In the previous chapters an extensive analysis was presented on the topic of burnout among active general dental practitioners in The Netherlands. The underlying research questions concerned the prevalence of burnout among practising Dutch dentists, the factors that accompany potential burnout, and the effect of a preventive counselling program. In this chapter only the main conclusions will be summarised. Some more attention will be given to implications for burnout theory, future research among dentists and for prevention, respectively. Some final reflections will conclude this thesis.

10.1 Main conclusions

*Chapter 2.* From a literature search it could be concluded that empirical data on burnout in dentistry are hardly available, whereas on work stress more evidence-based knowledge is available. Regardless of country-specific differences, difficult patient contacts, work pressure, and practice management appeared to be frequently reported aspects of dentistry that put stress on dentists. Remarkably, no studies were found on the effects of stress prevention among dentists. Notwithstanding the fact that empirical research on burnout is sparse, the topic is considered relevant to the dental profession, given the large body of opinions that have been published. Trying to fit empirical findings on stress and burnout in dentistry in a structural model of burnout, it appeared that about the existence of certain job demands evidence is sufficiently available. Whether these demands also play a role in the development of burnout is less clear. What is especially lacking, is evidence on intermediating factors in the burnout process, such as lack of resources. Also, not much evidence exists on the costs of burnout, such as health problems or diminished quality of care. And, as stated above, actual information on incidence and levels of burnout is hardly available.

*Chapter 3.* A questionnaire to monitor experienced work stress among dentists was developed, the Dentists’ Experienced Work Stress Scale (DEWSS). Among Dutch dentists, lack of career perspective and difficulties in contacts with patients played a significant role in experienced work stress. Apart from some aspects also described in previous studies, such as time pressure, Dutch dentists reported to experience governmental or insurance company’s restrictions to be highly stressful. The same was true for the interference of work with personal
and private life. A strong inverse relationship was found between work stress and job satisfaction.

Chapter 4. From psychometric analysis of a Dutch version of the burnout measure most widely used, the Maslach Burnout Inventory, it could be concluded that the instrument was suitable for administration among dentists. The hypothesised three factor structure appeared superior to alternative structures. Interestingly, because of its contribution to burnout theory, a combination of emotional exhaustion (EE) and depersonalisation (D) versus personal accomplishment (PA) fit the data better than other two-factor combinations.

Chapter 5. Mean levels of burnout among active Dutch dentists are favourable when compared with manual norm scores. No differences in age, gender, or region were found, although, from tentative analysis, it could be learned that male dentists aged 40-54 tended to have higher scores on EE and D. It is also concluded that dentists within the highest five percent on EE appeared to have relatively unfavourable scores, when compared with manual norms. Depending on which criteria are chosen, it appeared that one out of five dentists is considered to be “at risk” for burnout, that one out of eight dentists has “high overall levels of burnout”, and that 2-3% are identified with scores usually found among professionals on sick-leave. The present data, based on a high response rate equally divided over age, gender, and region, are considered representative for the working population of general dental practitioners.

Chapter 6. No relation between burnout and work place characteristics was found. However, a relation was found between burnout and experienced work stress. In particular lack of career perspective emerged as the aspect most strongly related to burnout. Furthermore, interaction between professional and private life, pressure from patients contacts, work contents, and general work pressure played a role in relation to aspects of burnout.

Chapter 7. Dentists characterised by a passive coping style showed highest levels of burnout. Those characterised by an active, or by a social support seeking coping style showed lowest levels of burnout. In general, dentists had relatively high mean scores for active coping when compared with manual reference scores. Those dentists experiencing little social support, which concerned one out of five, showed highest levels of burnout.

Chapter 8. Dentists with a high risk for burnout reported health complaints to a greater extent than dentists with a low burnout risk. The high risk dentists also reported a more unhealthy life style with regard to some behaviours. One out of ten dentists evaluated the own general health negatively, whereas among the
high burnout risk group the same goes for one out of five dentists. Health complaints most often mentioned by all dentists were: back pain, fatigue, and musculoskeletal pain. Compared with the Dutch population, dentists judged their health rather favourable.

Chapter 9. From dentists with an identified burnout risk, those who chose to participate in a prevention program showed a decrease in burnout with regard to all three burnout dimensions. Those who chose not to participate, but who indicated to have implemented self-initiated preventive measures showed a decrease on two burnout dimensions. Dentists who chose not to participate, and who reported not to have initiated other preventive measures, showed no decrease. On all dimensions, the effect size of change was largest among the program participants. Furthermore, the percentage of dentists remaining in risk categories of the burnout scales was close to zero among the program participants, whereas among the non-participants this percentage was considerably higher. For those willing to participate in a prevention program, the experience was considered beneficial.

10.2 Implications for research

From the conclusions drawn, several suggestions for further research evoked. In this section, it will be described what the implications could be with regard to burnout theory, and to burnout prevention among dentists.

10.2.1 Burnout theory

The present study offers a contribution to burnout research in various ways. First, the data gathered among dentists contribute to the development of burnout reference scores. The MBI-NL manual, as available during the research, was largely based upon professions working in larger organisations. As described in previous chapters (see the introduction sections of chapters 4 and 7), general dental practitioners differ from these professions in a number of ways. Therefore, differentiation in reference scores is needed, and indeed progressing. Burnout research is currently being conducted among a number of professions more comparable to dentists than the professions the manual was based upon. Some examples of these professions from The Netherlands are medical specialists, and physical therapists. Future burnout research among dentists may be compared with reference scores based on professions more identical to dentistry.

With regard to the construct validity of the MBI, from testing the factorial structure on the data, the three-factor model was superior, thus confirming Maslach & Jackson’s theoretical assumptions. When two-factor models were tested, the combination of EE and D versus PA appeared superior to other two-
factor combinations. This may be considered as supporting Lee & Ashforth’s assumption that depersonalisation should be seen as a self-protective reaction to becoming exhausted, whereas diminishment of personal accomplishment operates independently. The alternative assumption that D and PA both reflect a negative attitude, independent from EE, is not easy to support by the present data.

Although diminished personal accomplishment is considered a defining element of burnout by most authors in this field, the present findings cannot but lead to serious questioning of this definition. Psychometric analysis showed the firmness of the scale indeed, but when age and gender aspects were taken into account, mean score patterns of the PA-scale were deviant from the other two scales. In addition, in the few studies on burnout in dentistry preceding the present research, when used, the PA-scale also showed deviating scores. Considering the fact that in many health care professions the care-giver’s personal qualities are a major instrument in the professional situation, whereas in dentistry a dentist relies on manual skills and instruments to a great extent, a possible explanation for these PA-patterns can be found. Personal accomplishment in dentistry, as measured by the PA-scale, could be seen as a mere function of time spent in the dental profession. Therefore, in future research among dentists, the construct validity question certainly deserves attention.

Another aspect to be mentioned with regard to the MBI construct validity, is the fact that the intervention as described in chapter 9 showed contradictory effects on the D-scale. Whereas some participants’ scores decreased, others’ scores increased. In the program, both raising assertiveness by learning how to protect one’s own limits, and creating more time for personal interaction with patients were themes discussed. Possibly, keeping more distance and being distant are quite close. In other words, the question is whether the MBI enables us to differentiate between increasing assertiveness and depersonalisation.

The present survey was the first on burnout among Dutch dentists. It is highly recommended to replicate this study within a given time frame. Longitudinal studies on burnout are sparse, but are of critical importance to the understanding of the concept. A follow-up study would add to our knowledge about the process of burnout, including the sequence of the separate dimensions. Furthermore, given the many variables under research in the present study, valuable information on factors influencing changes in burnout could be obtained, thus providing causal relationships between burnout and its precipitating factors and its outcomes.

As a final point of interest for burnout theory, the present study contributes in its own way to the structured model for burnout as depicted in chapter 2. Although from the major survey described in this thesis, due its one-shot design, no causal relations can be inferred, a strong connection between burnout and parts of the model appeared. From the demands section of the model, a number
of factors could be associated with burnout. Also, the relation of experienced social support with burnout was clearly supported as an example of the resources section. Given the differences in health complaints among dentists with or without burnout risk, also for the costs section of the model support was obtained. Remarkably, the model is not clear about where to put individual personal characteristics. The relevance of coping style in relation to burnout, as shown in this study, is not easily made visible in the model. Therefore, these facets could be more explicitly mentioned.

10.2.2 Prevention

The diversity in burnout risk among dentists, as determined in chapter 5, calls for differentiation in preventive action. When health education is seen as consisting of information, instruction, and counselling, the following is suggested. Since about 80% is identified without immediate burnout risk, regular health education by giving information on the topic can be considered sufficient. The dentists with higher burnout risk, one-fifth of all, need to be approached with more emphasis on instructions for prevention. For those recognising their risk situation, preventive counselling should be provided for too. For dentists who have burnout levels within the “high general level”, as described in the MBI manual, which goes for 13% of the population, an adequate system of information on means for burnout prevention, plus possibly feedback on progress, should be provided for. For those with rather extreme scores, comparable with professionals on sick-leave, which goes for 2-3% of the profession, active professional intervention is considered necessary.

From changes in burnout level within the subjects described in chapter 9, strong indications were obtained for a preventive effect of personal feedback. Further development of a system of regular self-checks is needed. Mailing of easily administered questionnaires, personal reference cards, or using Internet facilities are a few examples of many possibilities that can be introduced and tested. As was done in the project described, in order to avoid demand characteristics or commercial interests, if not for ethical reasons alone, individual feedback scores should not be open to anybody but the researcher in charge.

Apart from continuation of the current programs, which is considered advisable, more attention has to be given to alternative programs for prevention, possibly with lower thresholds for participation. From comments given, it appeared that the group aspect was, for many, a serious obstacle to participation. Also, as can be seen in the contents description of the program in chapter 9, possibly too much emphasis is put on the personal character of the program from the start, whereas a gradual build up from practice related to person related approach may be experienced as less threatening. Another aspect that needs to be emphasised with regard to the programs, is that prevention has to be seen as a
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continuous process of diagnosis, action, evaluation, and feedback. Preventive activities require more than one-time interventions.

Recently, Movir Insurance initiated for their insured the possibility to make use of a 24-hour telephone counselling service. This service is comparable to initiatives taking place in Canada and a few other countries, as was mentioned in chapter 2. Users are free to bring up any kind of personal or professional problem. From a published interview with the general manager of the insurance company, it can be learned that first evaluations indicate a high frequency of using these facilities among dentists; 18% of all calls come from dentists.\(^{14}\)

Without differentiation per profession, it appears that in 60% of the calls psychosocial problems are the cause, in 38% stress and work pressure are dominating, and in 19% career perspective problems are the main issue. Research on the effects of such a telephone counselling service, however, would not only provide useful information for the benefit of the profession, but would also contribute to the sparse evidence-based knowledge on burnout prevention in general.

When thinking about risk groups, no specific category was identified to stand out negatively. Nevertheless, further analyses showed that male dentists of forty to fifty years of age tended to have relatively unfavourable mean scores. In this age group, about forty percent of the Dutch dentists are represented. Moreover, most dentists of this age have a considerable amount of time in the profession ahead. In preventive attention, these observations may not be neglected.

10.3 Reflections on identification and prevention

The current research also evoked an additional number of ideas: the likely existence of various profiles of burned out dentists, the importance of experiencing satisfaction outside dental practice, and the role of several actors in dental society, such as schools and organisations.

10.3.1 Profiles of burned out dentists

In the course of the project, it was the author’s experience that when the topic of dentist burnout was published as a case history, it evoked numerous reactions by letter, e-mail or telephone from colleagues explaining that they could identify themselves in the story to a large extent.\(^ {15,16}\) In combination with comments respondents added on their own initiative after completing the national survey, the need made itself felt to describe burnout also in qualitative terms. Therefore, parallel with the quantitative data gathering as described in this thesis, a series of thirty interviews was held with general dental practitioners suffering from burnout, or burnout related complaints. Contacts with these dentists were established by university network, by mediation of a career counselling agency,
and by own initiative of dentists responding to publications in dental journals. While conducting the interviews, it became clear that the stories could possibly be categorised within several typical profiles of burned out dentists.\textsuperscript{17,18}

**Box 10.1 Profiles of burned out dentists**

1. **The treadmill walker:**
   This dentist is caught in a helpless status quo and is unable to escape from the situation. He sees no opportunities to influence the situation positively and experiences no career development. Any changes he wants to make are blocked by too many practical details. As a result he is stuck in the situation until the end of his years as a practising dentist: a “dead-end street”

2. **The crushed idealist / perfectionist:**
   This dentist has had an idealised image of his profession which he has not been able to realise. Again and again this dentist is faced with the fact that the ideals were not attainable. As a result, a stagnation of ideals has come and no new initiatives are developed anymore. His career development has come to a standstill

3. **The frantic runner:**
   This is the dentist whose main priority in life was, or still is, his profession. He makes long working days, works very hard. As a very active person, he leaves nothing to others. Recurring health problems are neglected. His energy seems never to diminish until the moment he collapses because of physical and mental exhaustion.

4. **The disgusted dentist:**
   This dentist has such a dislike of every aspect of his profession that it almost makes him throw up. He realised early in his career being “the wrong person in the wrong place”. In the long run he develops neglect and apathy. He can hardly wait for the day that he can put an end to his dental career.

5. **The depressed:**
   This dentist is dominated by feelings of hopeless gloom, both inside and outside the profession. He has no satisfaction from compensation in private life, and negative patient experiences undermine his energy. It is not altogether clear if his work is the only cause of the depression.

The interviews were semi-structured, using the “free attitude technique”\textsuperscript{19} and structured according to Levinson’s method of “biographical interview”.\textsuperscript{20} The themes discussed were: work history (student time, expectations, early years, work pressures, etc.); nonwork history (personal circumstances, health,
personality characteristics, etc.); current attitudes (motive, job satisfaction, commitment, compensation behaviour, etc.); plans for the future (perspective, etc.). After two rounds of independent categorisation of each interview by a psychologist and three dentists, all well-introduced in the topic of burnout among dentists, five preliminary profiles were obtained (Box 10.1). Among all profiles at least some dentists were classified, while six interviews were judged to describe a dentist dealing with other psychological problems than burnout. Although improvement in agreement was clearly possible - Cohen’s Kappa was 0.52 - , this value was not considered insufficient, given the variety of the material and the explorative purpose of the exercise.

Some common characteristics were identified among all profiles: a large practice at the start of the career; high financial investments; expectations that turn out differently; and high work pressure. These findings supported the idea that indeed a diversity in “emphasis” exists among dentists with burnout related complaints. The differences may not always be very distinct, but distinguishable profiles can be identified. The procedure described had an explorative character, and further development and testing of the material is needed. The next step will be to implement these profiles in a research situation in which their value as a tool for prevention will be tested. The importance of the findings lies in the possibility it gives a dentist to identify himself with a profile, thus increasing awareness of one’s own situation.

Another aspect of the research done so far, is the possibility of studying the same dentists longitudinally. In burnout literature, an example exists of the richness in information that can be obtained by revisiting subjects after years. Cherniss described how other professionals who showed burnout symptoms at a certain point in their career had developed in ten years time. The interviews, revealing how some overcame the risk for burnout, and how some did not, contain valuable clues for prevention. A follow-up study as such would give interesting information, especially in the light of burnout prevention.

10.3.2 Satisfaction, in- and outside of practice

As stated in chapter 1, job dissatisfaction was one of the signals that led to the present research. In chapter 3, it was shown that job satisfaction was inversely related to experienced work stress. Happiness in work may be considered of incomparable value. It was not the least influential psychologist of this closing century, Sigmund Freud, who, when asked about his recipe for happiness, is said to have answered: “work and love”. Most research on work stress or burnout is focused on facets of the work that demotivate. Identification of what brings dentists joy in their work, in stead of what troubles them, may as well provide useful tools for burnout prevention. Recently, Maslach & Leiter also strongly proposed not to neglect these aspects. They formulated a model in which burnout was described as the outcome of a mismatch between a person and his
work. This mismatch may occur with regard to workload, control, reward, community, fairness, or values. The outcome of mismatches is less engagement with work. For instance, exhaustion is seen as one end of a continuum, of which energy is the opposite. Not only avoiding those aspects that cause exhaustion is considered a preventive measure, but also promoting aspects that give energy. Likewise, attention may be given to the opposites of depersonalisation and diminished personal accomplishment: involvement and effectiveness, respectively. A further exploration of this line of thought among dentists is well worth the effort.

Although dentistry offers a wide array of possibilities for a person’s qualities and interests, actively engaging in other activities is often experienced as rewarding in the sense that it can bring satisfaction and energy, to help prevent from burning out. In another series of interviews during the research period of the present thesis this axiom was nicely illustrated. This time eight dentists were selected through the department of Social Dentistry and Dental Health Education’s network who certainly did not make a burned out impression. It appeared that these dentists deliberately created time for activities, both in- and outside practice, that exceeded the demands usual dental practice put on them. Talents or interests for which in ordinary practice is no place, could thus be expressed. This mechanism, based on the principle of exerting one self for something, is nothing new, nor is its value limited to dentists. In fact, many popular self-help approaches often make use of the same mechanism. Without the intention to promote any popular approach in particular, further research on the beneficial effects among dentists of this general mechanism may offer new tools for prevention.

10.3.3 Dentists, dental schools, and dental organisations

When first year students are asked about their motives to choose for dentistry, the top three of most frequently mentioned answers is: being one’s own boss, working with people while providing care, and using manual skills in combination with an intellectual challenge. At first sight, these three motives seem to represent realistically what one may expect of dentistry. When looked at more closely, these outcomes should also be interpreted as a signal to prepare students for the fact that only to a certain degree these expectations will be fulfilled. Many obstacles interfere with realising the expectations fully, such as: governmental laws and regulations, and restrictions by insurance companies, that limit the freedom to be an entrepreneur (see chapter 3); patients becoming more and more articulate in their demands, and the many times patient contacts all but satisfy the need for recognition (see chapter 2); or no career development

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* Unpublished data from yearly enquiries held by the author
to speak of, when one only uses a small percentage of the skills learned in dental school (see chapter 5).

In The Netherlands, when students leave dental school and start working as a dentist, hardly any career guidance has been part of their curriculum. Since no education exists in alternatives for being a dentist in a practice, graduated dentists who experience a “dead end” in their career may easily feel they have only learned one trick. Combined with often high financial investments, a change in career is very difficult to make for a dentist. Recently, a study was devoted on the topic of career change among (American) dentists from which could be learned that stress was a major factor. In comments from a Dutch perspective, it was suggested that dental schools should stimulate creating curriculum time in which students are encouraged to reflect in advance on what kind of professional one would like to be, and, subsequently, schools should provide structures in which dental students are enabled to experience alternatives to being a general dental practitioner. The dentist struggling with motivational problems, on the other hand, could benefit from exploring ways of passing one’s experience to a younger generation. After all, so it was stated, what is a senior without a junior.

When leaving dental school, for many, an end comes to a stimulating social life. In dental practice, no more support, advice, or supervision is to be expected, unless self-organised. Some dental organisations have initiated structures for dentists to meet colleagues. An interesting example is the Dutch Dental Association’s initiative to stimulate so-called “alpha groups”. As a quality improvement initiative, dentists regularly discuss technical and patient related affairs in small groups, but occasionally also more personal career related aspects appear to be the topic. So far, participation among dentists in these groups is far from complete. As could be seen in chapter 7, dentists characterised by a passive coping style are the ones with the highest burnout levels. The challenge for dental organisations is to also attract those in their activities who tend to wait more passively. A construction in collaboration with dental schools in which young professionals are enabled to receive regular supervision and meet with their former fellow students is well worth further brainstorming.

10.4 Final remarks

The expectations one has as a dental student are valuable because they provide energy and enthusiasm. However, when a student has become professional, stagnation of development sooner or later may occur. The need for progress is then frustrated and powerlessness develops. Finally, apathy causes, at least emotional, withdrawal from the job. This is basically the process described by Edelwich & Brodsky, which they called: stages of progressive disillusionment. Dental schools could create time in the curriculum for professional orientation.
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Dental organisations could initiate structures to discuss non-technical aspects with colleagues regularly. Experienced dentists could look for possibilities to pass on their experience to young colleagues. Dental students could do something too. They could learn that expectancies need readjustment, that there is more to dentistry than the one example one has in mind, and that in a society changing rapidly in so many respects, dentistry of tomorrow can be very different from (the image one has of) dentistry today. The importance of adaptation to reality is something one has to be made aware of. As with a car battery running empty, finally, when more energy is spent than is gained, one is confronted with a burnout process well on it’s way. From the outside, being a dentist may seem attractive because of golden rimmed material security. From the inside, a dentist may feel trapped as in a cage, for he feels there is no way out. In the onset of the research described in this thesis, this situation was described as: the golden cage. If there is one aspect in this thesis, amidst all other information, that deserves to be highlighted in these final lines, it is the observation that the greatest risk for burnout among dentists is the pitfall of experiencing no career perspective. For those trapped in the golden cage, the fire has gone. Burnout threatens.
Conclusions and Discussion

References
