support and burnout: In Table 7.3 mean scores are shown on general social support (GSS) and burnout risk group. Using one-way analysis of variance, it appeared that mean scores for the high risk group were significantly lower: \(F(2,430)= 41.21, p < 0.001\). Post hoc analysis (Tukey HSD) confirmed that all groups differed significantly. Multiple regression analysis (stepwise) was conducted to determine the extent to which the four social support scales explained variance in each of the three burnout subscales. For each of the dependent measures, the amount of explained variance was significant: social support explained 16% of the variance on EE, 12% of the variance on D, and 19% of the
<table>
<thead>
<tr>
<th>Variable in</th>
<th>Emotional Exhaustion</th>
<th>Depression</th>
<th>Coping</th>
<th>Personal Accomplishment</th>
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<td>Mean SD</td>
<td>Mean SD</td>
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<td>N.B: Bumou risk groups are created by MBL-NL median scores (see text for procedure)</td>
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<tr>
<td>Low risk</td>
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<td>4.9</td>
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<td>48.0</td>
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<td>1.0</td>
<td>14.5</td>
<td>3.0</td>
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</table>

Table 7.4: Multiple regression analysis predicting burnout scores from coping style and social support

Table 7.3: Means and standard deviations on three coping styles and experienced social support by bumou risk group
variance on PA (see Table 7.4).

Coping and social support: Dentists with a strong urge to cope in an active way experienced more social support than dentists who did not: \( t (427) = -5.64, p < 0.001 \); dentists with a passive way of coping experienced less social support than others: \( t (429) = 7.90, p < 0.001 \). Dentists who seek social support as a way of coping also experienced more social support than dentists who did not: \( t (428) = -5.15, p < 0.001 \).

7.4 Conclusion and discussion

It can be concluded that dentists characterised by a passive coping style show higher levels of burnout with respect to emotional exhaustion, depersonalisation, and personal accomplishment. Dentists characterised by an active coping style show lower levels of burnout with respect to these dimensions. Dentists characterised by a social support seeking coping style show lower levels of burnout with respect to emotional exhaustion. This confirms the hypothesis, as stated in the introduction, that a passive coping style is related to higher levels of burnout, whereas an active, or social support seeking coping style is related to lower levels of burnout. Dentists show relatively high levels of active coping style. From further analysis it appeared that coping style explains differences in burnout levels to a large degree.

With regard to social support, it can be concluded that dentists experiencing little social support have higher levels of burnout, thus confirming the second hypothesis. Twenty percent of the dentists experience little social support. Furthermore, it appeared that social support explains differences in burnout levels to considerable degree.

Comparison with standard scores shows that mean scores of dentists are higher when it comes to active coping (A-scale) and social support seeking (S-scale). Mean scores on the passive reaction coping style (PR-scale) are similar to mean scores given in the manual. A high tendency to react in an active way among dentists does not come as a surprise, since this can be expected from a free-entrepreneur. A high tendency to seek social support is more unexpected, given the solo-character of most practices. Nevertheless, there is a rather high level of experienced social support among dentists. It must be noted, however, that no norm scores are available, and that half of the social support items are about support from outside the work situation. Furthermore, among (male) dentists it frequently occurs that the life partner is also assisting in the dental office, which may contribute to experienced social support in the work environment.

With regard to social support, dentists, in a way, may be comparable to
managers, since both are in a position to solve work-related problems themselves, and (emotional or instrumental) support from superiors is irrelevant. As was stated in the introduction above, most studies on social support measured support from superiors or co-workers. Therefore, the data presented contribute to the understanding of social support and burnout in a broader sense. Summarising various studies, several authors reported that among nurses or welfare workers, social support from colleagues was negatively associated with burnout, whereas among psychologists, who tend to work more solitary, social support was more related to family and friends. The present findings are congruent with this tendency, since dentists, solitary working to an even greater extent, experienced most support from their life partner.

It is interesting to compare the amount of explained variance by social support among dentists with what has been reported in other studies among professions where superiors or co-workers are very relevant with regard to social support. In a review of correlates with burnout, Schaufeli & Enzmann report that, on the average, support from supervisors explains 14% of the variance of emotional exhaustion, 6% of depersonalisation, and 2% of personal accomplishment. Social support from co-workers explains, on the average, 5%, 5%, and 2%, respectively. Among dentists, the explained variance was 16%, 12%, and 19%, respectively. Apparently, although dentists are working under more isolated conditions, social support seems to have an influence on burnout that cannot be neglected.

The results from this study may be generalised to the Dutch dental practitioner: the response rate in this study is high when compared with what is common in questionnaire research among dentists. Also with regard to age, gender, and region the respondents were highly representative. Comparison of practice organisation data with data from the Dutch Dental Association confirms the representative nature of the present study: whereas 80% of the (male) Dutch dentists of 35 years of age onwards is owner of a solo practice, in our study 85% of all dentists in the same age group is either owner of a solo practice, or owns a practice in a shared building. Therefore, the objective to study burnout, coping, and social support in a population that differs from employees in a larger organisation was clearly reached.

Dentists who do seek social support as a coping style, but who do not experience social support are the ones likely to be in trouble. In our study 10% fell in this category. Indeed, mean scores on emotional exhaustion and depersonalisation were higher for this group, whereas on personal accomplishment there were no differences. Among these dentists, 40% were in the burnout risk group, while 30% were in the neutral group and, contrary to expectation, another 30% were in the non-risk group. Due to group size limitations no statistical testing
was possible, but the fact that 4% of all respondents seek social support, do not experience it and are “at risk” should nevertheless inspire preventive measures. In a sense, changes in an environmental factor like social isolation may be easier to implement than changing a personal factor like coping style. In fact, in as far as prevention for burnout has been described and studied, increasing awareness of peer support is a standard ingredient. Although every dentist has his or her own responsibility in creating the opportunity for social support, for dental associations and dental schools there lies a great opportunity to actively build structures that will facilitate social support among dentists.

Another point that needs attention is the finding that, although in general dentists are characterised by an active coping style, those characterised by a passive coping style show significantly higher levels of burnout. A dentist usually is his or her own manager, no other manager or colleague being around to stimulate a more active approach to deal with those work circumstances that feel as a burden. As was described in chapter 5 of this thesis, mean levels of burnout among all dentists are favourable when compared with norm scores. Still, with regard to emotional exhaustion, those dentists in the high percentiles score unfavourable compared to corresponding norm score percentile groups. These dentists are, to a large extent, characterised by a passive coping style. Preventive attention with regard to career burnout for them will have to be initiated by others. Whereas this holds for dentists, for other free-entrepreneurs, not working in an institutional setting, the same may be true. Since being one’s own boss implies that no superior or co-worker will stimulate awareness of burnout risk, active health education on the risks of burnout for these groups of professionals is clearly needed.

The findings presented are part of a large scale study in The Netherlands on burnout among dentists. Respondents with unfavourable scores on all MBI-NL dimensions have been given feedback, combined with the invitation to participate in an intensive burnout prevention programme. The relations between coping style, social support and burnout as described, give a scientific basis to the necessity to implement awareness of one’s own coping style and exploring possibilities for social support in these programmes.
References

This chapter has been submitted for publication as: