

BALANCING GIVE AND TAKE:

AN EQUITY APPROACH TO BURNOUT

Balanceren tussen geven en nemen:

Burnout benaderd vanuit de billijkheidstheorie

(met een samenvatting in het Nederlands)



bibliotheek
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postbus 1568
3500 bn utrecht
tel 030 2729 614/615
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Dirk van Dierendonck

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*You can do many different things, you can have the world at your feet,
but unless you have love you have nothing.*

Harold Klemp, *Be the HU*, 1992, p. 121

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CHAPTER 1

INTRODUCTION

"Those of us who ... are seeking to respond to the recognized needs of people. We would rather put up than shut up. And what we put up is our talents, our skills, we put in long hours with a bare minimum of financial compensation. But it is precisely because we are dedicated that we walk into the burn-out trap. We work too much, too long and too intensely."
(Freudenberger, 1974, p. 161)

Burnout: It's present and past

It seems a bromide to stress the importance of research on burnout with present-day societal developments in mind. Regretfully, these developments provide an argument that is as valid these days as it was in the seventies, when burnout was first recognized as a problem for human service professionals. A nation-wide study on job stress and its determinants showed that in the lives of Dutch people, problems at work were more stressful than problems with, for example, health, finances, or interpersonal relationships (Diekstra, de Heus, Schouten, Houtman, 1993). This study showed that when work is experienced as stressful this is to an important degree due to high work demands. Moreover, because of such demands over ten percent of the respondents in the just mentioned study indicated that they often experienced feelings of exhaustion. Furthermore, it seems that increasing work demands may have led to an increase in drop-out rates. Indirect evidence for this can be found in the figures published by the Dutch Industrial Insurance Board for Human Services (BVG). These figures show that one third of the professionals who are considered disabled for their job were declared unfit for psychological reasons. In response to these high drop-out rates and directly motivated by the increasing costs of the social welfare system, the Dutch government has recently introduced several laws aimed at reducing absenteeism and enhancing the workers' well-being.

This general increase of work demands is also manifest within the human service sector (e.g. hospitals, nursing homes, day-care centers for the mentally disabled). To begin with, in the past decades several cost-cutting measures have been taken, accompanied by an increasing

demand for efficient work (Schnabel, 1993). Secondly, the relationship between professionals and recipients has changed (Stüssgen, 1993). For example, recipients behave as consumers who feel empowered to be treated on an equal level with the professional. They tend to take the help of professionals more for granted and they seem less inclined to show respect or gratitude than in the past. Since the mid-1970's society has become more and more individualized, with people relying less and less on their 'natural' social networks, but becoming more and more dependent on human service professionals to help them with their problems. This development has increased the work pressure on these professionals, while at the same time human service agencies have been cut back financially by the government (Cherniss, 1980). Third, professionals that were educated in the seventies, in an atmosphere of idealism and belief in change, are now, twenty years later, confronted with a work-ethos that can be characterized by pragmatism and a business-like, no-nonsense, approach with less time for the individual client or recipient of care. Taken together, these developments combined with a decrease in respect and loss of authority of human service professionals make attention for burnout nowadays an even more important issue than it was some 25 years ago when the first articles on burnout were published.

The term burnout has already been used several times previously, but what exactly is meant by this term? Burnout is generally viewed as a long-term stress reaction specific for professionals who do people-work of some kind (Maslach, 1993). The term 'burnout' is a metaphor that refers to the draining of energy, that is more energy is lost than replenished, comparable to a car-battery which will run empty if not enough energy is generated from the dynamo (Schaufeli, 1990). Although Freudenberger (1974) is generally considered the "founding-father" of the burnout concept, others were also interested in this phenomenon in the seventies. The most noteworthy one is Maslach (1976) who was to become one of the most influential authors and researchers in this field. The period starting with Freudenberger's (1974) initial article was divided into three phases by Maslach and Schaufeli (1993): a pioneer phase, an empirical phase and a conceptual phase.

In the pioneer phase, that ran from 1974 until the start of the eighties, the initial ideas about the burnout concept were shaped by pragmatic concerns. The first articles on burnout appeared in people-oriented magazines and were mostly written by practitioners, as opposed to academic scholars. A central characteristic of the work of these practitioners is the relationship they have with their recipients. Burnout was considered to be extremely severe in the human service sector because professionals work with recipients who need their help because of some

physical, mental, or psychological problem. Or as Maslach puts it: "They are usually required to work intensively and intimately with people on a large-scale, continuous basis. They learn about these people's psychological, social, and/or physical problems, and are expected to provide aid or treatment of some kind" (Maslach, 1982, p. 31). Not surprisingly, in these first articles, the emotional strain resulting from the asymmetrical professional-recipient relationship was described as being central to the development of burnout (Maslach & Schaufeli, 1993). The articles in this phase can be criticized on three points: (1) The great variety of what was meant by the term burnout, (2) the burnout concept was expanded to include virtually every personal problem that one could think of, (3) the articles were largely anecdotal and had a non-empirical character.

It was not until the eighties, the start of the second, empirical phase, that academic scholars became interested in burnout. Standardized measurement instruments were developed, that fostered systematic empirical research on burnout (for a review, see Schaufeli, Enzmann, and Girault, 1993). An important outcome of this phase was the more or less general consensus of the Maslach Burnout Inventory (MBI) being the instrument to measure burnout (Maslach & Jackson, 1981, 1986) and, herewith, the implicit acceptance of its three-dimensional operationalization of emotional exhaustion, depersonalization, and reduced personal accomplishment as the definition of burnout. "Emotional exhaustion refers to feelings of being emotionally overextended and depleted of one's emotional resources. Depersonalization refers to a negative, callous, or excessively detached response to other people, who are usually the recipients of one's services or care. Reduced personal accomplishment refers to a decline in one's feelings of competence and successful achievement in one's work" (Maslach, 1993, pp. 20-21).

In this second, empirical phase, the primary focus of burnout research was, as in the first, pioneer phase, the stressful working conditions of human services professionals. Strangely, the social interaction between professional and recipient, seen as crucial by the authors in the first phase, disappeared into the background, despite its presence in two of the three dimensions of the MBI (i.e., depersonalization and personal accomplishment) (Maslach, 1993). Research focused more on organizational antecedents and consequences. Regretfully, despite the existence of several theoretically based models (e.g., Cherniss, 1980; Meier, 1983; Pines & Aronson, 1988), most of this research was not grounded in a theoretical framework (noteworthy exceptions are Leiter & Maslach, 1988 and to a certain extent Golembieski et al, 1986). Neither was this research based on a theory that takes into account the specific

characteristics of working as a human service professional, that is the underlying social psychological process of the relationship with recipients, thereby neglecting an important determinant of burnout. Moreover, most research in this phase was cross-sectional so that despite the number of studies not a lot was learnt about the causal factors of burnout.

In the third and present phase, conceptual approaches as well as the research of burnout are becoming linked to major psychological theories. Examples of researchers with such approaches are Cherniss (1993) who links burnout with the self-efficacy theory (Bandura, 1977), Burisch (1993) who links burnout with theories on reactance and learned helplessness (Wortman & Brehm, 1975), and the research presented in this thesis. Other conceptual approaches specific for burnout research can be found in Schaufeli, Maslach, & Marek (1993). However, before the research done by VanYperen, Buunk, and Schaufeli (1992) and Buunk and Schaufeli (1993) few authors have focused on the relationship with recipients, whilst this relationship seems a central element of burnout.

The research in this thesis follows a theory-guided approach by taking into account the unique nature of the work of human service professionals; that is the relationship with the recipients of their care. In addition, the relationship with the organization is taken into consideration (Maslach & Jackson, 1984, Cordes & Dougerthy, 1993). Following Buunk and Schaufeli (1993), it is hypothesized that social exchange theory can help to enhance our understanding of the interpersonal and social processes that lead to burnout. Social exchange processes in the professional-recipient relationship and in the professional-organization relationship are considered to play a key role in the burnout-process. The MBI is hereby used as the measurement instrument. Its operationalization of burnout is not only generally accepted as the definition of burnout, but also two of the three dimensions (i.e., depersonalization & personal accomplishment) directly reflect the professional-recipient relationship.

The professional-recipient relationship

Central in the work of human service professionals is the relationship they have with the recipients of their care. Human service professionals are frequently involved in emotionally charged situations (Maslach, 1978). In trying to help recipients they need to rely on their skills and their experience as a professional. In a sense, in their work with recipients, professionals are their own "instrument": how they handle their relationship with recipients determines

largely their success as a professional. Hence, disappointing results with recipients are directly related to their functioning both as a professional and as a person. It is, therefore, not surprising that human service professionals usually experience their job as a calling. Regrettably, the very nature of the professional-recipient relationship can make the quest for results a frustrating one (Cherniss, 1980). Recipients seldom provide the necessary feedback themselves, and if a recipient's condition improves it is difficult to pinpoint what or who caused it. Not only the treatment by the professional but also the conditions in which recipients live influence the effectiveness of a treatment. And these conditions cannot by definition be controlled by the professional.

Dealing effectively with the strain that results from handling emotionally charged situations is one of the challenges for human service professionals. In order to cope with strong emotions and to perform well and efficiently, professionals can use techniques of detachment. The ideal attitude has been characterized as "detached concern" (Lief & Fox, 1963), an attitude that combines distancing oneself emotionally while still maintaining concern for the recipients. However, it is difficult for professionals to reach this balance of treating recipients in a more remote, objective way while maintaining a caring and committed attitude. In time, a more cynical attitude may develop and a functional distancing attitude can turn into a dysfunctional one. This dysfunctional attitude has been conceptualized in the Maslach Burnout Inventory (Maslach & Jackson, 1986) as depersonalization and is, as such, an essential element in burnout among human service professionals.

With respect to the emotional impact of recipient contact on burnout, a distinction can be made in quantitative dimensions, including frequency and duration of contact, and qualitative dimensions, representing the intensity of the contacts with clients. The relationship between quantitative workload and burnout seems to be somewhat complicated. Some studies showed that quantitative workload, operationalized in, for example, number of patients or time spent with patients, was related to increased burnout (e.g., Lewingston, Conley, & Blessing-More, 1981; Maslach & Jackson, 1982; Skorupa & Agresti, 1993). However, in other studies, the sheer number of clients was unrelated to burnout (e.g. Jackson et al., 1986; Koeske & Koeske, 1989). There are even studies where a heavier quantitative workload was related to a greater sense of competence, or personal accomplishment (i.e., to less burnout) (Skorupa & Agresti, 1993; Van Dierendonck, Groenewegen, & Sixma, 1992).

The impact of the qualitative workload on burnout, i.e. problematic interactions with clients, is less equivocal. More stressful or difficult professional-client behaviours have been

found to be related to increased burnout (e.g., Meadow, 1981; Pines & Maslach, 1978; Skorupa et al., 1993; Van Dierendonck et al., 1992). Similar findings were reported for the relationship of teachers with students, where an increase of the grade level of the class (e.g. Anderson & Iwanicki, 1984; Gold, 1985) and the severity of student's mental handicap (Zabel & Zabel, 1982) appear to be related to an increase in burnout. These findings suggest that the quality of the relationship is of more importance in relation to burnout than the objective workload. This conclusion stresses the importance of focusing on the processes involved in the professional-recipient relationship.

The relationship with recipients is out of balance by its very nature. Professionals who do people work are supposed to provide care, support, attention, comfort, and assistance to their clients, patients, and pupils, whereas these recipients are supposed to receive. Of course, there are moments of reciprocity, moments when recipients show gratitude and appreciation. However, the reality of the day-to-day work is that professionals are confronted with recipients who make impossible demands, resist change, don't follow advice, are unimpressed by status, and sometimes even lie and manipulate (Cherniss, 1995). This can lead to a feeling of "What about me?" (Larson, 1987). In such asymmetrical relationships, professionals run a high risk of giving a lot while receiving little, slowly depleting their resources, and thus burning out. These asymmetrical relationships are the focus of this thesis.

The professional-organizational relationship

To gain a thorough insight into the burnout process, the relationship with the organization should also be considered (Golembiewski & Munzenrider, 1988; Cox, Kuk, Leiter, 1993). Factors in the organization that have been related to burnout can be subdivided into three categories (Schaufeli & Buunk, 1996). The first is subjective workload (e.g. working hard and under time-pressure), or perceived stress. It is hardly surprising that subjective workload is positively related to burnout taking in account that emotional exhaustion is generally considered the stress dimension of burnout. The importance of workload in relation to burnout is emphasized by longitudinal studies where experienced workload was found to be a causal agent of burnout (e.g. Burke & Greenglas, 1991; Savicki & Cooley, 1994). The second category consists of role problems. Several studies have been shown that role ambiguity and role conflict are positively related to burnout, both cross-sectionally (e.g., Chiriboga & Bailey,

1986; Whitehead, 1989) and longitudinally (Lee & Ashforth, 1993). The third category that is positively related to burnout is lack of autonomy or control. This relationship was also confirmed longitudinally (Wade, Cooley, & Savicki, 1986). Bureaucratic interference is also associated with this category. In most organizations, professionals are confronted with all kinds of rules and often out-dated procedures that can impede efficient and effective work. As a result, professionals may feel trapped in their organizations (Maslach & Jackson, 1984).

In all, the previous studies emphasize the importance of including organizational factors in burnout research, emphasized especially by the fact that organizational factors on the whole explain more variance of burnout than recipient-related factors. For example, Schulz, Greenley and Brown (1995) found that client severity was not related to burnout among staff in community health service organizations, whereas organization and management factors explained 45 percent of burnout. These authors even suggest that professionals mistakenly attribute their burnout-related feelings to recipients, a variation of blaming the victim (Maslach, 1993).

Organizational factors can be viewed as elements in the exchange relationship between the professional and the organization. In this thesis, the focus is not on these factors independently, but on the perception of the exchange relationship as a whole, and its relation to burnout. In a sense, our approach incorporates and integrates the focal points of both previous phases (i.e., emotional demanding contacts with recipients in the pioneer phase and organizational antecedents in the empirical phase). Social exchange theory, and its importance for the professional-recipient relationship as well as the professional-organization relationship is described in the following sections.

A specific social exchange theory, equity theory (Adams, 1963, 1965), was taken as starting point for the research described in this thesis because it is perhaps the most well-developed social exchange theory of how individuals evaluate social exchange in relationships. The results of twenty years of equity research emphasize that in the relationships with clients as well as with the organization, it is important for people to be treated equitably (Deutsch, 1983). These results have stimulated promising research on social exchange in interpersonal relationships and in the employee-organization relationship.

Equity theory: its roots and basic assumptions

As far back as the fourth century before Christ, Aristotle formulated ideas about what is considered fair. His ideas should sound quite familiar to social psychologists, as is illustrated by the following quote taken from the *Magna Moralia* (1925, pp. 1194): “ Since then, the just is equal, the proportionally equal will be just. Now proportion implies four terms at least: A:B::C:D. For instance, it is proportional that he who has much should contribute much, and that he who has little should contribute little; again, in the same way, that he who has worked little should receive little.”

In the twentieth century after Christ, social exchange processes have become the focus of social scientists. The first research into the social aspects involved in the exchange of resources was performed by anthropologists such as Mauss (1925) and Levi-Straus (1969). These researchers stress the importance of the exchange of goods and gifts for the successful functioning of a society. The importance of reciprocal relationships goes beyond the goods and services exchanged. These relationships help to strengthen the society against the risks incurred through alliances and rivalry.

The importance of fairness for the well-being of employees first became apparent in the research of Stouffer, Suchman, Devinney, Star, and Williams (1949). In their classic research on differences in satisfaction with the promotion policy within the U.S. air corps and within the U.S. military police, they discovered that it was not actually the policy that caused (dis)satisfaction, rather, feelings of fairness were determined by the comparison of one's own opportunities for promotion with those of direct colleagues. Therefore, military police officers felt more fairly treated than their counterparts within the air corps and felt as a result more satisfied, despite a slower promotion policy. Stouffer et al. (1949) coined the term relative deprivation to describe this phenomenon.

Theories on social exchange have been strongly influenced by economic exchange theories and Skinnerian behaviourism (Skinner, 1973). Homans (1961) is extremely behavioristic in his stand that even complex social exchange processes can be explained by the principles of operant conditioning. In his view, social exchange processes boil down to the interaction between two people who with their behaviour towards each other reinforce each others' behaviour and thereby influence possible future interactions. Only reciprocal behaviour is fundamental to continued relationships, hereby denying the possible role of cognition. Blau (1964), however, holds that this psychological process of reinforcement should be

supplemented by the assumption that social exchange behaviour is often instigated by a person's desire to reach certain goals, whereby their attainment depends on another person. Blau also holds that the exchange of rewarding services creates expectancies for the other party to return the favour. These social obligations are different from the obligations specified in the economic exchange theories. According to the latter, obligations are explicitly specified in advance, whereas according to the former obligations are unspecified.

In their theory of social interdependence, Thibaut and Kelley (1959) focus on the interaction between the actors involved in an exchange. They assume that people seek the interactions that are expected to result in the outcomes that will be the most satisfactory. Two central criteria to evaluate the value of the relationship are the level of the outcomes that a person thinks he or she is entitled to, and the alternatives available to him or her. Moreover, Thibaut and Kelley assume that the attractiveness of a relationship is also influenced by the consequences of one's own behaviour for the other: it is attractive for someone being able to produce high outcomes for another person with as few investments as possible.

Adams (1963) developed his theory of social inequity, based on the notion of Homans' (1961) social exchange and building directly on Festinger's (1957) theory of cognitive dissonance. The equity theory can be viewed as a subset of the more general social exchange theories that are specifically aimed at understanding the distributive and procedural rules that govern the distribution of resources (McClintock, Kramer, Keil, 1984). Adams' aim was to develop a theory that would be "relevant to any social situation in which an exchange takes place, whether the exchange be of the type taking place between man and wife, between football teammates, between teacher and student, or even, between Man and his God" (Adams, 1963, p. 422).

Inputs and outcomes are central in Adams' theory. The elements that a person brings into an exchange are called inputs or investments. Elements that result from social exchange are called outcomes. For example, in the relationship with an organization, an employee's inputs might be his education, experience or effort. His outcomes might be his pay or fringe benefits, like a company car. Adams suggests that people compare their inputs and outcomes to the inputs and outcomes of that of a comparison other. This comparison other can be the other party in the exchange situation, (e.g. organization or spouse), but can also be other people in similar situations (e.g. direct colleagues or friends).

Adams' definition of equity can be depicted in the following formula (Adams, 1965, p. 281):

$$\frac{O_p}{I_p} = \frac{O_a}{I_a}$$

O_p = sum of the outcomes of the person;

I_p = sum of the inputs of the person

O_a = sum of the outcomes of the comparison other;

I_a = sum of the inputs of the comparison other

Inequity is experienced in either of the following cases:

$$\frac{O_p}{I_p} < \frac{O_a}{I_a} \quad \text{or} \quad \frac{O_p}{I_p} > \frac{O_a}{I_a}$$

Two important issues follow from this definition. First, a person can experience inequity when perceiving him- or herself as underbenefited as well as as overbenefited in a particular situation. Second, the absolute amount of outcomes or inputs, or even the ratio between these elements is not crucial in determining one's perception of equity. It is in comparison to another person that these perceptions come into play. For example, an employee can be highly trained and work very hard for a relatively low salary and still not feel underpaid (i.e. underbenefited) if his choice of comparison-others are colleagues in a similar situation who earn even less. It is even possible for such a person to feel overpaid (i.e. overbenefited) if he compares himself to study-friends who are still unemployed and have to live of welfare. An additional aspect that should be mentioned is that the perception of equity or inequity is based on an individual's perception of inputs and outcomes: it is in the eye of the beholder. This makes it inevitable that the participants in an exchange relationship as well as the outside observers differ in their assesment of the equitableness of a relationship. This subjective nature of inputs and outcomes also implies that when investigating equity theory, inputs and outcomes should be assessed by the respondents themselves, not by the researchers (Adams & Freedman, 1976).

Individuals are assumed to experience distress when they perceive their situation as inequitable (underbenefited or overbenefited). Individuals will experience more distress in

situations that are more inequitable (Walster, Berscheid, & Walster, 1973). This distress is supposed to motivate them to restore equity. People can generally restore actual equity or psychological equity by using six strategies (Adams, 1965): (1) altering inputs (e.g. increasing productivity or the quality of work in an overbenefited situation, or decreasing it in an underbenefited situation), (2) altering outcomes (e.g. negotiating a new contract with an increase in salary in an underbenefited situation; the opposite action, proposing a decrease in salary in an overbenefited situation is rather unlikely), (3) cognitively distorting inputs or outcomes (e.g., reconsidering one's opinion of the comparison person, or placing more or less importance on certain elements in the exchange relationship), (4) leaving the field (e.g., quitting the job, transfer, absenteeism), (5) taking actions designed to change the inputs or outcomes of the comparison other (e.g., offering a raise to the other person, filing for divorce), (6) changing the comparison other (e.g. instead of comparing one's wage to that of direct colleagues, comparing it to that of unemployed study-friends).

In principle, all the methods described previously are available to everyone. Equity theory suggests that people will generally select the most favourable strategy based on a cost-benefit analysis. They will strive to maximize their outcomes and minimize their inputs (Adams, 1965). They are also more likely to change their perceptions of the comparison other's outcomes and inputs than they are to change their own outcomes and inputs. Leaving the field or changing the comparison other are less likely to happen because of the higher costs involved.

Although Adams' theory may seem counterintuitive on some points (e.g. the stressfulness of an overbenefited relationship), many studies have provided support for its basic assumptions (for a review see Cropanzano & Randall, 1993). The strength of the theory is, that, using a relatively simple framework, it could not only explain previous research but also inspired new directions for research. At first, after its formulation, most research focused on the employee-organization relationship. Later on, the focus shifted to equity in intimate relationships. In the next three sections, a short overview will be presented of equity research. In the first section, research concerning equity in the intimate relationship is presented. The following section briefly describes the results of equity research into the employee-organization relationship. The third section discusses issues concerning the measurement of equity.

Equity in intimate relationships

In the first decade after Adams' formulation of equity theory, researchers were reluctant to use this theory to study close or intimate relationships because of its seemingly unflattering and reductionistic character and because it seemed to imply that interactions between people are mechanical with no room for spontaneous and affectionate behaviour (McClintock et al., 1984).

The change in attitude toward equity theory took place in the sixties and seventies, when the gender-role conceptions in marital relationships changed (VanYperen & Buunk, 1994). The division of roles between men and women became more comparable, allowing for a more direct comparison between husband and wife with respect to what each of them invested in the relationship. Indeed, equity theory has been supported in a number of cross-sectional studies (e.g., Davidson, 1984; Petersen & Maynard, 1981; Rachlin, 1987; Sprecher, 1986; VanYperen & Buunk, 1990) on perceiving oneself under- or overbenefited in a relationship related to the satisfaction with this relationship (for a review see: Hatfield, et al., 1985). These persons felt less satisfied with their relationship than people who perceived their relationship as equitable. It is assumed that people who perceive themselves to be underbenefited feel resentment towards the partner in the relationship and that perceptions of being overbenefited are accompanied by feelings of guilt and fear of losing the partner.

Other researchers have been more critical about the use of equity theory for explaining satisfaction with intimate relationships. Studies of, for example, Cate and Lloyd showed only a weak effect of equity on satisfaction in intimate relationships, whereas the level of outcomes had a substantially better predictive power (Cate, Loyd, & Henton, 1985; Cate, Lloyd, & Long, 1988). In their study of the quality and stability of romantic relationships, Lujanski and Mikula (1983) found no support for their hypotheses that were based on equity theory. Clark and Mills (1979) argued that exchange rules differ depending on the type of relationship. They distinguish between exchange relationships and communal relationships. In their view, intimate relationships are most appropriately typified as communal relationships in which each party is concerned for the welfare of the other. In these relationships people are more motivated by need than by reciprocity.

These somewhat controversial results suggest that there is some evidence that the notion of equity is relevant in intimate relationships. However, this evidence is inconclusive. There is a need for research that focuses on how the type of relationship influences inequity and the

emotions that are experienced (Sprecher, 1992).

Although the professional-recipient relationship-the focus of this thesis- is not an intimate relationship, it is a relationship between individuals in which similar social exchange processes are likely to take place. However, these processes have an unique form. In contrast to an intimate relationship, the relationship between professionals and recipients is basically complementary: the professional is supposed to provide care, support, comfort, and so on, whereas the recipient is supposed to receive. Nevertheless, similar to individuals in intimate relationships, professionals sometimes feel a need to be reciprocated for the time and effort they invest in the relationships with their recipients (Larson, 1987). Accordingly, from an equity perspective the professional-recipient relationship is potentially distressing. This stresses the importance for research on burnout in which an important focus is the inequity experienced by professionals in their relationships with the recipients of their care. It will enhance our understanding of the social psychological processes in the professional-recipient relationship and how these interpersonal processes are related to the development of burnout. Recent research pointed in the same direction (VanYperen, Buunk, & Schaufeli, 1992; VanYperen, 1996).

Equity in the employee-organization relationship

Exchange processes in the relationship with the organization are quite explicit and tangible, especially the processes recorded in the employment contract. Employees offer their talents, their experience, their time, their enthusiasm for their work and clearly expect the organization to reciprocate them, most notably by paying a fair salary, but also with fringe benefits like educational opportunities and a supportive organizational structure and culture. It is, therefore, not surprising that Adams (1963) in his initial article primarily used examples from the work environment to support his theory, despite his claim that it is applicable to all kinds of relationships. Indeed, in the 1976 review of equity theory by Adams and Freedman, more than ten years after Adams's initial formulation of equity theory, the majority of over 160 studies focused on the employee-organization relationship.

Most studies were conducted in a laboratory and focused on how employees reacted to inequitable pay (both underpay and overpay). In his original experiments on the effects of overpayment, Adams induced feelings of overbenefitedness by suggesting to his subjects that

they were underqualified for the salary they received. These studies generally lent credence to equity theory. The subjects became distressed by the inequitable treatment and the results showed that the subjects tried to restore actual equity as well as perceived psychological equity. However, the interpretation of these, for equity theory, positive results has been criticized. It has been argued that the experimental conditions of most of these studies made the participants react to the experimental conditions instead of to feelings of inequity (Mowday, 1991). Furthermore, Weiner (1980) suggested that in the overpaid condition, the participants were motivated by a need to restore self-esteem, and not equity. It also seems likely that in real organizations, in the long-term, employees are more likely to restore psychological equity. Pay rates can not only serve as outcomes but also give the employees information about how his contribution is judged. Employees who initially feel overpaid may upgrade the value of their work, whereas employees who feel underpaid may degrade the value of their work for the organization.

Building on equity theory, the notion of a psychological contract (Rousseau & Parkes, 1993) between the employee and his or her organization emphasizes that social exchange processes govern the relationship between the employee and his or her organization similar to the processes observed in interpersonal relationships. This psychological contract conveys the expectancies of an employee towards the organization: (s)he expects gains or outcomes from the organization that are proportional to his or her investments or inputs. Additional support for the importance of an equitable relationship with the organization can be found in research on the perceived organizational support by Eisenberger and his colleagues. Eisenberger, Huntington, Hutchinson, and Sowa (1986) showed that employees take an interest in the extent in which the organization values their contributions and that perceived organizational support reduces absenteeism. In addition, being valued and cared for by the organization was related to more conscientiousness in carrying out the job and more involvement with the organization (Eisenberger, Fasolo, Davis-LaMastro, 1990). Equity theory offers an appropriate theoretical framework to study exchange processes in the employee-organization relationship because this relationship is strongly ruled by economic principles, which also lie at the base of equity theory.

Several theories indirectly emphasize that the imbalance between one's investments and what is received in return from the organization is an important determinant of burnout. For example, Edelwich & Brodsky (1990) mention the low pay, the lack of promotion possibilities and the lack of clear criteria for success as factors that contribute to burnout. Pines and

Aronson (1988) describe a “path” that leads to burnout, in which the strongly motivated professional with high expectations (i.e., high inputs) finds himself in a stressful environment with little support and a frustrating bureaucratic organization (low outcomes). Cherniss (1980) is most explicit in describing eight organizational conditions that influence the development of burnout in the hard-working professional (e.g., high work demands with little support from colleagues or supervisor, lack of autonomy, feeling socially isolated).

Recent field research on absenteeism by Geurts and her colleagues confirms the importance of an equitable relationship with the organization for the wellbeing of the employees. Blue collar workers who felt more underbenefited in comparison to their colleagues were absent more often (Geurts, Buunk, Schaufeli, 1995). Another study among bus drivers showed that a general feeling of inequity was indirectly related to absenteeism through conflicts with superiors (Geurts, Schaufeli, & Buunk, 1995). In both studies, absenteeism was viewed as an attempt to restore equity

In this thesis, equity theory is used for a more explicite research of the influence of an inequitable relationship between professionals and the organization on burnout. Such explorations are also valuable for the further development of equity theory because the current research takes place within real organizations. Until now, our knowledge of equity theory in the employee-organization relationship was primarily based on experimental studies (a notable exception is the research by Geurts and her colleagues).

Measurement of equity

A recurrent problem of the equity theory is the operationalization of the focal construct. Basically, problems with the measurement concern two issues. Firstly, the use of the Adams formula as such, secondly the specific operationalization of the perception of equity in intimate relationships.

In laboratory studies the perception of equity is not so much measured as that it is influenced by manipulating outcomes or inputs within the experimental research design (Adams & Freedman, 1976). Most of this research had Adams' original formula as basic assumption. Others however have questioned this formula. The most well-known refinement came from Walster and her colleagues (Walster, et al (1973). They argued that it is possible for inputs and outcomes to have a negative value (e.g., being abused by the other person in the relationship).

They suggest a revision of the original formula taking this possibility into account. Another suggestion for improvement of the formula came from Anderson (1976) whose criticism centered on the way judgement of equity takes place within the individual and suggests a change in the model, in which outcomes and inputs are initially compared separately within a person, followed by a comparison with the comparison other. Harris' (1983) review clearly suggests that when measuring equity, the Adams formula or its derivatives should not be taken for granted but be investigated. This is underlined by the findings of Mellers (1982) whose experimental studies on pay equity show that none of previous formulations of equity could adequately explain her findings. Her results show a nonlinear function between salary and merit, in which proportionally a person with low merits receives more of the total amount that is to be distributed compared to a person with high merits.

Most of the measurements of equity in intimate relationships have taken the equity formulation of Walster et al. (1973) as basic assumption. Basically, two ways of measuring equity have been used: a detailed and a global measure. In the detailed measure, respondents were given possible inputs and outcomes of themselves and their partner in their relationship. They were asked to read each input and outcome and indicate how they felt theirs and their partners contribution was. The level of equity was then calculated by the researcher. In the global measure, respondents were asked to indicate their level of equity themselves. Studies into the convergent and discriminant validity of these measures are inconclusive (Lujansky & Mikula, 1983; Smith & Schroeder, 1984; Traupman, Petersen, Utne, & Hatfield, 1981, VanYperen & Buunk, 1991).

The lack of clarity in measuring and quantifying equity emphasizes the importance of giving explicit attention to measuring equity in our specific setting. This is underlined by the fact that two focal relationships in this thesis have until now either sporadically been examined (professional-recipient relationship) or have almost exclusively been studied in an experimental setting (professional-organization relationship).

Equity theory has been criticized and nowadays it no longer has the dominant influence within social exchange theory that it had in the seventies. Criticism on equity theory focused on its reflection of the particular socio-historical condition of the late fifties and sixties, that it ignored the interactional aspects of the exchange relationship, that the 'economic' model underlying equity theory was inappropriate for intimate relations and that it did not adequately take into account the attributions people make in regard to the experienced inequities (Deutsch,

1983). Nevertheless, it is important to acknowledge its stimulating influence on research into the social psychology of justice. Taking into account the criticisms, it can still be a stimulating theory to enhance our understanding of the processes that take place in social exchange relationships.

Research topics

The objective of this thesis is to investigate the extent in which perceptions of inequity are important determinants of burnout in social exchange relationships. This goal will be addressed in the next chapters in this thesis. Each chapter is a separate article with specific hypotheses that focus on the following issues.

1. Development of a valid and reliable measurement instrument for burnout.

A central issue in burnout research is the development of a valid and reliable instrument for defining and measuring burnout. Despite its frequent use, the construct validity of the MBI is not beyond question. Most studies confirmed the three-dimensional structure (e.g. Belcastro, Gold, & Hays, 1983; Gold, 1984; Green and Walkey, 1988), others however reported two factors (e.g. Dignam, Barrera, & West, 1986; Green Walkey and Taylor, 1991). Even four factors have been found (e.g., Iwanicki & Schwab, 1981; Powers & Gose, 1986). Another related and more fundamental criticism on the MBI is whether burnout really should be measured with three dimensions instead of one as in Shirom's (1989) core definition of burnout being essentially a state of physical, emotional, and mental exhaustion that can be measured by the one-dimensional Burnout Measure (Pines & Aronson, 1988). Furthermore, only few studies have examined the congruent and discriminant validity of the MBI. Therefore, the first study of this thesis investigates the construct validity of both burnout measures. Before we can investigate the etiology of burnout, it is important to clarify the issue of defining and measuring burnout. The construct validity of the Dutch translation of the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1986) and the Burnout Measure (Pines, Aronson, & Kafry, 1981) is investigated in a sample of nurses in chapter 2.

2. Measurement and relevance of equity in relation to burnout for human service professionals.

After having established the MBI as a valid instrument for burnout, the measurement and relevance of the social exchange processes experienced by professionals is addressed in chapters 3 and 4. In chapter 3, the relationship between feeling underbenefited in one's work and burnout is investigated among general practitioners. Because this is a relatively solitary profession, the quality of the relationship with recipients is very important in their work-related feelings such as burnout. Chapter 4 investigates the usefulness of measuring equity according to the original Adam's formula among two samples. One sample consists of therapists working within a forensic therapeutic center; the other sample consists of staff working with mentally and physically disabled people. As far as the relationship with recipients is concerned, both studies are situated at different ends of a continuum with respect to the amount of trust and gratitude that can be expected from their relationships with recipients. Patients in the forensic psychiatric center are more likely to physically and mentally abuse the professionals than mentally and physically disabled people. Therefore, if feelings of inequity are found to be related to burnout in both studies, it would present a strong case for the use of equity theory as a theoretical framework for understanding the underlying mechanisms of burnout among human service professionals.

3. Causal effects of perceived inequity by human service professionals on burnout in their relationships with recipients and the organization

Chapter 5 investigates the impact of equity on burnout within the relationships with recipients and with the organization in a longitudinal design. The interval between the two measurement points was one year. Until now, most burnout research has been cross-sectional. However, longitudinal studies are crucial for examining the causal effects between social exchange processes and burnout. This research adds to the limited number of longitudinal studies. Moreover, it does so with a sophisticated analysis that avoids most pitfalls of previous studies. The focus of this research is on the predictive validity of inequity on burnout and the sequence of the three burnout dimensions among each other.

4. The effects of an individual intervention program on burnout and inequity

With the increasing attention for burnout as a problem for people working in human service professions, recommendations for interventions were frequently advanced, and burnout workshops proliferated. However, empirical studies on the effects of these interventions were, and still are, sparse.

Chapter 6 describes the impact of a burnout intervention program among professionals working in the direct-care of mentally handicapped. The rationale behind the program was to reduce the risk of burnout by increasing the fit between one's goals and expectations, and the current work situation. Or, to speak in terms of equity theory: the program was aimed at reducing feelings of inequity that resulted from a discrepancy between goals and expectations concerning recipients and the organization on the one hand, and the every-day reality of the job on the other hand. The program was directly linked to the methods people generally use to restore equity. The effect of this program on burnout and feelings of inequity, as well as on objective absenteeism and turnover intention was examined.

This thesis is concluded by a final chapter in which the results of the studies are discussed along the just mentioned research questions. In addition, suggestions for future research on equity and burnout are given.

CHAPTER 2

THE CONSTRUCT VALIDITY OF TWO BURNOUT MEASURES¹

Since Herbert Freudenberger coined the term burnout in 1974, its measurement has been a controversial issue. In view of the vagueness and over-inclusiveness of the burnout-concept this is not very surprising. For instance, Schaufeli (1990) listed more than one hundred symptoms that have been associated with burnout. During the first years after the introduction of burnout, researchers were trapped in a vicious circle. Burnout was not properly defined and therefore its measurement could not be ascertained, but because of the absence of an adequate measurement instrument the phenomenon could not be properly empirically described. This circle was broken by the growing acceptance of the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981). Within a few years the MBI became the most popular instrument to assess burnout. Accordingly, the definition of burnout provided by the test-authors was accepted by implication. From then on it appeared that the controversy about the nature of burnout was settled by a silent agreement among researchers, at least as it relates to the human service professions. Then, according to Maslach and Jackson (1981), burnout was restricted to individuals "who do 'people-work' of some kind" (p.99). They defined burnout as a three-dimensional syndrome characterized by emotional exhaustion, depersonalization (i.e. negative, cynical attitudes and feelings about one's recipients), and reduced personal accomplishment (i.e. the tendency to evaluate oneself negatively, particularly with regard to one's work with recipients). It is important to note that these three dimensions were *not* theoretically deduced before the proper test-construction of the MBI commenced (Maslach & Schaufeli, 1993). Instead, they were labeled *after* factor-analyzing empirical data from human services samples. Consequently, an inductive not a deductive approach was employed. Burisch (1984) argued that the former strategy of test-

¹ This chapter has previously been published: Schaufeli, W.B. & Van Dierendonck, D. (1993). The construct validity of two burnout measures. *Journal of Organizational Behavior*, 14, 631-647

construction renders less optimal psychometric results than the latter.

It is therefore not surprising that the *factorial validity* of the MBI is not beyond question. Although the three-dimensional structure of the MBI has been confirmed in most samples (Belcastro, Gold & Hays, 1983; Gold, 1984; Huberty & Huebner, 1988; Fimian & Blanton, 1987; Green & Walkey, 1988; Fimian, Fastenau, Tashner & Cross 1989; Koeske & Koeske, 1989; Lahoz & Mason, 1989; Pierce & Molloy, 1989), four dimensions have also been reported. In the latter case either the emotional exhaustion (Firth, McIntee, McKeown & Britton, 1985), the depersonalization (Iwanicki & Schwab, 1981) or the personal accomplishment subscale (Powers & Gose, 1986) separates into two factors. In contrast, some studies suggest a two dimensional structure of the MBI (Brookings, Bolton, Brown & McEvoy, 1985; Dignam, Barrera & West, 1986; Green, Walkey & Taylor, 1991). The findings of these studies are rather consistent: emotional exhaustion and depersonalization merge into a single factor. This leads some authors to propose a composite exhaustion and depersonalization score: the "Core of Burnout Scale" (Green et al., 1991, p. 463). It should be emphasized that in none of the above mentioned studies an adequate attempt was made to *test* the factorial validity of the MBI, for instance by carrying out confirmatory factor analysis. Although Golembiewski and Munzenrider (1988; pp. 19-23) claim that the results of their factor comparison test support the three-factor structure of the MBI, they employed a strongly modified version of the MBI. Not only did they reword several items (i.e. substituting "recipients" for "coworkers") and changed the response format, but they also added an item. Additionally, a recent study failed to fully replicate the results of Golembiewski and Munzenrider. It was concluded that several items from the modified MBI-version "did not load as expected" (Scherer, Cox, Key, Stickney & Spangler, 1992; p.29). More interestingly, two recent studies examined the dimensionality through confirmatory factor analysis with LISREL and found the fit of the original three-factor model to be superior to several alternative models (Gold, Bachelor & Michael, 1989; Lee & Ashford, 1990). Unfortunately, in both studies rather small and highly specific non-human services samples were used: 181 supervisors and managers, and 147 college students, respectively. Consequently, modified versions of the MBI were employed. For instance, in the latter study seven new items were added. As far as we know, only Byrne (1991) used the original MBI-version for confirmatory factor-analysis in a sample of 543 teachers. She concluded that the postulated three-factor

structure "was only modestly well-defined" (p. 591). Additional exploratory work suggested that the fit of the three-factor model would substantially improve with the deletion of four items. However, Byrne (1991) is cautious about her recommendation of deleting particular items since the size of her sample is "modestly adequate" (p. 591).

Taken together, the evidence from explorative factorial validity studies is not conclusive, whereas confirmative approaches, with one notable exception, used modified versions of the MBI.

The factorial validity of the MBI is not only questioned on empirical grounds in psychometric studies, but also on a conceptual level doubts have risen about the three-dimensional structure of the burnout syndrome. For example, Shirom (1989, p. 33) proposed the following "core definition" of burnout in which only exhaustion plays a prominent role: "Burnout refers to a combination of physical fatigue, emotional exhaustion and cognitive weariness". According to Shirom, the additional burnout-components are confounded with antecedent coping behaviors (i.e. depersonalization) and with the consequences of burnout (i.e. reduced personal accomplishment). In a similar vein, Koeske and Koeske (1989) consider exhaustion as the essence of burnout, and regard depersonalization and personal accomplishment as different, albeit theoretically related variables.

The second most widely employed burnout self-report questionnaire is the Burnout Measure (BM) (Pines & Aronson, 1988), originally denoted Tedium Measure (Pines, Aronson & Kafry, 1981). The burnout concept that underlies this instrument is closely related to Shirom's core definition. According to the test-authors, burnout is, "... a state of physical, emotional and mental exhaustion caused by long-term involvement in situations that are emotionally demanding" (Pines & Aronson, 1988, p. 9). Although three types of exhaustion are distinguished, the BM is conceived as a one-dimensional questionnaire of burnout. In contrast to the MBI, the BM is also appropriate to measure burnout outside the human services professions. In their definition, Pines and Aronson (1988) do *not* restrict burnout to certain occupational groups. Most researchers who employ the BM take the one-dimensionality of the instrument for granted. Two factorial validity studies failed to distinguish more than one burnout-dimension in the BM (Corcoran, 1986; Justice, Gold & Klein, 1981). In contrast, Enzmann and Kleiber (1989) found some indications for a three-factor structure in their German version. They labeled their factors Demoralization, Exhaust-

tion, and Loss of Motive ("Antriebsverlust"), respectively. To date, confirmatory factor-analytic studies of the BM are lacking.

It is remarkable that so few studies have been carried out on the *congruent validity* of both of these most widely used burnout instruments. The results of these few studies are quite comparable, however. Burnout as measured with the BM is strongly positively associated with MBI-Emotional Exhaustion and MBI-Depersonalization ($.50 < r < .70$), and is somewhat less strongly but negatively associated with MBI-Personal Accomplishment ($-.25 < r < -.30$) (Corcoran, 1986; Stout & Williams, 1983). The correlations found in the German study of Enzmann and Kleiber (1989) differ slightly from this pattern as far as depersonalization ($r = .19$) and personal accomplishment ($r = -.41$) are concerned.

Discriminant validity studies that assess the specificity of burnout, as measured by the questionnaires, are also rare. A notable exception is Meier (1984), who showed that a considerable overlap exists between burnout and depression, by employing a multitrait-multimethod methodology. However, he has been criticized, amongst others by Maslach and Jackson (1986), for ignoring the multidimensional nature of burnout. In his study, Meier employed a rather questionable unitary measure of burnout by adding scores of the three MBI-dimensions to form one composite burnout-score. In the same vein, Firth, McIntee, McKeown and Britton (1986) report a considerable relationship between burnout and depression in nurses. They differentiated between the three MBI-dimensions and found that emotional exhaustion was significantly stronger correlated with depression ($r = .50$) than with depersonalization ($r = .32$) and personal accomplishment ($r = -.17$). Unfortunately, no discriminant validity studies of the BM have been carried out thus far.

Despite the almost universal acceptance of the MBI and the BM as measurement instruments of burnout, a careful evaluation of their construct validity is still lacking. Such analyses are particularly important when translated burnout inventories are applied to other national or cultural settings. Recently, Arabic (Abu-Hilal & Salameh, 1992); Italian (Sirigatti, Stefanile & Menoni, 1988), French (Girault, 1992), German (Enzmann & Kleiber, 1989), Spanish (Gil-Monte & Schaufeli, 1992), and Polish (Schaufeli & Janczur, 1994) versions of the MBI have been analyzed. Unfortunately, the number of subjects included in these studies is too small for extensive psychometric evaluations, such as confirmatory factor analysis (Marsh, Balla & McDonald, 1988).

The purpose of this article is to report on the construct validity of the MBI and the BM. More specifically, four questions will be answered:

1. Can the original three-factor structure of the MBI be confirmed?
2. Should the BM be considered as a one-dimensional or as a three-dimensional questionnaire?
3. Do the BM and the subscales of the MBI assess a similar construct?
4. To what extent do the MBI and the BM measure specific symptoms of burnout that can be distinguished from somatic symptoms and psychological strain?

The first two questions pertain to the factorial validity, whereas the last two questions refer to the congruent and discriminant validity of the MBI and the BM, respectively. Based on our previous brief review of the literature, we expected to confirm the three-dimensional structure of the MBI (for a more extensive review see: Schaufeli, Enzmann & Girault, 1993). We were however less confident about the one-dimensionality of the BM, mainly because of the lack of factorial validity studies. As far as the construct validity of the two burnout measures is concerned, we hypothesize that burnout consists of two dimensions: a non-specific exhaustion component that is associated with somatic complaints and psychological strain, and a component that is characterized by a negative attitude towards one's patients (depersonalization) and towards one's performance on the job (reduced personal accomplishment) (cf. Maslach & Schaufeli, 1993). This implies that the BM and the MBI only partly assess the same construct. Our reasoning partially agrees with Shirom (1989) and Koeske and Koeske (1989), who consider exhaustion as the core element of burnout that is accompanied by two related but conceptually distinct aspects.

Method

Subjects

The sample was combined from four studies and included 667 Dutch nurses from different work settings: general hospital nurses (15%), psychiatric nurses (25%), community nurses (31%), hospice nurses (17%), nurses working with the mentally retarded (10%), and nurses employed in other health institutions (2%). Forty-one percent were male and 59% female. Ages ranged from 18 to 59 years ($M = 33.1$, $SD = 7.7$). Response rates varied from

68% to 89% in the four subsamples that are included in the composite sample.

Measures

The Maslach Burnout Inventory (Maslach & Jackson, 1986) and the Burnout Measure (Pines et al., 1981) were employed in order to assess the nurses level of burnout. Both questionnaires were translated into Dutch by the first author and the semantic and syntactic equivalence of the Dutch and English versions was judged independently by two Dutch scholars with degrees in English language study. Additionally, a bilingual psychologist checked the adequacy of the Dutch translation. Using the MBI, nurses recorded how often they experienced reactions described in each of the 22 items. The scoring-dimension ranged from *never* (0-points) to *every day* (6 points). Similar to a study among British nursing staff (Firth et al., 1985), the term *patients* was substituted for *recipients*. The internal consistency of the three MBI-subscales was considered satisfactory, since Cronbach's coefficients α exceed .70 (Table 1). That value has been proposed as a criterion for a satisfactory internal consistency by Nunnally (1978).

Table 1 Descriptive Statistics and Alpha Coefficients for the MBI, BM and VOS-D subscales ($N = 667$)

(Sub)scale	Number of Items	M	SD	α
MBI				
Emotional Exhaustion	9	16.68	8.45	.88
Depersonalization	5	5.94	3.89	.71
Personal Accomplishment	8	32.41	4.91	.77
BM				
BM-total	21	2.96	.75	.93
Demoralization	10	2.67	.84	.90
Exhaustion	6	3.20	1.05	.90
Loss of Motive	5	3.23	.83	.85
VOS-D				
Somatic Complaints	14	18.71	4.09	.83
Psychological Strain	11	20.54	3.97	.82

The 21 items of the BM were scored on a 7-point scale ranging from *never* (1-point) to *always* (7-points). The composite burnout-score was the mean response to the 21 items, with the four positive items reversed. Question 15 of the BM (i.e. "feeling disillusioned and resentful about others") was split into two questions that refer to each feeling separately (i.e. "feeling disillusioned about other people" and "feeling resentful about other people"). Enzmann and Kleiber (1989) reported that in their study, item 15 showed the weakest item-rest correlation, which they attributed to its ambiguity. Unfortunately, the Dutch translation of resentful was not well understood by many nurses, which can be inferred from the relative large number of missing values. Therefore, this item is excluded from further analyses, leaving 21 BM-items. As can be seen from Table 1, internal consistency coefficients were very satisfactory for the three BM-subscales and the composite BM-score.

Finally, two of the twelve subscales were employed from the Dutch adaptation of the workstress questionnaire developed by Caplan, Cobb, French, van Harrison and Pinneau (1975); the "Vragenlijst Organisatie Stress-Doetinchem" (VOS-D) (Bergers, Marcelissen & de Wolff, 1986). The VOS-D is one of most widely used self-report questionnaires to assess an employees' level of perceived jobstress (e.g. work overload, role conflict, role ambiguity), social support (of coworkers and superiors), and stress-reactions (e.g. psychological strain, somatic complaints) (Kompier & Marcelissen, 1990). Normative data are available from a large representative sample of Dutch workers (N=2800). *Psychological Strain* includes anxiety (e.g. feeling nervous, jittery), depression (e.g. feeling sad, blue, cheerful) and irritation (e.g. feeling angry, annoyed). *Somatic Complaints* include a variety of psychosomatic symptoms like sweating palms, upset stomach, trouble sleeping and heart beating faster than usual. Both VOS-D subscales are scored similarly on 4-point scales, ranging from *never* (1-point) to *very often* (4-points). Their internal consistencies of both scales are sufficient (see Table 1).

Results

Factorial validity

First, a confirmatory factor-analytic approach was used to test the dimensionality of burnout as assessed by the MBI and the BM, respectively. Using the LISREL VII computer

program (Jöreskog & Sörbom, 1989) the fit of several plausible factor analytic models were compared for both instruments. Unfortunately, the *absolute* chi-square goodness-of-fit index provided by LISREL strongly depends on sample size. In large samples, the chi-square statistic is very powerful and even quite good model-fits will produce significant differences (Bentler & Bonnet, 1980). Since the other LISREL fit-indices (i.e. Adjusted-Goodness-of-Fit-Index - AGFI, and Root Mean Square Residual - RMSR) are also substantially affected by sample size they cannot be employed for statistical testing of the absolute fit of a particular model either. Instead, Marsh et al. (1988) propose so-called Type 2 incremental fit indices that are barely affected by sample size. For reasons of comparability with other studies, two such indices were computed: χ^2 -I2² and the Tucker-Lewis Index³ (TLI). These indices do not provide information about the absolute fit of a particular model, rather they assess the fit *relative* to another (nested) factorial model in that particular sample. Moreover, these indices can be used to compare the fit of a particular model with that of a similar model in other samples of different sizes. Unfortunately, the distributions of both incremental fit indices are unknown, so that they cannot be employed for statistical testing. Bentler and Bonett (1980) suggested that incremental fit indices should at least be .90. Models with a lower fit can usually be improved substantially.

A three-step approach was used to investigate the factorial validity of the MBI and the BM simultaneously in two independent subsamples. Cudeck and Browne (1983) recommend such a double cross-validation procedure in order to minimize the effects of possible chance capitalization. Recently, Byrne (1991) followed a similar approach to test the factorial validity of the MBI. Before performing the analysis, the sample was randomly split into two

² χ^2 -I2 = (n-t)/(n-df)
 with χ^2 -I2: incremental (Type 2) chi-square
 n: chi-square of null model
 t: chi-square of target model
 df: degree of freedom of target model

³ TLI = (n/df_n-t/df_t)/(n/df_n-1)
 with TLI: Tucker-Lewis Index
 n: chi-square of null model
 df_n: degree of freedom of null model
 t: chi-square of target model
 df_t: degree of freedom of target model

equally sized subsamples ($n_1 = 334$; $n_2 = 333$). In the first step, the relative fit of several factor analytic models was assessed in both subsamples simultaneously. This was done by comparing each of the specified models with the most restrictive model: the so-called null-model (M_0). In the present case M_0 corresponds to the hypothesis that there are just as many uncorrelated factors as there are items, i.e. a model without a factor structure. Each comparison of an alternative factor analytic model with M_0 results in an incremental fit, assessed by two indices: χ^2 -I2 and TLI. The values of the indices were compared across models in both subsamples in order to determine the best fitting model. In the second step, moving from confirmatory to exploratory factor analysis, an attempt was made to further improve this best fitting model by examining the patterning of standardized residuals and the modification indices⁴. Based on the outcome of this inspection, the model was re-specified and re-estimated in both subsamples along two lines successively: (1) particular items were allowed to load on a second factor; (2) these items were removed from the model. The former strategy explores the best fitting factor analytic model that includes the whole set of items, whereas the latter strategy is recommended by Anderson and Gerbing (1988) for scale development. In their view, a core set of items should be identified that most validly measures each dimension in a factor analytic model. After an acceptable fit was achieved in both subsamples with one or more re-specifications, the factorial invariance of the modified model was tested in the third and concluding step by a simultaneous analysis of the data across both subsamples (cf. Byrne, Shavelson & Muthén, 1989). To test the hypothesis of an invariant pattern of factor loadings, the absolute fit of two models was compared: (1) the model in which the factor loadings were constrained to be equal across both subsamples; (2) the model in which the number of factors *and* the pattern of loadings were held invariant across subsamples, but the loadings were not constrained to be equal. When the difference in χ^2 was *not* significant, the hypothesis of an invariant pattern of factor loadings was tenable.

Three factor analytic models for the MBI were specified: (1) the one-factor model which assumes that all MBI-items load on a general composite burnout factor (M_1); (2) the two-factor model in which the emotional exhaustion and depersonalization items cluster into

⁴ LISREL provides standardized residuals that indicate to what extent a discrepancy exists between corresponding elements of the empirical and the estimated covariance matrix. Moreover, modification indices provide information whether or not the fit could be improved if a single constraint is relaxed (i.e. an item is allowed to load on another factor as well).

one dimension (i.e. Green et al.'s Core of Burnout Scale) and the personal accomplishment items constitute another separate dimension (M_4); (3) the original three-factor orthogonal model as described by Maslach and Jackson (1981, 1986)⁵ (M_3); (4) the three-factor oblique model in which the three factors of M_3 are allowed to be correlated (M_4). The fit of the four initially specified models is shown in Table 2.

Table 2 Comparison of MBI factorial models

Model	χ^2	df	AGFI	RMSR	χ^2 -12	TLI
Subsample 1 (n = 334)						
Initial models						
M_0	2807.28	231	.31	.27		
M_1	1134.56	209	.64	.11	.64	.60
M_2	862.51	209	.75	.14	.75	.72
M_3	875.10	209	.76	.18	.74	.71
M_4	694.84	206	.79	.08	.81	.79
M_4 , re-specified	607.66	204	.81	.08	.84	.82
20-item model						
$M_{0, 20 \text{ items}}$	2373.64	190	.35	.26		
M_5	507.18	167	.83	.08	.85	.82
M_5 , re-specified	462.65	165	.84	.07	.87	.84
18-item model						
$M_{0, 18 \text{ items}}$	2009.59	153	.39	.25		
M_6	375.22	132	.85	.07	.87	.85
Subsample 2 (n = 333)						
Initial models						
M_0	3122.92	231	.25	.30		
M_1	1012.54	209	.67	.10	.72	.69
M_2	899.49	209	.76	.16	.76	.74
M_3	924.60	209	.76	.21	.75	.73
M_4	691.80	206	.80	.09	.83	.81
M_4 , re-specified	559.61	204	.84	.07	.86	.85
20-item model						
$M_{0, 20 \text{ items}}$	2666.97	190	.29	.29		
M_5	468.88	167	.84	.07	.88	.86
M_5 , re-specified	418.23	165	.86	.06	.90	.88
18-item model						
$M_{0, 18 \text{ items}}$	2154.95	153	.34	.28		
M_6	319.61	132	.87	.06	.91	.89

Note. For all χ^2 , $p < .001$; For M_0 - M_6 see text.

⁵ The test-authors do not explicitly claim that the MBI-dimensions are uncorrelated. Nevertheless, in constructing the MBI subscales they used an orthogonal factor model instead of an oblique model (Maslach & Jackson, 1981, 1986). The latter would probably have resulted in slightly different subscales.

The probability levels of all chi-square statistics are less than .001, indicating a rather poor absolute fit. Most probably this is caused by the large sample sizes. In both samples, the best relative fit of the three models is found for M_4 . This fit is better than that of the similar three-factor oblique model in the sample of Gold et al. (1989) (χ^2 -I2 = .81; TLI = .78) and quite comparable to the fit reported by Byrne (1991) in her three samples (χ^2 -I2 between .78 and .83; TLI between .75 and .81)⁶.

In the second step, the fit of M_4 is further improved by allowing item 12 ("I feel very energetic" - Personal Accomplishment) and item 16 ("Working with people directly puts too much stress on me" - Emotional Exhaustion) to load as well on the emotional exhaustion and personal accomplishment factor, respectively. The fit of this re-specified oblique model ($M_{4 \text{ re-specified}}$) improves significantly in both samples ($\delta\chi^2_{(2)} = 87.18$ and 132.19 ; $p < .001$). An additional factor-loading of item 12 on emotional exhaustion clearly makes sense from a psychological point of view since "not feeling energetic" can be considered as just another symptom of exhaustion. In a similar vein, experiencing stress that results from working with people directly (item 16) can be interpreted as a sign of diminished personal accomplishment. Following the more restrictive suggestions of Anderson and Gerbing (1988) for scale development, M_5 was specified with items 12 and 16 deleted. Since this 20-item model is not nested in M_0 , a new null-model ($M_{0, 20 \text{ items}}$) had to be evaluated. According to the incremental fit indices the relative fit of M_5 is slightly better than that of $M_{4 \text{ re-specified}}$ in both subsamples. Since the relative fit indices still did not reach the criterion of .90, attempts were continued to further improve the model. Accordingly, item 13 ("I feel frustrated by my job" - Emotional Exhaustion) and item 18 ("I feel exhilarated after working closely with my patients" - Personal Accomplishment), were allowed to load on depersonalization factor as well ($M_{5 \text{ re-specified}}$). The fit of the model improved significantly in both subsamples ($\delta\chi^2_{(2)} = 44.53$ and 50.65 , $p < .001$). Again, both items were dropped from the model subsequently (M_6), which resulted in a slightly improved relative fit in both subsamples. Although the fit of subsample 1 was still somewhat below .90, inspection of the standardized residuals and the modification indices revealed that no further improvements could be made.

The last step was to test the hypothesis of an invariant pattern of factor loadings across

⁶ The values of the lacking incremental fit indexes have been computed by the authors using the data presented by Gold et al. (1989) and Byrne (1991).

the subsamples. As outlined above, the factor structure of the final model (M_6) was tested twice across subsamples. First, the factor loadings were constrained to be equal ($\chi^2_{(279)} = 712.19$; $p < .001$). Next, the number of factors and the pattern of loadings were held invariant, whereas the loadings were unconstrained ($\chi^2_{(264)} = 688.86$; $p < .001$). The hypothesis of an invariant pattern of factor loadings was confirmed since the difference in fit was non-significant ($\delta \chi^2_{(15)} = 23.33$, $p = .10$).

Tabel 3 Comparison of BM factorial models

Model	χ^2	df	AGFI	RMSR	χ^2 -I2	TLI
Subsample 1 (n = 334)						
M_0	4726.45	210	.15	.39		
M_1	1836.97	189	.63	.13	.64	.59
M_2	1806.82	186	.54	.23	.64	.60
M_3	726.46	186	.80	.14	.88	.86
$M_{3, \text{re-specified 1}}$	483.47	185	.85	.05	.93	.92
$M_{3, \text{re-specified 2}}$	483.50	186	.85	.05	.93	.93
Subsample 2 (n = 333)						
M_0	4778.80	210	.13	.41		
M_1	1700.17	189	.52	.12	.67	.63
M_2	1743.00	186	.52	.20	.66	.62
M_3	694.22	186	.81	.13	.89	.87
$M_{3, \text{re-specified 1}}$	473.18	185	.85	.05	.94	.93
$M_{3, \text{re-specified 2}}$	476.75	186	.85	.05	.94	.93

Note. For all χ^2 , $p < .001$; For M_0 - M_4 see text.

In order to assess the factorial validity of the BM, three alternative models were tested against M_0 in the first step: (1) the one-factor model (M_1); (2) the three-factor oblique model according to Pines and Aronson (1981)⁷ (M_2); (3) the three-factor oblique model suggested by Enzmann and Kleiber (1989)⁸ (M_3). Table 3 clearly shows that M_3 has a better relative fit compared to M_1 and M_2 in both subsamples.

⁷ Physical exhaustion (7 items: 1, 4, 7, 10, 13, 16, 20).
Emotional exhaustion (7 items: 2, 5, 8, 11, 14, 17, 21).
Mental exhaustion (7 items: 3, 6, 9, 12, 15, 18, 19).

⁸ Demoralization (10 items: 9, 11, 12, 13, 14, 15, 16, 17, 18, 21).
Exhaustion (6 items: 1, 4, 5, 7, 8, 10).
Loss of motive (5 items: 2, 3, 6, 19, 20).

In the second step, the fit of M_3 was improved by allowing item 2 ("feeling depressed" - Loss of Motive) to load on the demoralization factor as well ($M_{3 \text{ re-specified } 1}$). This adjustment is defended on psychological grounds: depressed mood can be considered an affective component of demoralization. Re-estimation of $M_{3 \text{ re-specified } 1}$ resulted in a significant improvement of the model fit in both subsamples ($\delta \chi^2_{(1)} = 242.99$ and 221.04 , $p < .001$). Since in $M_{3 \text{ re-specified } 1}$ the estimated factor loading of item 2 on the loss of motive factor was non-significant, an alternative model was re-estimated with item 2 loading on the demoralization factor *instead* of loss of motive factor ($M_{3 \text{ re-specified } 2}$). Although the relative fit of both re-specified models is similar, $M_{3 \text{ re-specified } 2}$ is preferred as the final model, because of its superior simple structure (cf. Anderson & Gerbing, 1988).

Finally, the invariance of the pattern of factor loadings of $M_{3 \text{ re-specified } 2}$ across both subsamples was examined. The model that assumed the factor loadings to be equal in both subsamples resulted in a $\chi^2_{(390)}$ of 948.32 ($p < .001$). When the loadings were allowed to load independently across the subsamples, given the number of factors and the pattern of the loadings, a comparable fit was obtained ($\chi^2_{(372)} = 936.70$; $p < .001$). Therefore, the hypothesis of an invariant pattern of factor loadings of $M_{3 \text{ re-specified } 2}$ across both subsamples was tenable ($\delta \chi^2_{(18)} = 11.62$, $p = .86$).

In conclusion: the three-dimensional structure of the MBI is confirmed. However, the oblique model with three correlated factors fits better to the data than the original orthogonal model postulated in the test-manual. Besides, four items are found to be more complex since they load on two burnout dimensions simultaneously. Re-specifying the model without these items resulted in a significantly better fit. The BM seems to have a three-dimensional rather than a one-dimensional structure. That is, our results confirm the three-dimensional oblique model that has been suggested by Enzmann and Kleiber (1989). However, in our subsamples one particular item loads on a different factor.

Congruent and discriminant validity

In order to study the congruent and discriminant validity of both burnout-measures, a second-order factor analytic model of the scale-scores has been developed with LISREL. Congruent validity is demonstrated when different measures of the same construct load on one factor. Discriminant validity is shown when different measures load on different factors.

Six burnout dimensions (i.e. MBI-Emotional Exhaustion, MBI-Depersonalization, MBI-Personal Accomplishment, BM-Demoralization, BM-Exhaustion, and BM-Loss of Motive) as well as Somatic Complaints and Psychological Strain were included in the analyses. For reasons of comparability with other studies, the original MBI-and BM-subscales were used. Furthermore, the VOS-D scales were not included in all four studies that are incorporated in the present composite sample, so the sizes of the subsamples were somewhat smaller than in the previous analyses ($n_1 = 222$ and $n_2 = 214$). Table 4 shows the correlations between the subscales.

Table 4 Correlation matrix of the burnout and VOS-D subscales

	1	2	3	4	5	6	7	8
1 BM-Demoralization		.68	.68	.66	.37	-.25	.56	.68
2 BM-Exhaustion	.64		.67	.76	.37	-.31	.59	.66
3 BM-Loss of motive	.70	.66		.70	.38	-.51	.50	.75
4 MBI-Emotional exhaustion	.60	.76	.64		.60	-.44	.53	.68
5 MBI-Depersonalization	.51	.38	.48	.56		-.45	.24	.39
6 MBI-Personal accomplishment	-.25	-.25	-.53	-.37	-.40		-.17	.43
7 VOS-Somatic complaints	.49	.50	.42	.51	.31	-.18		.51
8 VOS-Psychological strain	.69	.65	.73	.67	.46	-.36	.48	

Note. Above diagonal subsample 1 ($n = 222$), beneath diagonal subsample 2 ($n = 214$).

In examining the congruent and discriminant validity of both burnout measures, the previously outlined three-step approach was applied.

In the first step, two models were tested in both subsamples against M_0 : (1) the one-factor model, assuming maximum convergency; i.e. all burnout-subscales and VOS-D subscales were supposed to load on one general distress factor (M_1); (2) a two-factor model with Depersonalization and Personal Accomplishment as a separate second factor (M_2).

Table 5 Second-order factor models of burnout measures

	χ^2	d	AGFI	RMSR	χ^2 -I2	TLI
Subsample 1 (n = 222)						
M ₀	1095.92	28	.13	.48		
M ₁	131.66	20	.76	.07	.90	.85
M ₂	115.19	19	.78	.06	.91	.87
M _{2, re-specified}	82.01	18	.82	.05	.94	.91
Subsample 2 (n = 214)						
M ₀	994.63	28	.15	.47		
M ₁	119.71	20	.80	.06	.90	.86
M ₂	110.68	19	.80	.05	.91	.86
M _{2, re-specified}	103.28	18	.79	.05	.91	.86

Note. All $p < .001$; For M₀ - M₂ see text.

As can be seen from Table 5, M₂ fits slightly but significantly better than M₁ in both subsamples ($\delta \chi^2_{(1)} = 16.47, p < .001$ and $\delta \chi^2_{(1)} = 9.03, p < .01$). Apparently, the eight measures do not refer to one general dimension of distress. Rather, burnout seems to be a two-dimensional construct. Additionally, an alternative three-factor model was explored with separate MBI, BM and VOS-D factors, in order to assess the effect of possible method variance. Unfortunately, this model was not identified (i.e. the PSI-matrix was not positive definite). This was most probably caused by the high intercorrelations of the MBI and BM subscales (see Table 4).

In the second step, M₂ was re-specified, allowing Emotional Exhaustion to load on both factors simultaneously (M_{2, re-specified}). In both subsamples, this re-specified model fits significantly better than M₂ ($\delta \chi^2_{(1)} = 33.18, p < .001$ and $\delta \chi^2_{(1)} = 7.40, p < .01$). Obviously, emotional exhaustion is not only related to burnout as measured by the BM and to somatic and mental symptoms, but also to both other MBI-dimensions. However, it should be noted that despite the slightly superior fit of the two-factor model, both factors are modestly to highly correlated⁹. Further inspection of the standardized residuals and the modification indices of M_{2, re-specified} did not suggest any improvement of the fit of the model.

⁹

In evaluating the strength of relationships we followed the classification of Cohen and Holliday (1982): a correlation below .19 is very low; .20-.39 is low; .40-.69 is modest; .70-.89 is high; and .90-1.00 is very high. These guidelines for interpretation are rules of thumb, rather than definitive indicators.

Table 6 Estimated factor-loadings of subscales on best fitting model ($M_{2, \text{re-specified}}$) (LISREL, standardized solution)

Subscale	Subsample 1		Subsample 2	
	I	II	I	II
BM-Demoralization	.85		.81	
BM-Exhaustion	.81		.81	
BM-Loss of Motive	.83		.84	
MBI-Emotional Exhaustion	.61	.39	.60	.28*
MBI-Depersonalization		.80		.76
MBI-Personal Accomplishment		-.56		-.53
VOS-Somatic Complaints	.65		.58	
VOS-Psychological Strain	.82		.84	
Intercorrelation factors		.61		.75

Note. All $p < .001$ except *, $p < .05$.

In the third and concluding step, the invariance of the pattern of factor loadings of $M_{2, \text{re-specified}}$ was investigated (see Table 6). As in the previous analyses, first the model was fitted in which the factor loadings were constrained to be equal in both subsamples ($\chi_{(43)}^2 = 187.57, p < .001$). Next, the number of factors as well as the pattern of loadings were held invariant, whereas the loadings were freely estimated by the model ($\chi_{(36)}^2 = 184.97, p < .001$). Since the fit of both models did not differ significantly ($\delta \chi_{(7)}^2 = 2.60, p = .95$), the pattern of factor loadings is considered to be invariant across both subsamples.

Since two of the BM-subscales and MBI-Emotional Exhaustion load strongly on one common factor (Factor I), the convergent validity of these measures is demonstrated (see Table 6). Moreover, 54% of the variance of the BM-total score is shared with MBI-Emotional Exhaustion ($r = .73$). Obviously, these scales refer to one underlying core element of burnout (i.e. exhaustion). However, in contrast to the attitudinal component of the burnout syndrome that is constituted by depersonalization and reduced personal accomplishment (Factor II), this core element cannot be validly discriminated from self-reported somatic complaints and psychological strain.

In sum: burnout appears to be a two-dimensional construct consisting of feelings of exhaustion that are related to other physical and psychological symptoms, and of negative

attitudes towards recipients (depersonalization) and towards one's job (reduced personal accomplishment).

Discussion

The present study investigates the construct validity in the two most widely employed measures of burnout. The three-factor structure of the MBI was clearly confirmed in our sample of Dutch nurses. Although most explorative factor analytic studies yielded similar results, the three-factor structure is by no means self-evident, particularly when *specific* occupational samples are investigated. For instance, Iwanicki and Schwab (1981) found strong evidence for the existence of *two* depersonalization subscales in American teachers: depersonalization as it relates to the job, and to students, respectively. In the same vein, Firth et al. (1985) found that among British nurses, the emotional exhaustion subscale includes two separate constructs, which they labeled, 'frustration and discouragement about work' and 'emotional draining'. In the present study no such splitting of MBI-factors occurred. The results of our LISREL analyses indicate that the MBI consists of three different and modestly correlated dimensions ($.37 < r < .60$). Our findings agree with the results of the only two comparable studies that employed a similar confirmatory factor-analytic approach. Gold et al. (1989) and Byrne (1991) also found that the three-factor oblique model fitted significantly better to their data than a single-factor model or a three-factor orthogonal model.

Furthermore, our results suggest that four MBI-items (i.e. items 12, 13, 16, 18) are more complex since they load on two factors instead of one. Many other factor-analytic studies confirmed the weakness and ambiguity of item 12 ("I feel very energetic"). Generally these studies report that this personal accomplishment item loads between -.30 and -.45 on the emotional exhaustion dimension as well (Maslach & Jackson, 1981, 1986; Iwanicki & Schwab, 1981; Belcastro et al., 1983; Firth, et al, 1985; Powers & Gose, 1986; Green & Walkey, 1988; Lahoz & Mason, 1989, Byrne 1991). Accordingly, from a factorial validity point of view, item 12 should be removed from the MBI. The same is true - to a somewhat lesser degree - for item 16 ("Working with people directly puts too much stress on me" - emotional exhaustion) that also loads significantly on the personal accomplishment

dimension (Byrne, 1991; Sirigatti et al., 1988). The problems with the remaining two items are probably either sample or country specific. This issue has to be clarified in future research that compares samples from different occupations and/or nations.

The factorial validity of the BM is somewhat more equivocal. On the one hand, in our sample a similar three-factor structure was identified as in the recent German study of Enzmann and Kleiber (1989). On the other hand, all BM-subscales load highly on the exhaustion component of the second-order factor model (see Table 6), which suggests that they refer to a similar underlying construct. Thus, the three-factor structure of the BM is supported only to a limited degree by our results. It appears that more research is needed, particularly to establish whether or not the three BM-dimensions show different patterns of correlations with other (personality and organizational) variables that can be meaningfully interpreted within a specific theoretical framework. Until such validation efforts have been successful, the BM should conceptually speaking, be considered a one-dimensional measure of exhaustion, despite some psychometric evidence of three BM-components.

Three conclusions can be drawn from our study on the congruent and discriminant validity of the burnout measures. First, the BM and the MBI assess a similar underlying construct that is central to burnout: exhaustion. From the time that the concept was introduced, the unique content of burnout was conceived in terms of the depletion of an individuals energy resources (Maslach & Schaufeli, 1993). Also more recently, the core meaning of exhaustion has been emphasized in the light of the empirical burnout-research of the past decade (Koeske & Koeske, 1989; Shirom, 1989). Our findings agree with this view, since in our validity analyses, exhaustion appears to be the most dominant and robust dimension. For instance, the emotional exhaustion is by far the strongest factor in the MBI. Also, the best fitting second-order factor analytic model confirms the domination of the exhaustion dimension (see Table 6).

Secondly, exhaustion can be conceptually differentiated from, but is modestly positively correlated with a second burnout dimension that comprises depersonalization and reduced personal accomplishment. In the present study indications have been found for the two-dimensionality of burnout with exhaustion as a core element that is accompanied by negative attitudes towards one's patients (depersonalization) and towards one's performance on the job (reduced personal accomplishment). In the best fitting second-order factor analytic

model, MBI-Emotional Exhaustion, loads on the exhaustion- as well as on the attitudinal factor. This illustrates the conceptual relatedness of exhaustion and negative attitudes that together constitute the burnout syndrome, as measured with the MBI. Other studies suggested a different pattern of burnout-dimensions, however. For instance, Williams (1989) argued that exhaustion and depersonalization are the most central burnout-dimensions, whereas personal accomplishment is strongly related to personality characteristics (i.e. empathy). In a similar vein, Green et al. (1991) proposed the Core of Burnout Scale which is the composite score of the MBI-Emotional Exhaustion and MBI-Depersonalization subscales.

The nature of the burnout-construct cannot be determined exclusively in psychometric investigations such as the present one. In order to study the construct validity of burnout in greater detail, additional theory-driven research is needed in which an a priori formulated models are tested. For instance, Koeske and Koeske (1989) contend that the MBI subscales function in different ways within a complex demand ---> stress ---> strain ---> outcome model. Indeed, they found strong evidence that emotional exhaustion (strain) mediates the relationship between jobstress (case load) and outcome (intention to quit), whereas accomplishment was found to moderate the exhaustion - outcome relationship. Leiter (1993) proposed a model in which burnout is conceived as a cognitive-emotional reaction to stress in human service settings. He considers emotional exhaustion as the central factor, and depersonalization and diminished personal accomplishment as secondary cognitive aspects of burnout. The results of his study indicate that particular coping patterns and sources of social support are associated with particular aspects of burnout, as predicted by the model.

Thirdly, exhaustion is particularly strongly related with somatic complaints and psychological strain. Accordingly, this study raises serious doubts about the specificity of this core element of burnout. Our study suggests that emotional exhaustion overlaps with non-specific physical and mental symptoms. This is illustrated by the modest correlations between the corresponding subscales (Table 4) and by the high factor-loadings of the VOS-D scales on the first factor (Table 6). These findings agree with other validity studies that showed a considerable overlap, particularly between emotional exhaustion and depression (Meier, 1984, Firth, et al., 1986).

The construct validity analyses leave us with a rather paradoxal conclusion: Exhaustion is conceptually and psychometrically speaking, the *most* prominent and robust feature of

burnout, but at the same time it appears to be the *least* specific element of the syndrome. This is not very surprising since mental exhaustion can be considered the affective component of burnout, whereas depersonalization and reduced personal accomplishment constitute the attitudinal or cognitive component of the syndrome. Watson and Pennebaker (1989) argued that negative affect, which they described as a general dimension of subjective distress, strongly influences the individual's perception of health complaints. In their view, subjective health measures (like the VOS-D scales in the present study) reflect to a large extent the perceptions of and the interpretations about the individual's internal sensations. This might be considered an explanation for the relatively poor discriminant validity of the burnout measures.

Unfortunately, our study has some obvious weaknesses. First of all, we exclusively relied on self-report measures. Future attempts to investigate the construct validity should also include more objective measures, so that method bias can be ruled out. Only very recently have researchers begun to study burnout in relation to objective physiological (Melamed, Kushnir & Shirom, 1992) and performance data (Schaufeli, Keijsers & Reis-Miranda, 1992). Secondly, we analyzed translated versions of burnout measures in a non-English speaking country, whereas most validity studies were carried out in Anglo-Saxon countries. Although positive indications have been found for the cross-national validity of the MBI (for a review: Golembiewski, Scherb and Boudreau, 1993), it must still be confirmed by a vigorous study. Accordingly, we cannot rule out the possibility that our results were influenced by cross-national factors. Finally, and probably related to the previous issue, the variances of the MBI-subscales in our study are significantly lower than the values reported in the American test-manual (Maslach & Jackson, 1986). Accordingly, this somewhat restricted range might have influenced our results; for instance, the relatively low internal consistencies of two MBI subscales. It is also possible that the factor-structure is affected by the somewhat restricted variances of the MBI. In contrast, the variances of BM and the VOS-D scales are quite comparable with the values obtained by the test-authors (cf. Pines, Aronson, & Kafry, 1981; Bergers et al., 1986).

Despite these critical remarks we would like to conclude from the current validity study that the specificity of the burnout-syndrome lies in the *combination* of a negative affective state (i.e. exhaustion), and particular negative attitudes towards others for whom one is

responsible (depersonalization) and towards one's job performance (reduced personal accomplishment). According to this conceptualization of burnout, the syndrome can only occur in professionals who predominantly work with recipients for whom they are responsible (e.g. nurses, teachers, managers, prison guards). This does not mean that burnout is restricted to these particular occupational groups per se. Of course, individuals in other occupational groups can feel exhausted and they may also develop negative attitudes towards their job performance. However, their negative attitudes cannot be described in terms of depersonalization or dehumanization since they are not dealing with recipients. This means that if one would like to study burnout in other occupational groups a thorough analysis is needed of the core elements of these particular jobs. This would allow researchers to specifically adapt the "depersonalization", and "personal accomplishment" dimensions to these occupations. Such a reanalysis might involve a change in these labels. For example, the core element of an executive job is responsibility for the continuity of the organization. Hence, executive burnout might be characterized by a negative attitude toward this responsibility (e.g., "the profit I make just flows into the pockets of the shareholders"). Such negative attitudes should be described differently, for instance in terms of becoming more cynical towards the organizational goals one is pursuing.

Our validity study shows that the MBI is an adequate self-report measure that can be employed to assess the level of burnout in professionals that do "people work" of some kind. Based on the previous reasoning we would strongly discourage researchers to employ the MBI outside the occupational context it has been designed for. The BM only taps a crucial, but unfortunately rather unspecific dimension of the burnout-syndrome. Basically, this questionnaire indicates the individual's level of subjective distress. Therefore, the BM should be supplemented by an additional scale that assesses the attitudinal component of burnout that is specific for the occupational group under study.

CHAPTER 3

BURNOUT AMONG GENERAL PRACTITIONERS: A PERSPECTIVE FROM EQUITY THEORY¹

Since its "discovery" in the early seventies burnout in human service professions has been considered the result of the demanding and emotionally charged relationships between professional (i.e. caregiver) and recipients (*cf.* Maslach & Schaufeli, 1993). Pioneers such as Maslach (1978) and Freudenberg (1974) emphasized the key role that client- or patient-contacts play in the development of the burnout syndrome. It has been shown that as the amount of contact with recipients increases, either in terms of a higher caseload or a greater percentage of time spent in direct contact burnout is more likely to occur (Koeske & Koeske, 1989; Whitehead, 1989; Lewinston, Conley & Blessing-Moore, 1981; Maslach & Pines, 1977; Savicki & Cooley, 1983; Rogers & Dodson, 1988).

Moreover, burnout is greater when the nature of the contact is especially upsetting, frustrating, or difficult (Maslach & Jackson, 1984; Meadow, 1981; Pines & Maslach, 1978; Ackerley, Burnell, Holder, & Kurdek, 1989; Chiriboga & Bailey, 1986). Accordingly, burnout is related to the quantity as well as to quality of the contacts the professional has with his or her clients. Despite these findings that indicate the importance of the relationship of professionals with their clients, virtually no attention has been paid to the social psychological processes that are involved in these interpersonal contacts between care-giver and recipient. The present study tries to fill this gap between social psychological theory and burnout research by taking a perspective from equity theory. Recently, Buunk and Schaufeli (1993) have argued that this theory provides a promising framework for improving our understanding of burnout.

¹ This chapter has previously been published: Van Dierendonck, D., Schaufeli, W.B., & Sixma, H. (1994). Burnout among general practitioners: a perspective from equity theory, *Journal of Social and Clinical Psychology*, 13, 86-100.

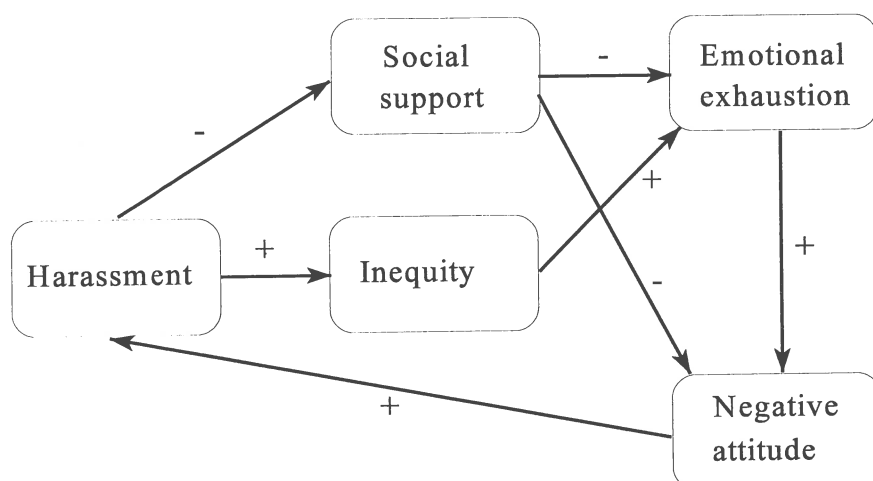


Figure 1 Hypothetical model

We investigated general practitioners (GP's), assuming that the key for understanding burnout is to be found in their emotionally demanding relationships with patients. The importance of good relationships with patients for the GP's well-being was recently demonstrated by a study of Cooper, Rout, and Faragher (1989). They found that job demands related to patient-contacts, patients' expectations, and interruptions by patients had a negative impact on the levels of job satisfaction and mental health of British GP's. Nevertheless, surprisingly little research has been conducted on burnout among general or family practitioners.

The conceptual model that guided the present research is illustrated in figure 1, and is described in greater detail in the next three sections.

Burnout

Burnout is considered to be a long-term stress reaction (Maslach & Schaufeli, 1993).

Although different definitions of burnout exist, it is most commonly described as "a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with other people in some capacity. Emotional exhaustion refers to feelings of being emotionally overextended and depleted of one's emotional resources. Depersonalization refers to a negative, callous, or excessively detached response to other people, who are usually the recipients of one's services or care. Reduced personal accomplishment refers to a decline in one's feelings of competence and successful achievement in one's work" (Maslach, 1993; pp. 20-21).

However, the three burnout-dimensions are not equivalent. Emotional exhaustion is considered to be the key dimension of the syndrome that shows the most robust and consistent relationships with various job stressors such as work overload, lack of social support, and role problems (*cf.* Schaufeli, Enzmann & Girault, 1993). The two other dimensions (*i.e.* depersonalization and reduced personal accomplishment) have often been studied only as an afterthought (*cf.* Shirom, 1989). Recently, Schaufeli and Van Dierendonck (1993) have shown that burnout can be conceptualized as a two-dimensional construct including emotional exhaustion and negative attitudes. In their validity study among nurses a two-dimensional model of burnout fitted best to the data. The first dimension consists of emotional exhaustion and is related to somatic complaints and psychological strain, whereas the second dimension consists of depersonalization (*i.e.* a negative attitude towards one's recipients) and reduced personal accomplishment (*i.e.* a negative attitude towards oneself in relation to the job). Leiter and Maslach (1988) proposed a process model of burnout in which emotional exhaustion arises first in response to a demanding environment that is mainly characterized by emotionally charged relationships with recipients. Emotional exhaustion in turn brings about negative attitudes towards recipients (depersonalization) as professionals attempt to gain emotional distance from them as a way of coping with their exhaustion. Simultaneously, a negative attitude develops towards one's accomplishments in the job (reduced personal accomplishment). Recently this model has been tested in cross-sectional (Leiter, 1993) and longitudinal data (Lee & Ashforth, 1993). Accordingly, emotional exhaustion plays a crucial role in burnout, that differs from negative attitudes like depersonalization and reduced personal accomplishment.

It is likely that these negative attitudes in turn have a negative impact on the quality of

the doctor-patient relationship. That is, such negative attitudes increase the likelihood of harassment by patients because they feel rejected. This agrees with Roter and Hall (1991) who showed that behavior of patients towards their physicians is a measured reciprocal response of the attitude of the physician toward them. Thus, a more negative and distant attitude of burned out GP's toward their patients will reinforce not only the subjective experience of harassment but also the actual demanding behavior of patients. In terms of our model (see figure 1) this means that a negative feedback-loop is hypothesized: demanding contacts with patients (i.e.harassments) are considered to be a precursor of burnout, whereas burnout aggravates the demanding nature of these contacts.

Equity

According to equity theory, people evaluate their relationships with others in terms of rewards, costs, investments, and profits (*cf.* La Gaipa, 1977). They expect that what they invest and gain from a relationship is proportional to what the other party in the relationship invests and gains (Adams, 1965; Walster, Walster, & Berscheid, 1978). However, unlike most other relationships, the relationship between GP's and patients is basically complementary: the physician is supposed to provide care and give attention, whereas the patient is supposed to receive. Hence, the doctor and the patient enter into a relationship from different perspectives. As a result, it will be difficult to establish an equitable relationship (Roter & Hall, 1991). Equity theory predicts that when people experience inequity, for example when GP's meet harassment by patients, they will try to reduce this tension in order to restore equity. Walster et al. (1978) suggest several strategies that someone who feels exploited or underbenefitted could employ to obtain equity. However, most of these strategies, such as demands for compensation or retaliation, are inappropriate within a doctor-patient relationship. Therefore, doctors who experience a lack of reciprocity will most likely use a psychological strategy to obtain equity, for instance by developing negative attitudes towards patients. Such callous, cynical, and impersonal attitudes constitute a symptom of the burnout syndrome. A recent study by VanYperen, Buunk, and Schaufeli (1992) among Dutch hospital nurses showed that feelings of inequity were indeed an important determinant of burnout.

Social support

Finally, in our study, we also included perceived social support. A number of cross-sectional studies showed that burnout is positively associated with a lack of social support from colleagues and superiors (e.g., Constable & Russel, 1986; Davis-Sacks, Jayartne & Chess, 1985; Shinn, Rosario, March & Chestnut, 1984). This finding is confirmed by longitudinal studies (Jackson, Schwab, & Schuler, 1986; Leiter, 1990; Wade, Cooley & Cavicky, 1986). In addition, we hypothesize a negative relationship between harassment and social support. A number of studies has shown that persons under stress are less likely to experience social support (for a review see: Buunk & Hoorens, 1992). At least two explanations can be given for this somewhat counterintuitive result. First, individuals who are under stress may not look very attractive for others to affiliate with and offer them support. Secondly, individuals under stress may be reluctant to look for support out of embarrassment or of fear of looking incompetent. As Maslach (1982) pointed out, the latter might particularly be the case among human service professionals.

In sum, our general research question is: What effect has experiencing harassment by patients on burnout among GP's and what role do feelings of inequity and social support play? More particularly, our model assumes that demanding relationships with patients (harassment) are indirectly related to burnout through the experience of inequity and through a lack of social support. Moreover, the development of negative attitudes aggravates the demanding relationship with patients thereby increasing the risk of burning out.

Method

Subjects

Participants were drawn from a registration system at The Netherlands Institute of Primary Health Care. This system, encompassing virtually all general practitioners established in The Netherlands, allowed us to draw a national exemplary sample. In selecting participants, gender, age, and grade of urbanization were taken into account. The sample was stratified according to practice form (i.e., single, shared, group practice, health care center). Eight hundred and one practitioners were mailed the questionnaire, the response rate was

71%. The sample consisted of 482 male (85%) and 85 female (15%) practitioners. Their mean age was 43 years (range 26 to 68) with a mean of 12 years of work experience (range 0 to 40).

Measures

Burnout. Burnout was measured with the Maslach Burnout Inventory, originally consisting of three subscales: Emotional Exhaustion, Depersonalization and Personal Accomplishment (Maslach & Jackson, 1986). The items 12 ("I feel energetic") and 16 ("Working with people directly puts too much stress on me") were omitted, as suggested by Byrne (1993) and Schaufeli and van Dierendonck (1993). Using confirmatory factor analysis, both studies showed that the factorial validity of these two items is insufficient. Following the two-dimensional conceptualization of burnout of Schaufeli and Van Dierendonck (1993), it is assumed that reduced Personal Accomplishment and Depersonalization constitute the second dimension of burnout: negative attitudes towards the recipients and towards oneself in relation to the job.

Harassment by patients. Harassment was measured using an adaptation of a scale developed by Mechanic (1970). The original scale contains 14 items, each of which describes one type of patient behavior (e.g., "a patient who insisted on referral to a consultant although you did not regard the referral necessary"). The original scale was supplemented by four items. The scale was hereby adapted to patient behavior deemed important for Dutch general practitioners working in the nineties. The respondent was asked about two aspects of an encounter with such a patient using two four-point scales: a frequency scale, ranging from *never* (1) to *often* (4) and an intensity scale ranging from *no burden* (1) to *very burdensome* (4).

Perception of inequity. The GP's perception of inequity, that is, the balance of investments and outcomes in the relationships with patients, was measured using three items (e.g., "How often do you feel you invest more in the relationships with patients than you receive in return?"). A five-point scale was used, ranging from *never* (1) to *often* (5).

Social support. Social support was measured using a scale from the Dutch adaptation of the workstress questionnaire developed by Caplan, Cobb, French, van Harrison, and Pinneau (1975), the "Vragenlijst Organisatiestress-Doetinchem" (VOS-D) (Bergers, Marcelissen, & De Wolff, 1986). The instruction prompts respondents to indicate the amount of

support they perceive from three sources: (a) colleagues with whom one shares a practice;, (b) colleagues in the group that fill in for one another in the evenings and in weekends (locum tenency); (c) their spouse. Each subscale consisted of five items with an answering format ranging from *never* (1) to *always* (4).

As can be seen from the values of Cronbach's alpha's on the diagonal of Table 1, the internal consistencies of the scales included in the present study is quite acceptable, with only one exception (i.e. depersonalization).

Analysis

Linear structural analyses were employed using LISREL VII with general least square estimation to assess the fit of the proposed model (Jöreskog & Sörbom, 1989). The fit indices produced by LISREL are found to vary with sample size (Marsh, Balla, & McDonald, 1988). Therefore, the absolute chi-square goodness-of-fit index and the other LISREL fit-indices (i.e., Adjusted-Goodness-of-Fit - AGFI, and Root Mean Square Residual - RMSR) are supplemented by two incremental fit indices: the Tucker-Lewis Index (TLI) and the Relative Noncentrality Index (RNI) for assessing the relative fit of a model (McDonald & Marsh, 1990). Incremental fit indices indicate the fit relative to a so-called null-model, in which all measurement variables each constitute a separate construct that are unrelated to one another.

The model, as displayed in Figure 1, consists of hypothetical constructs or latent variables that are estimated by one or more empirical, manifest variables that are directly observed (i.e. the scales introduced before). The so-called measurement model of LISREL specifies how the unobserved latent variables are measured in terms of the observed manifest variables. More specifically, the measurement model estimates the strength of the relationships between the corresponding latent and manifest variables. In order to be mathematically identified, each latent variable needs to be estimated by at least two manifest variables. However, emotional exhaustion and inequity are only estimated by a single manifest variable. As was suggested by Kenny (1979), this problem can be circumvented by using reliabilities (i.e. Cronbach's alpha's) to estimate the strength of the relationship between latent and manifest variables. According to his suggestions, this strength equals the square root of the reliability of the manifest variable. Consequently, the random error variance is one minus the reliability.

Table 1 Descriptive statistics and intercorrelation of variables ($N=567$)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Emotional Exhaustion ¹	18.31	6.96	(.88)								
2. Depersonalization	9.57	3.67	.45	(.64)							
3. Pers. Accomplishment ²	26.66	3.20	-.33	-.44	(.74)						
4. Harassment, frequency	43.02	5.56	.38	.35	-.23	(.79)					
5. Harassment, burden	37.58	7.79	.37	.34	-.20	.57	(.77)				
6. Inequity	8.73	2.03	.47	.33	-.22	.42	.36	(.74)			
7. Support, spouse	8.50	1.92	-.10	-.16	.14	-.01	-.06	-.01	(.82)		
8. Support, colleagues	7.67	2.36	-.17	-.09	.07	-.09	-.16	-.04	.29	(.77)	
9. Support, locum tenency	6.10	2.35	-.20	-.11	.15	-.13	-.08	-.11	.18	.33	(.75)

¹ with item 16 excluded² with item 12 excluded

Results

Table 1 shows the mean values, standard deviations, internal consistencies (Cronbach's alpha's), and intercorrelations of the variables included in the current study.

An indication of the level of burnout among GP's was obtained by comparing the scores of this sample with a group of 667 Dutch nurses from different work settings (Schaufeli & Van Dierendonck, 1993). Compared to GP's, nurses experience significantly less emotional exhaustion ($M = 15.17$, $SD = 7.72$; $t = 7.45$; $p < .001$), less depersonalization ($M = 5.94$, $SD = 3.98$; $t = 16.77$; $p < .001$) and more personal accomplishment ($M = 28.46$, $SD = 4.30$; $t = 8.21$; $p < .001$). In other words, GP's exhibit significantly more burnout symptoms on all three dimensions.

Before actually testing the hypothetical model, the adequacy of the measurement model is evaluated. Anderson and Gerbing (1988) suggest a procedure to test whether or not the measurement model is misspecified, in which case a fitting model cannot be found. In order to assess possible misspecifications in the measurement model two additional models have to be fitted to the data: (1) the so-called full saturated model, in which all parameters relating the five latent variables included in the model to one another are estimated; (2) the so-called null submodel, in which all these parameters are fixed at zero. Next, a chi-square

test is constructed using the chi-square value of the full saturated model ($\chi^2 = 33.07$) and the degrees of freedom of the null submodel ($df = 29$). Since this pseudo chi-square test failed significance ($p = .28$), it is unlikely that misspecifications have occurred in the measurement model. Hence, we can proceed to testing the hypothetical model.

Table 2 Goodness-of-fit indices of burnout-models ($N = 567$)

	χ^2	df	p	AGFI	RMSR	TLI	RNI
Null-model	1018.33	36	.000	.54	.240		
Null submodel	215.07	29	.000	.87	.251	.76	.79
Full saturated model	33.07	19	.024	.97	.032	.97	.97
Hypothetical model	34.18	22	.047	.97	.032	.98	.97
Respecified model	34.90	23	.053	.97	.034	.98	.97

According to both incremental fit indices, the fit of the hypothetical model (see Figure 1) is quite satisfactory being well above .90, the criterion suggested by Bentler and Bonnet (1980). The path from social support to negative attitude proved to be nonsignificant. Therefore, this relationship was constrained at zero. This respecification of the hypothetical model did not significantly reduce the fit to the data ($\delta \chi^2_{(1)} = .72, p = .41$). The relationships of this respecified model explain 39% of the variance of emotional exhaustion and 40% of the variance of the GP's negative attitude.

Figure 2 shows the so-called standardized solution of the respecified model. The path-coefficients can be interpreted as standardized regression coefficients. As hypothesized, both inequity and social support mediate the relationship between harassment by patients and emotional exhaustion. However, the indirect effect of harassment through feelings of inequity is much stronger than through lack of social support. Moreover, emotional exhaustion is strongly related to negative attitudes, which in its turn is related to harassment. Accordingly, the negative feedback loop is confirmed. However, contrary to expectations, social support was not significantly related to negative attitude.

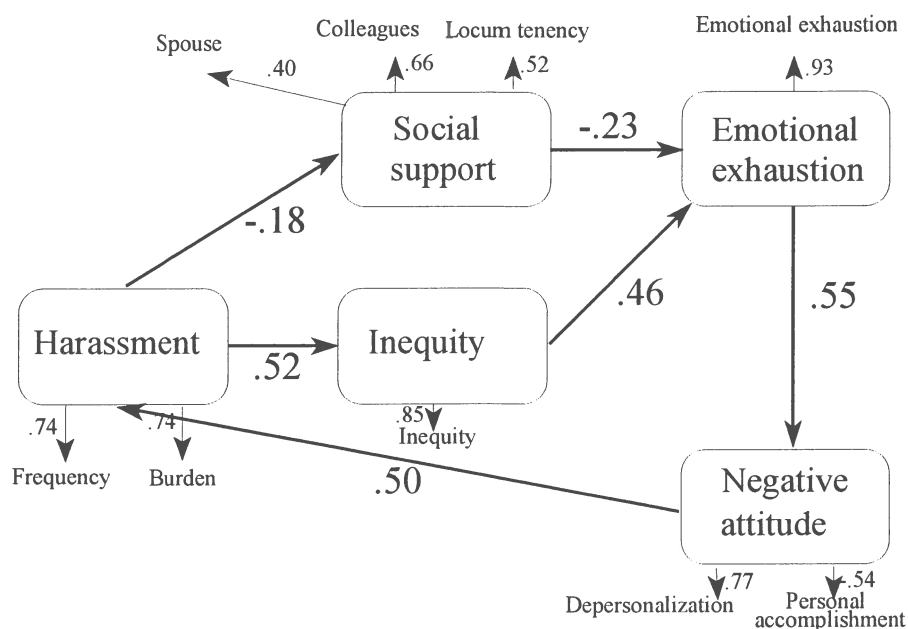


Figure 2 Respecified model, standardized solution

Discussion

The results of this study present a strong case of burnout among general practitioners as related to experiencing harassment by patients. This finding lends credence to Maslach's (1978) and Freudemberger's (1974) early view that the emotional and demanding nature of the professional-recipient relationship is a root-cause of burnout. Our results for the Dutch situation are also largely consistent with those obtained by Cooper et al. (1989) with British general practitioners, who found that demands of the job caused by patients are a main predictor of the GP's mental well-being. The relevance of harassment by patients is supported by the high incidence of such events: twenty-five percent of the Dutch general practitioners in the present study reported having experienced some kind of physical threat during the year preceding the survey. Apparently, such experiences leave a mark, as is testified by the relative high level of burnout among GP's compared with nurses from various health care settings.

The finding that depersonalization and reduced personal accomplishment constitute

a separate aspect of burnout (Schaufeli & van Dierendonck, 1993) is replicated in this study by the acceptance of the hypothesized measurement model. The consistency of the results across these two studies confirms the validity of the two-dimensional conceptualization of burnout including: emotional exhaustion and negative attitudes towards one's recipients and towards oneself.

The internal consistency of depersonalization is somewhat low. However, the negative impact on the validity of our results is somewhat reduced since we analyzed relationships between latent variables. This means that the variance of the latent variable "negative attitudes" is simultaneously estimated by depersonalization and personal accomplishment.

Our model confirms the negative feedback loop of the GP's negative attitude to harassment. This agrees with Roter and Hall (1991), who pose that the relationship between professional and patient is reciprocal by its very nature. Negative attitudes from doctors and patients reinforce each-other, which eventually may lead to increased feelings of burnout among GP's. However, because of the cross-sectional nature of this study, one should be careful with inferences about cause and effect. The existence of a negative feedback loop should be confirmed using a longitudinal design.

The role of inequity in generating burnout, as suggested by Buunk and Schaufeli (1993), is supported in this study. In contrast to the findings of VanYperen et al. (1992), in our model inequity is related exclusively to emotional exhaustion. It is interesting to speculate on possible explanations for this difference. A reasonable explanation of this finding is our use of linear structural modelling with LISREL in contrast to MANOVA, that was used by VanYperen et al. (1992). LISREL has the advantage that it takes into account all direct and indirect effects simultaneously. It is therefore possible that in the present study the effect of inequity on depersonalization and personal accomplishment, as reported by VanYperen et al. (1992), manifests itself as an indirect effect through emotional exhaustion. This interpretation is strengthened by the fact that inequity is moderately related to depersonalization ($r = .33$) and personal accomplishment ($r = -.22$), but that these relationships turned out not to be significant in our model.

The results confirm the negative relationship of social support with burnout. The finding that GP's who report more harassment experience less support agrees with the studies reviewed by Buunk and Hoorens (1992) and with the ideas of Maslach (1982). This somewhat counterintuitive finding as well as the previously mentioned negative feedback loop is consistent with the conservation of resources theory (Hobfoll, 1988). This theory stipulates

that resources tend to enrich other resources ("gain spiral") and that lack of resources leads to further loss of resources ("loss spiral"). Social support and positive attitudes can be regarded resources, whereas the experience of harassment can be interpreted as a loss of resources (Hobfoll, Freedy, Lane, & Geller, 1990). An experience of loss, especially caused by chronic stressors like patients who come back repeatedly, may start a loss spiral.

A strong point of our study is that this sample can be regarded as exemplary of all general practitioners in The Netherlands. Furthermore, the response rate is high compared with recently obtained response rates for Dutch general practitioners, that were in the order of 60% (van der Wouden, Hingstman, & Elzinga, 1988).

A limitation of the present study is the conceptualization of equity. The items used focus only on the balance between investments and outcomes in relationships with patients. No explicit reference was made to the general practitioner to compare his or her input and outcome to those of their patients, which would be more in accordance with the original equity formula of Adams (1965). However, the strong relationship between harassment and inequity may be interpreted as support for the concept validity of the equity scale. Patients who call the doctor in the middle of the night for a minor illness or who are aggressive are clearly exploiting the doctor-patient relationship. Besides, "equity is in the eye of the beholder" (Walster et al., 1977) and empirical data suggest that pinning down equity to one formula is easier said than done (Harris, 1983). It can, therefore, be concluded that equity theory and the way it is conceptualized in this study offers a promise to enhance our understanding of the underlying mechanisms of burnout.

As mentioned previously, the model is tested on cross-sectional data and needs to be validated longitudinally. Finally, only self-report data have been included. So future studies should include more objective measures.

The relative high level of burnout among general practitioners emphasizes the relevance of giving attention to the doctor-patient relationship. The importance of inequity in the burnout process suggests that to diminish burnout general practitioners should be provided with the opportunity to restore equity in this relationship. This can be achieved by teaching general practitioners to develop an attitude of "detached concern" (Lief & Fox, 1963). In the same vein, it is important to have general practitioners allow to terminate a relationship with a patient. Terminating a relationship with a patient runs counter to the physician's professional attitude. The general practitioner is there to listen and to help, to devote his attention to the life and problems of another human being (Spence, 1960). At present, this is a point of

considerable controversy in The Netherlands (Schretlen, 1992). In conclusion, the somewhat surprising negative relationship of social support with harassment by patients emphasizes the importance for general practitioners to carefully monitor their relationships with colleagues.

CHAPTER 4

INEQUITY AMONG HUMAN SERVICE PROFESSIONALS: MEASUREMENT AND RELATION TO BURNOUT¹

Since its "discovery" in the early seventies, burnout in the human service professions has been the focus of numerous research efforts. Initial research started with clinical descriptions of burned-out professionals and evolved into a more systematic empirical approach using standardized measures (Maslach & Schaufeli, 1993). The most widely used instrument that is also used in the current study - the Maslach Burnout Inventory (Maslach & Jackson, 1986) - distinguishes between three dimensions of burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment. Early clinical observations suggested that emotionally charged contacts with recipients of care are particularly stressful for professionals (Maslach, 1993). Because working with "difficult" people may put an emotional strain on human services professionals, the issue of demanding recipient-contacts has frequently been dealt with in burnout-research.

Caregiver-recipient relationship

Although various authors have attributed a central role to contacts with recipients as a determinant of burnout (e.g. Cordes & Dougherty, 1993; Jackson, Schwab, & Schuler, 1986; Skorupa & Agresti, 1993), a comprehensive theoretical perspective is lacking. Recently, Buunk and Schaufeli (1993) have argued that equity theory provides a conceptual framework that advances our understanding of the role interactions with recipients play in the development of burnout in the human services.

According to equity theory, people evaluate their relationships with others in terms of

¹ This chapter has previously been published: Van Dierendonck, D., Schaufeli, W.B., & Buunk, B.P. (1996). Inequity among human service professionals: measurement and relation to burnout. *Basic and Applied Social Psychology*, 18, 429-451.

rewards, costs, investments, and profits (cf. La Gaipa, 1977). They anticipate that what they invest and gain from a relationship is proportional to what the other party in the relationship invests and gains (Adams, 1965; Walster, Walster, & Berscheid, 1978). A basic proposition of equity theory is that if people perceive relationships as inequitable, they feel distressed. More particularly, equity theory predicts a curvilinear relationship between equity and distress: perceiving oneself as underbenefited as well as perceiving oneself as overbenefited results in distress, as has been confirmed by studies on intimate relationships (e.g. Sprecher, 1992; VanYperen & Buunk, 1990).

For professionals, the relationship with the recipients of care is inequitable by its very nature. This relationship is basically complementary: the professional is supposed to provide care, assistance, help, advice, support, and so on, whereas the recipient is supposed to receive. Nevertheless, many professionals look for some rewards in return for their efforts; for example, they expect the recipients of their care to show gratitude, or to make a real effort to get well. However, these expectations are seldom fulfilled because recipients are in need of help and take the efforts of the professional for granted (cf. Maslach, 1982, Maslach & Jackson, 1982). In addition, recipients may be unmotivated to follow advice or guidelines and therefore improve only slowly, adding to the inequity as experienced by the professionals.

Professional-organization relationship

The notion that the employee-organization relationship can be understood in terms of an exchange relationship goes back to Barnard (1938). Social exchange models assume that individuals pursue equity in the employee-organization relationship (Hatfield & Sprecher, 1984). Thus, employees feel that they contribute to the organization with their work (e.g. time, effort) and therefore they expect in return rewards or inducements from the organization (e.g. salary, esteem, promotion, career advancement) that are proportional to their contributions.

Organizational conditions such as pay equity, lack of control over one's work, lack of role-clarity, and lack of support by management have been shown to be important determinants of burnout (Schaufeli & Buunk, 1996). It is therefore likely that not only inequity in the professional-recipient relationship, but also perceived inequity in the relationship between professional and organization may play a role in the development of

burnout (Maslach & Jackson, 1984).

Previous research has demonstrated the usefulness of equity theory as a theoretical framework for analyzing the employer-employee relationships in organizations (Hatfield & Sprecher, 1984). However, most investigations were laboratory studies, typically examining employees' reaction to inequitable payment (Mowday, 1991). Although these studies generally support the predictions of equity theory (for a review, see Hatfield & Sprecher, 1984), to date there has been little field research (Summers & Hendrix, 1991). Nevertheless, field studies in related areas such as fairness (which encompasses equity) (e.g. Sashkin & Williams, 1990), or inequity in coworker or supervisor relationships (e.g. Buunk, Doosje, Jans, & Hopstaken, 1993) confirm the hypothesized curvilinear relationship between equity and distress in organizational settings.

Inequity and burnout

The main aim of the current study is to investigate the relationship between burnout and inequity as experienced by human services professionals. In addition to burnout, the Austin Measure (Austin, 1972) that assesses feelings of contentment and distress was included, which is traditionally used to measure distress caused by perceptions of inequity in intimate relationships. By including this instrument our results can be compared to other studies of intimate relationships. Recent studies among nurses (VanYperen, Buunk & Schaufeli, 1992; Schaufeli & Janczur, 1994) and general practitioners (Van Dierendonck, Schaufeli & Sixma, 1994) showed that perceptions of inequity are related to all three dimensions of burnout. However, the measures used in these studies allowed for underbenefited inequity only (e.g. "How often do you feel you invest more in the relationship with patients than you receive back in return"). However, according to equity theory overbenefited inequity is expected to be related to distress (e.g. burnout) as well. Human service professionals often consider their job a calling and perceive the responsibility for others' well-being as their primary concern (Cherniss, 1980). Therefore, they are likely to be deeply personally involved in their relationships with recipients and thus, as in intimate relationships, feeling overbenefited is likely to be stressful.

Measurement of equity

The measures of equity used in this study are based upon research into the effects of inequity in intimate relationships. In this area, two measures of equity have been successfully applied: a detailed and a global measure. In the detailed measure, respondents are asked to indicate separately the contributions and outcomes of themselves and of their partner, respectively. Next, the perception of equity is calculated by the researcher, using the so-called Adams formula (Adams, 1965; Harris, 1983). The global measure asks to indicate on a single item the overall perception of equity (the so-called Hatfield Global Measure; Hatfield, Traupmann, Sprecher, Utne, & Hay, 1985). To date the concurrent validity of both equity measures is unclear. Occasional studies that have used global as well as detailed measures report poor correlations (Lujanski & Mikula, 1983; Prins, Buunk & VanYperen, 1993; VanYperen & Buunk, 1990). On the other hand, Prins et al. (1993) concluded, that both measures lead to similar results when it comes to confirming the predictions of equity theory. We followed the suggestion of Lujansky and Mikula (1983) to include global as well as detailed measures in order to study equity from different perspectives.

In this research, equity is assessed in direct comparison with the exchange other (i.e. the recipient and the organization, respectively). Although this is the usual practice in studies on interpersonal relationships, in organizational studies the comparison referents are often other workers in similar jobs (e.g. Lord & Hohenfeld, 1979). However, because of the experimental design employed in most studies the comparison referent was controlled by the researcher. In non-experimental studies like the present investigation the subject's choice of a comparison referent is quite difficult to control. Besides, as was noted by Pritchard (1969), it is unclear which and how many others a person will choose as comparison referents, whether such a choice is stable in time, and how comparable comparison referents are. Because of these fundamental problems, Pritchard proposed an 'internal standard' of comparison instead of a comparison person. By measuring equity in direct exchange with the organization instead of another comparison person the difficulties of determining the comparison referent were circumvented. In addition, this procedure ensured a direct comparison of the results with respect to interpersonal and organizational equity relationships.

Gender differences

The current study also explores whether there are gender differences in the perceptions of equity and whether gender differences play a role in the hypothesized relationship between inequity and burnout. Women are supposed to have a more empathic attitude, are less outcome or result-driven and are, therefore, more likely to allocate rewards equally, whereas men are more likely to allocate rewards equitably (Hatfield & Sprecher, 1984). Accordingly, it could be expected that men feel more upset in case of inequity than women. Unfortunately, research is inconclusive: some studies support these assumptions, whereas other studies reported the opposite. For instance, in intimate relationships both men (e.g. Buunk & VanYperen, 1989) and women (e.g. Sprecher, 1992) feel distressed when they experience inequity in the relationship with their partner. Similar contradictory findings have been found in relation to burnout: among general practitioners only for the men was inequity related to burnout (Van Dierendonck & Sixma, 1994), whereas among nurses only for the women was inequity related to burnout (VanYperen, et al., 1992).

Work settings

The current investigation includes two quite different work settings that are studied separately. Study 1 includes therapists who are employed at a forensic psychiatric center in The Netherlands. Dutch law offers the possibility to enforce on criminal offenders who have committed severe crimes (e.g., manslaughter, rape, arson) a combination of imprisonment and treatment. That is, criminals who are considered to be a severe danger to society and who are not held (fully) accountable for their deeds, are confined in a forensic psychiatric center for treatment (possibly preceded by a prison sentence). Staff of these centers serves both as therapist and as prison guard; i.e. their work balances on the boundary of treatment and guarding. A common psychopathologic feature of these mentally disturbed inmates is their inability to maintain 'normal' social relationships, which is the hallmark of the psychopathic personality disorder that is most frequently observed in these centers. Hence, as a rule, interpersonal relationships with inmates are very difficult to develop since they try to use the professional for their own purposes. Yet, such relationships are crucial for treatment. As in ordinary prisons, inmates view therapists as agents of repression or oppression (Poole & Regoli, 1981). It is likely that because of this unbalanced interpersonal relationship with

inmates prison officers and therapists are particularly vulnerable to burnout (cf. Whitehead, 1989). Inmates will seldomly provide the rewards that are necessary for an equitable relationship. Accordingly, underbenefited inequity is likely to occur, whereas only few therapists will perceive themselves as overbenefited.

Study 2 includes staff who work with mentally disabled in small scale institutions. Their work differs considerably from that of the therapists in Study 1. Basically, they take care of the daily needs of the mentally disabled adults. For example: they assist with taking a shower and getting dressed, and they are involved in all kinds of domestic and social activities. Although working with handicapped residents may be stressful from time to time because of violent outbursts and behavior problems (Sharrard, 1992), the 'misconduct' of the mentally disabled is best compared to that of children. Besides, working with mentally handicapped is more rewarding, for instance, they are more likely to show gratitude towards staff. As a consequence, a more balanced interpersonal relationship is likely to develop. Thus, based on the presumably more rewarding interpersonal relationships with recipients, it is expected that staff in Study 2 feels less underbenefited and experiences lower levels of burnout compared to the therapists of Study 1.

As far as the employee-organization relationship is concerned, no differences in levels of experienced inequity are hypothesized. Because of the extremely difficult nature of the therapists' job the forensic psychiatric center appointed additional personnel officers for counselling the therapists. Accordingly, the presumably greater investments of the therapists in their jobs is counteracted by appropriate support from the organization, so that the exchange relationship between employee and organization is expected to remain in balance.

Accordingly, as far as the relationship with recipients is concerned, both studies are situated at different ends of a continuum with respect to the amount of trust and gratitude that can be expected in their relationships with recipients. Therefore, if feelings of inequity are related to burnout in both studies, it would present a strong case for the use of equity theory as a theoretical framework for understanding the underlying mechanisms of burnout among human service professionals.

In sum, four hypotheses are tested: (1) interpersonal equity is curvilinearly related to burnout (and feelings of contentment/distress); (2) organizational equity is curvilinearly related to burnout (and feelings of contentment/distress); (3) levels of burnout are higher

among therapists working with criminal offenders than among staff working with mentally disabled; (4) higher levels of interpersonal inequity exists among therapists working with criminal offenders than among staff working with mentally disabled. Furthermore, the convergent validity of two measures (detailed and global) of inequity is investigated. Finally, the role of gender is explored in the perception of equity and in the relationship between inequity and burnout.

Study 1

Method

Subjects

The sample consists of 114 therapists who are employed in a Dutch forensic psychiatric center (response rate 67%). Originally, three more therapists were part of the sample. They were removed prior to analysis because of extreme scores on the equity measures. Sixty-four percent are male ($n=73$) and 36% are female ($n=41$). The mean age of the therapists is 37.4 years ($SD = 7.7$) and they are on the average employed for 6.9 years ($SD = 6.6$) at the center. The number of the subjects in the analysis varies slightly due to occasional missing data.

Measures

Burnout. Burnout was measured with a revised version of the Maslach Burnout Inventory, that consists of three subscales: Emotional Exhaustion, Depersonalization and Personal Accomplishment (Maslach & Jackson, 1986). Items are scored on a 7-point rating-scale, ranging from 0 ("never") to 6 ("every day"). The original items 12 ("I feel energetic") and 16 ("Working with people directly puts too much stress on me") were eliminated, as suggested by Byrne (1993) and by Schaufeli and Van Dierendonck (1993). Using confirmatory factor analysis, both studies showed that the factorial validity of these two items is insufficient. Because the depersonalization scale has usually the lowest internal consistency (Schaufeli, Enzmann, & Girault, 1993), two items were added: "Recipients bother me with personal matters, but I ignore them" and "I avoid personal contact with recipients as much as possible". Item 22 of the original depersonalization scale ("I feel recipients blame me for some of their problems") was dropped because of its poor item-total correlation. Accord-

dingly, a six-item depersonalization scale results that shows an acceptable internal consistency in both studies (see Table 1).

Contentment/distress. Contentment/distress was measured with the four-item Austin Measure (Austin, 1972). Respondents were asked to what extent inmates aroused feelings of "contentment", "happiness", "anger" and "guilt" and to what extent the organization arouses such feelings. Answers ranged from *not at all* (1) to *often* (4).

Perceptions of equity were measured separately in the relationship with the inmates (interpersonal equity) and with the organization (organizational equity), each with two different measures: a detailed and a global measure. In advance, examples of investments in and outcomes from the relationship were described (e.g. time, patience, effort, appreciation, gratitude). Next, for the first - detailed - measure, questions were asked about the investments in the relationship of both parties, and about their outcomes (4 items). For example: "Overall, how much effort do you feel you put into the relations with inmates" and "Overall, how much do you feel inmates benefit from their relations with you?". A seven-point scale was used, ranging from *very little* (1) to *very much* (7). The degree of equity was calculated by using the Adams formula: outcomes self/inputs self minus outcomes other/inputs other (Adams, 1965). This formula is mathematically equivalent to the formulas of Walster et al. (1973) and Anderson (1976) since our scales do not allow negative investments or outcomes. The second measure is based upon the Hatfield Global Measure of equity (Hatfield, Traupmann, Sprecher, Utne, & Hay, 1985). Respondents were requested to consider their investments in and outcomes from the relationship involved and were then asked to endorse the answer that best characterized this relationship. Seven possible answers were presented, ranging from -3 to +3. For instance: "The organization invests much more than it gains from me" (+3); "The organization and I invest and gain equally" (0); "I invest much more in my work than I gain from the organization" (-3).

Correlations between both measures are $r = .73$ ($p \leq .01$), and $r = .35$ ($p < .01$) for organizational and interpersonal equity, respectively.

Results

Burnout level

An indication of the level of burnout is obtained by comparing the scores of the therapists with a reference group of 667 Dutch nurses from different health-care settings (Schaufeli & Van Dierendonck, 1993). The original five-item depersonalization scale is used here for reasons of comparability.

Table 1 Level of burnout

	Sample 1 (<i>n</i> =112)			Sample 2 (<i>n</i> =189)			Nurses (<i>n</i> =667)		t-test		
	α	M	SD	α	M	SD	M	SD	1,2	2,3	1,3
Emotional Exhaustion	.85	14.1	6.4	.85	11.9	6.6	15.2	7.7	2.83**	5.30***	1.39
Depersonalization											
original scale	.55	7.1	3.7	.61	3.7	3.3	5.9	4.0	8.26***	7.06***	2.88**
revised scale	.70	7.8	4.2	.65	4.3	3.7			7.54***		
Personal Accomplishment	.67	26.1	5.2	.79	31.6	5.7	28.5	4.3	8.36***	8.20***	5.21***

** $p < .01$; *** $p < .001$

Table 1 shows that the therapist's level of emotional exhaustion is comparable to that of the nurses in the reference group. However, feelings of depersonalization and reduced personal accomplishment are observed significantly more frequent among therapists compared to nurses.

Burnout, contentment/distress and equity

Next, it was examined whether - and in what way - perceptions of equity are related to burnout and feelings of contentment and distress. Because it was expected that equity is curvilinearly related to burnout and contentment/distress (Hypotheses 1 and 2), MANOVA's with polynomial contrasts were carried out. Polynomial contrasts provide a test for both linear and quadratic effects. A curvilinear effect of equity is demonstrated if a significant quadratic effect is produced. However, if only the linear trend is significant a linear relationship exists between equity and burnout (contentment/distress). Two MANOVA's were conducted for each type of equity measure (detailed and global) that included the three burnout-dimensions and the four elements of the Austin Measure as dependent variables, respectively.

Table 2 Equity and contentment/distress in the relationship with inmates, sample 1

	Under- benefit	Equity	Over- benefit	F-value Linear	Quadratic
<i>Adams formula</i>	(n=92)	(n=11)	(n=7)		
Content	2.44	2.82	2.86	5.24*	.22
Happy	2.36	2.55	2.29	.01	.88
Angry	2.87	2.55	2.29	5.43*	.06
Guilty	1.83	1.73	2.29	3.32	3.07
multivariate effect				3.68*	.05
Emotional exh.	14.8	8.5	16.7	.02	9.98**
Depersonalization	8.1	5.9	7.3	.66	1.00
Personal accomplish.	26.1	26.7	26.0	.03	.06
multivariate effect				.28	3.27*
<i>Hatfield measure</i>	(n=93)	(n=11)	(n=6)		
Content	2.48	2.67	2.40	.02	1.00
Happy	2.30	2.58	3.20	11.53***	1.58
Angry	2.83	2.75	2.40	1.76	.48
Guilty	1.81	2.08	2.00	.89	.36
multivariate effect				5.21***	1.48
Emotional exh.	14.5	12.4	13.8	.19	.42
Depersonalization	8.2	6.4	5.3	3.31	.00
Personal accomplish.	25.7	28.7	28.7	2.82	.25
multivariate effect				1.93	.39

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 3 Equity and contentment/distress in the relationship with organization, sample 1

	Under- benefit	Equity	Over- benefit	F-value Linear	Quadratic
<i>Adams formula</i>	(n=90)	(n=20)			
Content	2.87	3.29		9.47*	
Happy	2.41	2.71		3.69	
Angry	2.20	1.90		3.52	
Guilty	1.50	1.50		.14	
multivariate effect				3.14*	
Emotional exh.	14.5	12.1		2.60	
Depersonalization	7.6	8.4		.48	
Personal accompl.	26.3	26.1		.04	
multivariate effect				1.45	
<i>Hatfield measure</i>	(n=78)	(n=36)			
Content	2.76	3.33		30.23***	
Happy	2.33	2.75		10.86***	
Angry	2.17	2.06		.84	
Guilty	1.45	1.58		1.09	
multivariate effect				8.43***	
Emotional exh.	15.1	12.3		4.81*	
Depersonalization	8.0	7.5		.39	
Personal accomplish.	26.0	26.3		.08	
multivariate effect				1.59	

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 2 shows that in their relationships with inmates therapists only occasionally felt overbenefited (about 5 %), whereas the majority (about 84 %) felt underbenefited according to both measures. As expected, therapists who - according to the Adams formula - received more back in return from their inmates felt significantly more content and less angry as compared to those who perceived themselves underbenefited. For equity according to the Hatfield Global Measure a similar linear relationship was found for happiness. However, neither equity-measure showed a curvilinear relationship with the Austin Measure. This means that in the relationship with inmates it is not equity that is associated with more contentment or less distress. Rather, the more therapists received back in return from their inmates the more content and happy, and the less angry they felt.

With respect to burnout, a significant multivariate quadratic effect was found for equity according to the Adams formula. This effect was, at univariate level, due to emotional exhaustion. Those therapists who perceived their relationships with inmates as equitable were least exhausted, whereas those who felt either overbenefited or underbenefited were more emotionally exhausted. It is noteworthy that - contrary to expectations - therapists who perceived themselves as overbenefited felt most exhausted. No significant effect on burnout (linear nor quadratic) was found for equity according to the Hatfield Global Measure.

Accordingly, hypothesis 1 is partly confirmed. Although a significant curvilinear relationship between burnout and equity (as measured by the Adams formula) was found, closer inspection revealed that only for one dimension (i.e. emotional exhaustion) the pattern of the relationship was as expected.

In the relationship with the organization, nobody felt overbenefited (see Table 3). About 70% of the therapists felt underbenefited according to both equity-measures. Unfortunately, since nobody perceived themselves overbenefited, a curvilinear effect as predicted in hypothesis 2 could not be tested. Two significant multivariate effects were observed, both pertaining to the Austin Measure. More particularly on the univariate level, therapists who experienced an equitable relationship with the organization felt more content (according to the Adams formula and to the Hatfield measure) and more happy (according to the Hatfield Measure). No significant relation was found with both negative elements of Austin's Measure. Only on the univariate level a significant effect of equity on burnout was observed: therapists who felt underbenefited (according to the Hatfield measure) were significantly

more emotionally exhausted than therapists who perceived their relationship with the organization as equitable².

Gender differences

For both levels of equity (interpersonal and organizational), chi-square tests were executed in order to evaluate gender differences. However, perceptions of equity were *not* significantly different for men and woman on either level. For equity according to the Adams formula: $\chi^2_{(2)} = 1.02$ ($p = .60$) and $\chi^2_{(1)} = .27$ ($p = .60$) for inmates and the organization, respectively. For equity according to the Hatfield measure: $\chi^2_{(2)} = .21$ ($p = .90$) and $\chi^2_{(1)} = .52$ ($p = .47$) for inmates and the organization, respectively.

Next, it was tested whether perceptions of inequity were differently related to burnout for men and women. Because the overbenefited condition was represented by only two female and four male therapists they were removed prior to the analysis. Using the Adams formula, no significant gender x equity interaction effect was found, neither on the multivariate nor on the univariate level: Wilks' lambda = .97 ($p = .36$) for the inmates as well as for the organization. Similar non-significant results were obtained with the Hatfield Global Measure: Wilks' lambda = .96 ($p = .26$) and Wilks' lambda = .94 ($p = .08$) for the inmates and the organization, respectively. Hence, it is concluded (1) that male and female therapists do *not* differ in their perceptions of equity, and (2) that perceptions of equity are *not* differently related to burnout for men and women.

Study 2

Method

Sample

The sample consists of 189 professionals who are employed in small-scale institutions for the mentally handicapped (response-rate 73%). Twenty-six percent ($n=49$) are male and 74% ($n=140$) are female. The mean age is 35.1 years ($SD = 7.0$) and they are employed for an

²

In addition, it was investigated whether perceptions of equity on both levels (interpersonal and organizational) showed a combined effect on burnout and contentment/distress, respectively. However, no significant interaction effects were found for both equity measures.

average of 7.1 years ($SD = 4.6$) at the current institution. The working experience does not differ significantly between the two studies ($p = .43$). The age of the professionals in Study 2 is significantly lower than in Study 1 ($p = .03$). As in Study 1, the number of the subjects in the analysis varies slightly due to occasional missing data.

Measures

The measures were similar as in Study 1, except that in the items related to the relationship with recipients, "inmates" was replaced by "residents". As in Study 1, the reliabilities of the burnout scales were sufficient (see Table 1). In this study, the correlations between the two equity measures were $r = .54$ ($p < .01$), and $r = .18$ ($p < .01$) for the organization and residents, respectively. As in Study 1, both equity measures are more strongly related at the organizational level than at the interpersonal level. When correlations are weighted for sample size, $r = .63$ ($p < .01$), and $r = .25$ ($p < .01$) for the organization and recipients, respectively.

Results

Burnout level

As expected (Hypothesis 3) Table 1 shows that staff of Study 2 experienced significantly less emotional exhaustion, less depersonalization and more personal accomplishment in comparison with the therapists of Study 1. In addition, levels of burnout were significantly lower in comparison with the nurses' sample. Accordingly, the hypothesis is supported that therapists in a forensic psychiatric setting experience higher levels of burnout than staff working with mentally handicapped.

Burnout, contentment/distress and equity

As in Study 1, the relationships of equity with burnout and contentment/distress were examined using MANOVA's with polynomial contrasts. About 6% to 10 % felt overbenefited, 61% felt underbenefited, and 31% perceived the relationship with residents as equitable in terms of investments and outcomes (see Table 4). This distribution differed significantly from that in Study 1 ($\chi^2_{(2)} = 18.50$; $p < .001$ and $\chi^2_{(2)} = 19.26$; $p < .001$ for the

Adams formula and the Hatfield Global Measure, respectively). As expected, the professionals in the present study felt less underbenefited than the therapists in Study 1 as far as interpersonal relationships with recipients are concerned. Thus, hypothesis 3 is confirmed.

There were no linear nor curvilinear significant effects of interpersonal equity on the four elements of the Austin Measure. That is, the level of contentment or distress is unrelated to the perceived level of equity in the relationship with residents. Burnout, on the other hand, was significantly related to equity. The Adams formula produced both linear *and* quadratic effects in relation to all three dimensions. The Hatfield Global Measure produced similar effects, although only one uni-variate quadratic effect (emotional exhaustion) reached significance. Surprisingly, professionals who experienced themselves as overbenefited on the interpersonal level reported *higher* levels of burnout compared to those who perceived their relationships with residents as either equitable or underbenefited. The level of burnout was quite comparable for the last two groups. Accordingly, Hypothesis 1 about the curvilinear effect of interpersonal equity is confirmed, at least as far as burnout is concerned.

Few staff in Study 2 considered themselves overbenefited (about 3 %) in the relationship with the organization, the vast majority (about 80%) felt underbenefited (see Table 5). The distribution of respondents across equity categories differs significantly between both studies as far as the Hatfield Global Measure is concerned ($\chi^2_{(2)} = 6.14$; $p = .04$), whereas Adams formula just failed to produce significant results ($\chi^2_{(2)} = 4.468$; $p = .11$). That is, the professionals in Study 2 perceive their relationship with the organization as less equitable than the therapists in Study 1.

None of the elements of the Austin Measure was significantly related to equity. However, emotional exhaustion was quadratically related to equity according to the Adams formula on the univariate level. As in the relationship with residents, the level of emotional exhaustion was higher among staff who felt either over- or underbenefited than among staff who felt equitably treated. For reasons of comparability with Study 1, F-values are presented of underbenefited versus equity at organizational level. No significant differences on the Austin Measure are observed between these two groups. The level of emotional exhaustion is

Table 4 Equity and contentment/distress in the relationship with residents, sample 2

	Under- benefit	Equity	Over- benefit	F-value	
				Linear	Quadratic
<i>Adams formula</i>	(n=109)	(n=54)	(n=18)		
Content	3.14	3.17	3.22	.35	.05
Happy	3.10	3.13	3.22	.64	.17
Angry 2.11	2.11	2.33	.60	3.36	
Guilty 1.78	1.83	1.83	.26	.02	
multivariate effect				.34	1.06
Emotional exh.	11.6	11.1	16.6	8.33**	8.14**
Depersonalization	4.1	3.9	7.3	11.7***	10.04**
Personal accompl.	31.3	33.2	29.2	1.13	8.06**
multivariate effect				4.33**	4.81**
<i>Hatfield measure</i>	(n=113)	(n=61)	(n=11)		
Content	3.09	3.25	3.09	.05	1.25
Happy	3.06	3.23	3.18	.67	.36
Angry 2.20	2.16	2.27	.15	.57	
Guilty 1.80	1.74	2.00	1.09	2.12	
multivariate effect				.47	.87
Emotional exh.	12.5	10.5	14.9	.79	5.04*
Depersonalization	4.2	4.1	6.4	3.07	2.99
Personal accompl.	31.2	32.7	29.7	.57	3.32
multivariate effect				1.02	2.14

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$ **Table 5** Equity and contentment/distress in the relationship with organization, sample 2

	Under- benefit	Equity	Over- benefit	F-value		Under/ Equity
				Linear	Quadratic	
<i>Adams formula</i>	(n=145)	(n=29)	(n=7)			
Content	3.12	3.21	3.00	.20	.82	.47
Happy	3.10	3.07	3.42	1.90	1.75	.05
Angry	2.21	2.03	2.14	.41	.87	3.78
Guilty	1.77	1.79	2.00	1.30	.60	.04
multivariate effect				1.53	1.45	1.25
Emotional exh.	12.7	8.3	13.1	.06	5.16*	10.85***
Depersonalization	4.5	3.4	5.6	.27	2.52	2.36
Personal accompl.	31.4	32.5	30.1	.17	1.24	1.03
multivariate effect				.27	1.78	3.61*
<i>Hatfield measure</i>	(n=146)	(n=37)	(n=2)			
Content	3.16	3.14	3.00	.16	.09	.05
Happy	3.16	3.03	3.50	.54	1.49	1.47
Angry	2.22	2.11	2.00	.53	.02	1.66
Guilty	1.76	1.92	1.50	.31	1.44	2.28
multivariate effect				.41	.85	1.87
Emotional exh.	12.7	9.7	5.5	2.93	.30	6.37*
Depersonalization	4.4	4.0	4.0	.04	.01	.41
Personal accompl.	31.6	31.5	30.0	.18	.08	.08
multivariate effect				1.54	.23	2.76*

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

significantly lower among staff who felt equitably treated, compared to the overbenefited group³. Accordingly, Hypothesis 2 about the curvilinear effect of equity at the organizational level is confirmed as far as burnout (particularly emotional exhaustion) is concerned.

Gender differences

For equity on both levels, chi-square tests were executed to evaluate gender differences. As in Study 1, perceptions of equity did *not* differ between men and women, neither at the interpersonal nor at the organizational level. For equity according to the Adams formula: $\chi^2_{(2)} = 4.39$ ($p = .11$) and $\chi^2_{(1)} = 2.80$ ($p = .25$) for inmates and the organization, respectively. For equity according to the Hatfield measure: $\chi^2_{(2)} = 1.71$ ($p = .43$) and $\chi^2_{(1)} = .81$ ($p = .67$) for inmates and the organization, respectively. It should be noted that in the relationship with the organization, it was all women who felt overbenefited.

The interaction between gender and perceptions of inequity as assessed with Adams formula was not significant for burnout: Wilks' lambda = .99 ($p = .59$) and Wilks' lambda = .99 ($p = .65$) for residents and the organization, respectively. Similar non-significant results were obtained with Hatfield's Global Measure: Wilks' lambda = .99 ($p = .81$) and Wilks' lambda = .98 ($p = .31$) for residents and the organization, respectively. As in Study 1, it is concluded that men and women do *not* differ in their perceptions of equity and that the relationship of equity with burnout is similar for men and women.

Discussion

In the current study, four hypotheses were tested in two independent samples that include therapists from a forensic psychiatric center (Study 1) and staff of small-scale institutions working with the mentally handicapped (Study 2), respectively. This section discusses these hypotheses and two additional issues that have been explored: the convergent validity of both equity measures and the role of gender.

³

As in Study 1, it was investigated whether perceptions of equity at the interpersonal and organizational level showed a combined effect on burnout and contentment/distress, respectively. Again, on neither aspect a significant interaction-effect was found.

Curvilinear relationships (interpersonal level)

It was assumed that burnout and feelings of contentment/distress are curvilinearly related to interpersonal equity (Hypothesis 1). This hypothesis was confirmed for burnout, at least as far as Adams' equity formula is concerned; with the exception of emotional exhaustion in Study 2 no significant curvilinear effects were found with Hatfield's Global Measure. However, closer inspection revealed that - contrary to expectations - the overbenefited group reported higher burnout levels than the underbenefited group. This is remarkable since equity theory predicts the opposite (Adams, 1965). The robustness of this finding is enhanced by the fact that it is observed in both samples that are characterized by quite different professional-recipient relationships. Furthermore, the result was replicated on the organizational level in Study 2: staff who felt overbenefited reported higher burnout levels than those who felt underbenefited.

A possible explanation for the high level of burnout (especially emotional exhaustion) among those who feel overbenefited is that professionals enter relationships with recipients with particular expectations. Instead of an equitable relationship, as would be expected in intimate relationships, an underbenefited relationship is expected from the outset. It can be speculated that, as a result, one's emotional reactions towards feeling under- or overbenefited will differ: less distress is likely to occur than would be the case in inequitable intimate relationships. Professional-recipient relationships are asymmetrical by their very nature and it was suggested by Austin and Walster that "Expectancy ameliorates distress, *even when a person clearly recognizes that the expected event is inequitable*" (1974, p. 208). Consequently, an overbenefited relationship runs counter to the professional's attitude (which is directed at giving) in such a strong and fundamental way, that it might become stressful in itself. Following this line of reasoning one would expect that those professionals who feel overbenefited (or equitably treated) report higher levels of guilt compared to the underbenefited group. Although the relations between inequity and guilt were not significant, Tables 2 and 4 show a promising trend. For instance, in Study 1 linear as well as curvilinear relationship between interpersonal equity and guilt approach significance.

Contrary to what is commonly found in studies on intimate relationships (e.g. Traupmann, Petersen, Utne, & Hatfield, 1981), our study reveals that the four elements of the Austin Measure (i.e. contentment, happiness, anger and guilt) are linearly related to inequity, at least

in Study 1. This finding is in line with that reported by Sprecher (1992), who found that expectations of underbenefitedness were stronger related to anger, depression, and less guilt, happiness, contentment, satisfaction and love than expectations of overbenefitedness. The fact that curvilinear relationships were found between interpersonal equity and burnout (especially emotional exhaustion) but not between equity and the four general elements of the Austin Measure illustrates the specificity of burnout as a stress reaction among human service professionals.

Curvilinear relationships (organizational level)

It was assumed that burnout and feelings of contentment/distress are curvilinearly related to organizational equity (Hypothesis 2). Unfortunately, this hypothesis could not be tested in Study 1 since none of the therapists felt overbenefited in their relationship with the center. In Study 2, Hypothesis 2 was only confirmed on univariate level for emotional exhaustion when the Adams formula was used. As in the case of the former hypothesis, no significant curvilinear effects were found for feelings of contentment/distress. When the underbenefited groups were compared with the equitable groups, the former felt - as expected - less content, less happy, and more burned-out.

The finding in both studies that the vast majority felt underbenefited in relation to their organization either suggests that it is genuinely difficult for an organization to produce in their workers a sense of fairness, or it signifies that quite some effort from the part of the management is still required. Since field studies on this issue are lacking, (Mowday, 1991) no decision about the plausibility of either interpretation can be made.

Levels of burnout

It was assumed that levels of burnout are higher among therapists working with criminal offenders than among staff working with mentally disabled (Hypothesis 3). This hypothesis was clearly supported for all three dimensions of burnout. In addition, the therapists reported significantly more feelings of depersonalization and reduced personal accomplishment than nurses from a large reference sample. This finding illustrates our assumption that both studies are situated at opposite ends of a continuum with respect to the nature of the professional-recipient contact.

Perceptions of equity

Fourth, it was assumed that higher levels of interpersonal inequity exists among therapists working with criminal offenders than among staff working with mentally disabled (Hypothesis 4). This hypothesis was clearly confirmed for both equity measures that were used. However, the perception of interpersonal equity differed between the two studies. In the sample of professionals who work with mentally disabled, the group that perceived their relationships with recipients as equitable was three times as large as among those who work with forensic psychiatric inmates. In addition, ten percent of the professionals of Study 2 perceived their relationship with recipients as overbenefited, whereas in Study 1 only six percent of the therapists felt overbenefited. These findings confirm that the nature of professional-recipient relationships differs considerably between both studies. Working with the mentally disabled seems to be more rewarding than working with inmates. As was already noted by Jackson et al. (1986), not every professional-recipient contact is one that, by definition, will result in burnout. Nevertheless, it's all the more remarkable that, despite these differences, similar curvilinear effects on burnout were observed in both samples. Social exchange processes seem to be similar and are more or less independent from the specific setting in which the interpersonal relationship is embedded.

On the organizational level, the majority of the professionals felt underbenefited in both studies. In Study 2, only a small group felt overbenefited (3%), whereas in Study 1 this feeling was totally absent. It seems that professionals almost never feel that their organization is providing enough incentives. This echoes the findings of Maslach and Jackson (1984) who, when they asked police officers and teachers to generate a list of distressing aspects of their work, ended up with a list that included organizational conditions exclusively.

Validity of the equity measures

The correlations between the two measures differ considerably depending on the relationship measured. For perceptions of equity at organizational level the correlations were high, while at interpersonal level only low correlations were found. This result suggests that as far as equity measured at organizational level is concerned the convergent validity is good. However, at interpersonal level, our findings are similar to those reported by Prins et al. (1993). The analyses into the relationship between inequity and burnout showed that the

Adams formula provided results that better correspond to equity theory than the Hatfield measure. Prins et al. (1993), who used identical measures to judge (in)equity among married couples, found similar results for both measures. They concluded that people are cognitively capable of using an equity formula themselves as is done with the Hatfield measure. Our results suggest that this ability is influenced by the type of relationship that is being judged. Possibly, the level of abstraction necessary for judging a relationship using the Hatfield formula is more easily reached in intimate relationships because both partners have comparable inputs and outcomes. For other relationships it might be necessary to differentiate outcomes and inputs and calculate the degree of equity afterwards as is done with the Adams formula. It should be noticed however that this does not exclude the Hatfield formula as a measure of equity because in the relation with residents (Study 2) there is a significant quadratic relationship of equity as assessed with the Hatfield measure with emotional exhaustion.

Gender differences

The analyses of gender differences is important because unequal gender distributions might be responsible for differential outcomes in both studies. In Study 2, where the majority of the professionals is female, the relationship with recipients is perceived as more equitable and there was a significant curvilinear relationship with depersonalization and personal accomplishment. As it turned out, the results showed *no* significant gender differences in the distribution of equity (under-, equitable, and overbenefited) in either study. In addition, the curvilinear effects of inequity upon burnout could not be accounted for by differences in gender distribution.

Limitations

This research has obviously certain limitations. First, since this is a cross-sectional study cause-effect explanations are tentative. One could speculate that burnout precedes perceptions of equity instead of vice versa. Van Dierendonck et al. (1994) reported such a relationship with a model that encompassed a negative feedback loop whereby harassment by patients was related to inequity, that, on its turn, was related to burnout. The negative attitudinal dimension of burnout (i.e. depersonalization and reduced personal accomplishment) was again

related to harassment, thereby closing the feedback loop. Maslach (1982) suggests that in an effort to reduce emotional arousal, professionals might use psychological withdrawal by diminishing their performance, avoiding tasks, and hiding behind rules. When, as a result, the quality of care deteriorates, professionals might blame themselves. This could lead to perceptions of getting more than one deserves. The low level of personal accomplishment and the high level of depersonalization among overbenefited professionals in Study 2 could be explained along this line of reasoning. Second, the small size of the samples reduces the possibility of finding significant effects in relation to feeling overbenefited. However, despite this poor statistical power, we were able to show significant effects, which strengthens the validity of our findings. Future studies into the relationship between inequity and burnout should, therefore, be longitudinal and include larger samples.

Conclusions

What kind of general conclusions can be drawn from these results? First, the results of this study indicate that equity theory may serve as a relevant theoretical framework for enhancing our understanding of the etiology of burnout among human service professionals (Buunk & Schaufeli, 1993). The majority of professionals perceive themselves in their relationship with recipients and the organization as underbenefited. Moreover in both samples, (in)equity in the relationship with recipients seems to be curvilinearly related to burnout, especially with emotional exhaustion. Second, the perception of (in)equity is more adequately assessed by using the specific Adams formula instead of the general Hatfield measure. Third, perceptions of being underbenefited are related to distress, but feeling overbenefited is related to distress somewhat stronger. Finally, professionals might feel underbenefited, without necessarily experiencing more negative emotions or burnout than colleagues who feel equitable treated.

CHAPTER 5

BURNOUT AND EQUITY: A LONGITUDINAL STUDY¹

Burnout is defined as "a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with other people in some capacity." (Maslach, 1993; pp. 20). A basic characteristic of the work of human service professional is their often emotionally charged contacts with the recipients of their care. It is therefore not surprising that these contacts are considered to play a central role as determinants of burnout (e.g., Cordes & Dougherty, 1993; Jackson, Schwab, & Schuler, 1986; Skorupa & Agresti, 1993). Buunk and Schaufeli (1993) argue that to enhance our understanding of the role interactions with recipients play in the development of burnout, the professional-recipient relationship should be considered an ongoing process of social exchange.

The goal of this article is to investigate longitudinal relationships between social exchange processes and burnout among human service professionals. In addition, causal relationships between the burnout dimensions will be investigated. As will be argued below, although both issues are important for understanding the etiology of burnout, they have seldomly been studied longitudinally.

Equity in social exchange processes and burnout

According to equity theory, one of the most influential social exchange theories, people evaluate their relationships with others in terms of rewards, costs, investments, and profits (cf. La Gaipa, 1977). They expect that the amount they invest and gain from a relationship is proportional to what the other party in the relationship invests and gains. A basic proposition

¹ This chapter has been submitted for publication: Van Dierendonck, D., Schaufeli, W.B., & Buunk, B.P. (1996). Burnout and equity among human service professionals: a longitudinal study.

of equity theory is that if people perceive relationships as inequitable, they feel distressed (Adams, 1965; Walster, Walster, & Berscheid, 1978). In particular equity theory predicts a curvilinear relationship between equity and distress: perceiving oneself as underbenefited as well as perceiving oneself as overbenefited results in distress, as has been confirmed by many studies on intimate relationships (e.g. Sprecher, 1992; VanYperen & Buunk, 1990).

In the present study it is assumed that burnout is related to perceptions on inequity in the relationship between the professional and the recipients of his or her care. It may be assumed that this relationship is complementary by its very nature: the professional provides care, assistance, help, and support to his or her recipients, whereas the recipient is supposed to receive. However, it may be unrealistic for professionals to expect some kind of reward, they do expect recipients at least to show gratitude, or to make a real effort to get well (Cherniss, 1995). However, recipients frequently take the professionals' effort for granted or are unwilling to follow their advice (cf. Maslach 1982; Maslach & Jackson, 1982). Indeed, several cross-sectional studies among nurses (VanYperen, Buunk & Schaufeli, 1992; Schaufeli & Janczur, 1994) and general practitioners (Van Dierendonck, Schaufeli & Sixma, 1994) confirm that professionals' perceptions of inequity are related to all three dimensions of burnout. In addition, the studies in Chapter 4 showed that, as predicted by equity theory, the professionals who felt underbenefited as well as the professionals who felt overbenefited in the relationship with the recipients were more burned out, especially on the emotional exhaustion dimension, compared to the professionals who perceived themselves as equitable in this relationship.

Recently, a dual-level social exchange model has been suggested (Schaufeli, Van Dierendonck, & van Gorp, 1996) that incorporates, in addition to the interpersonal relationship with recipients, a second exchange relationship that is associated with burnout: the relationship with the organization. Social exchange models assume that individuals pursue equity in the employee-organization relationship (Barnard, 1938; Hatfield & Sprecher, 1984). In terms of equity theory, employees expect rewards or inducements from the organization in return (e.g., salary, esteem, promotion, career advancement) that are in proportion to their contributions (e.g., time, effort, skill). Organizational conditions such as pay inequity, lack of control over one's work, lack of role-clarity, and lack of support by management have been shown to be determinants of burnout (Maslach & Jackson, 1984; Schaufeli & Buunk, 1996).

Evidence that supports the role of inequity in the professional-organization relationship with respect to burnout is reported in cross-sectional studies among student-nurses (Schaufeli, et al., 1996), among therapists working in a forensic psychiatric centre and among staff-members working in the direct-care of mentally disabled people (Van Dierendonck, Schaufeli, & Buunk, 1996).

Despite the growing cross-sectional evidence, until now, no longitudinal studies have been conducted to test the impact of social exchange processes on burnout. Equity theory presupposes that the cognitive evaluation of an exchange relationship precedes an emotional response or distress. Since burnout is at least partly an emotional reaction-as far as the key dimension of burnout is concerned (Shirom, 1989)-we hypothesize that inequity precedes burnout. However, this causal direction between cognition and emotion has been commented on. For example, Weiner (1985) suggests two kinds of emotions in the cognition-emotion process: an outcome is directly followed by a 'primitive' emotion based on the primary appraisal, followed by distinct emotions generated by causal attributions. Therefore, the first research question is to investigate whether inequity in the professional-recipient relationship and in the professional-organization relationship influences burnout across time. The second, and closely related, research question is to investigate whether effects of inequity on burnout are longitudinal also curvilinear, as previously found cross-sectional (Chapter 4: Van Dierendonck et al., 1996).

Longitudinal burnout research: a methodological note

A search in Psychological abstracts for publications on burnout during January 1974 until December 1995 resulted in 1145 references, of which no more than 16 articles encompassed longitudinal research. However, in only a few of these longitudinal studies allowed the analyses for causal conclusions, especially due to shortcomings in the method of analysis that was used. In the first place, in a number of studies change scores of burnout in time were correlated with initial scores of predictive variables (Burke & Greenglass, 1991; Capel, 1991; Wade, Cooley, & Savicki, 1986). This method is, however, strongly discouraged by Plewis (1985), who showed that when using this method the outcome is influenced by the measurement scales used. Analyses based on different categories for similar scales can give different results. For example, a real positive change can, through standardization, turn into a

relatively negative change. The outcome and the interpretation of the analyses based on change scores can therefore be misleading.

A second shortcoming in current longitudinal research on burnout concerns studies that used cross-lagged panel designs to study the effects of stressors on burnout (Corrigan, Holmes, Luchins, Buican, Basit, & Parks, 1994; Wolpin, Burke & Greenglass, 1991). This is criticized because it takes neither measurement errors (Plewis, 1985) nor “synchronous effects” in consideration (Zapf, Dormann, & Frese, 1996). A model with synchronous effects represents the longitudinal data more adequately than a model with causal effects if the ‘true’ effect of time is a lot shorter than the time lag of the study (e.g., a ‘true’ effect of time of two weeks whereas the measurements were six months apart). The synchronous effect is represented in the model by a path of one variable (e.g. equity) measured at time 2 that influences another variable (e.g. burnout) also measured at time 2.

A problem that is sometimes encountered with the third frequently used method in longitudinal research, multiple regression analysis, is failing to correct for the stability of burnout across time as in the studies of Fong (1993), Jackson, et al. (1986), and Koeske, Kirk, and Koeske (1993). Only two studies (Burke & Greenglass, 1995; Savicky & Cooley, 1994) controlled for initial burnout levels. These studies showed a causal effect for lack of social support and for work overload, respectively, on burnout.

The preferred method for investigating causal directions is panel analysis with structural equation models (Kessler and Greenberg, 1981). This method allows for analyses similar to cross-lagged panel designs and multiple regression analysis. An additional advantage is that this method provides statistical tests that allow for directional conclusions, which are especially valuable if an important goal is to find empirical evidence for theoretical expected causal directions. In addition, structural equation models can reveal synchronous and reciprocal relationships between variables. Regretfully, the three studies that used structural equation models to test longitudinal relations (Dignam & West, 1988; Lee & Ashforth, 1993; Leiter, 1990) did not systematically test all possible causal directions between the variables, or the possible existence of synchronous relationships. Because there are no hard criteria for accepting a model to be ‘true’ in structural equation modelling, it is imperative to empirically test the hypothesized relationships against possible alternatives.

The present research tries to avoid the possible methodological pitfalls of change scores,

cross-lagged panel designs, and multiple regression analysis by testing cross-lagged structural equations models. Moreover, the models of this article encompass both the causal and the synchronous relationships between equity and burnout.

Causal direction between burnout dimensions

In a number of studies the MBI has been used as a one-dimensional instrument (e.g., Burke & Greenglass, 1995, Dignam & West, 1988). This may lead to a loss of information because burnout has unique features that distinguishes it from more general work-stress (Maslach, 1993; Schaufeli & Van Dierendonck, 1993). Empirical studies have shown that burnout is a multidimensional construct, in which emotional exhaustion most closely resembles an orthodox stress reaction whereas depersonalization and reduced personal accomplishment represent an attitudinal dimension that distinguishes burnout from the traditional stress concepts (Maslach & Schaufeli, 1993).

In this context, an important but still undecided issue is the causal relationship between the three burnout dimensions. Basically, there are two views on the correct sequence of the burnout dimensions. Golembiewski, Munzenrider, & Stevenson (1986) assume that depersonalization develops first as a consequence of the detached attitude that professionals develop in order to perform at their job properly. If detachment turns into cynicism, depersonalization will develop, which will make relating to recipients even more problematic. As a result, feelings of accomplishment will decrease. The inability to adequately cope with the demands of the job will eventually lead to emotional exhaustion. In contrast, Leiter and Maslach (1988) view emotional exhaustion as a direct result of the stress of working as a human service professional with demanding recipients. Professionals who become exhausted try to deal with this stress by developing a cynical and distant attitude (i.e., depersonalization). Since this diminishes their capacity to adequately deal with recipients, their feelings of accomplishment will decrease. As was noted by Lee and Ashforth (1993) it is important to discover the correct sequence for two reasons. First, it will facilitate early recognition of burnout and thereby make prevention and treatment of burnout possible at an early stage before it becomes chronic. Second, discovering the correct sequence will help develop a process model that includes the antecedents and the consequences of burnout. This is also important for the further development and refinement of the dual level social exchange model

(Schaufeli et al., 1996), where the three burnout dimensions are clustered into one concept.

Cross-sectional studies of Golembiewski and his colleagues seem to provide promising results for their so-called progressive phase model (Golembiewski, Schreb & Boudreau, 1993). However, their approach has been severely criticized. Leiter (1989) showed by reanalysing Golembiewski's data that the progressive phase model was not the only one that fits the data. The majority of the variance accounted for by the model could be explained by differences in the level of emotional exhaustion, hereby neglecting the explanatory power of the other two dimensions, depersonalization and personal accomplishment. Of the two longitudinal studies on the causal relations between the burnout dimensions, Lee and Ashforth (1993) reported results that hint at the Leiter and Maslach model. The study of Leiter (1990), however, suggested that personal accomplishment precedes emotional exhaustion. More research is obviously necessary. Therefore, the present research also explores the causal direction among the three burnout dimensions.

In sum, this article aims at answering three research questions among a sample human service professionals. (1) What are the causal relationships between inequity in the relationship with recipients and inequity in the relationship with the organization and burnout (i.e., emotional exhaustion, depersonalization, & personal accomplishment)? It is expected that perceptions of inequity at both levels lead to burnout rather than the other way around. (2) Is there a longitudinal curvilinear relationship between equity and burnout, as may be expected on the basis of cross-sectional findings? (3) What are the causal relationships between the three burnout dimensions? Given the conflicting results from previous studies, this is an exploratory issue with no explicit hypotheses. These three research questions were pursued in a composite sample of four groups of professionals with two measurement points, one year apart.

Method

Subjects

The composite sample of this study consisted of four groups of professionals. Two groups participated as control groups in the evaluation of an individual burnout prevention program

among professionals working in direct-care with mentally disabled people ($n = 42$ and $n = 83$, see Van Dierendonck, Schaufeli, & Buunk, 1996 for further details). The professionals of the other two groups worked in an organization that was partly a (somatic) nursing home ($n = 73$), partly a lung clinic ($n = 47$). These professionals included nurses, orderlies, physicians and (physio-) therapists. A composite sample was used because structural equation modeling needs a sufficient number of respondents to provide valid estimates. Somewhere between 200 and 300, as used in this study seems a sufficient number (McPhee & Babrow, 1987).

The interval between the two measurement points was one year in all groups. Of the 568 participants who took part in the first survey (response rate between 68 and 72 percent), 245 also participated in the follow-up (attrition rate 43 %). The sample consisted of 52 male (21%) and 193 female (79%) professionals. The mean age of the subjects was 33.8 years ($SD = 8.0$), with a mean of 7.2 years ($SD = 5.7$) of work experience in their organization.

Measures

Burnout. Burnout was measured with a revised version of the Maslach Burnout Inventory, that consists of three subscales: Emotional Exhaustion (EE), Depersonalization (DEP) and Personal Accomplishment (PA) (Maslach & Jackson, 1986). The original items 12 ("I feel energetic") and 16 ("Working with people directly puts too much stress on me") were eliminated, as suggested by Byrne (1993) and by Schaufeli and Van Dierendonck (1993). Using confirmatory factor analysis, both studies showed that the factorial validity of these two items is insufficient. Because the depersonalization scale usually has the lowest internal consistency (Schaufeli, Enzmann, & Girault, 1993), two items were added: "Recipients bother me with personal matters, but I ignore them" and "I avoid personal contact with recipients as much as possible". Finally, item 22 of the original depersonalization scale ("I feel recipients blame me for some of their problems") was dropped because of its poor item-total correlation. Accordingly, a six-item depersonalization scale resulted that showed an acceptable internal consistency (see Table 1).

Perceptions of equity were measured separately for the relationship with the recipients (EQR) and for the relationship with the organization (EQO), by a measure based upon the Adams formula (Chapter 4). In advance, examples of investments in and outcomes from the relationship were described (e.g. time, patience, effort, appreciation, gratitude). Next, four questions were asked about the investments in the relationship of both parties, and about their

outcomes. That is, in the relationship with recipients: "Overall, how much effort do you feel you put into the relationships with recipients", "Overall, how much do you feel recipients put into the relationships with you?", "How much benefit do you feel you receive from the relationships that you have with recipients?", and "How much benefit do you feel they receive from their relationships with you?". For the relationship with the organization the questions were: "How much effort do you feel you put into your work?", "How much do you feel the organization invests in you?", "How much do you feel you get out of your work?", and "How much do you think the organization receives from you?". A seven-point scale was used, ranging from *very little* (1) to *very much* (7). The degree of equity was calculated by using the Adams formula: $\text{outcomes self}/\text{inputs self} \text{ minus } \text{outcomes other}/\text{inputs other}$ (Adams, 1965). Because our scales do not allow negative investments or outcomes, this formula is mathematically equivalent to the formulas of Walster et al. (1978) and Anderson (1976).

Table 1 Descriptive statistics, reliability estimates, and intercorrelations of variables ($N = 245$)

Variable	Scale			Intercorrelations									
	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9	10
Time 1													
1. Emotional exh.	11.55	6.66	.85	-									
2. Depersonalization	4.66	3.48	.57	.44	-								
3. Personal accompl.	31.15	5.93	.74	-.28	-.30	-							
4. Equity recipients	-.69	.90		-.08	-.03	.10	-						
5. Equity organization	-.84	.92		-.34	-.19	-.05	.10	-					
Time 2													
6. Emotional exh.	12.01	7.14	.85	.59	.32	-.12	-.01	-.19	-				
7. Depersonalization	4.40	3.46	.67	.19	.64	-.25	.03	-.01	.40	-			
8. Personal accompl.	31.77	5.67	.78	-.20	-.22	.66	.07	-.12	-.22	-.29	-		
9. Equity recipients	-.59	.78		-.14	-.00	.00	.58	.08	-.09	.08	.04	-	
10. Equity organization	-.80	.85		-.20	-.09	-.01	.08	.62	-.18	-.02	-.04	.13	-

Note. Equity measures are single item scores, therefore, no reliability coefficient could be calculated.

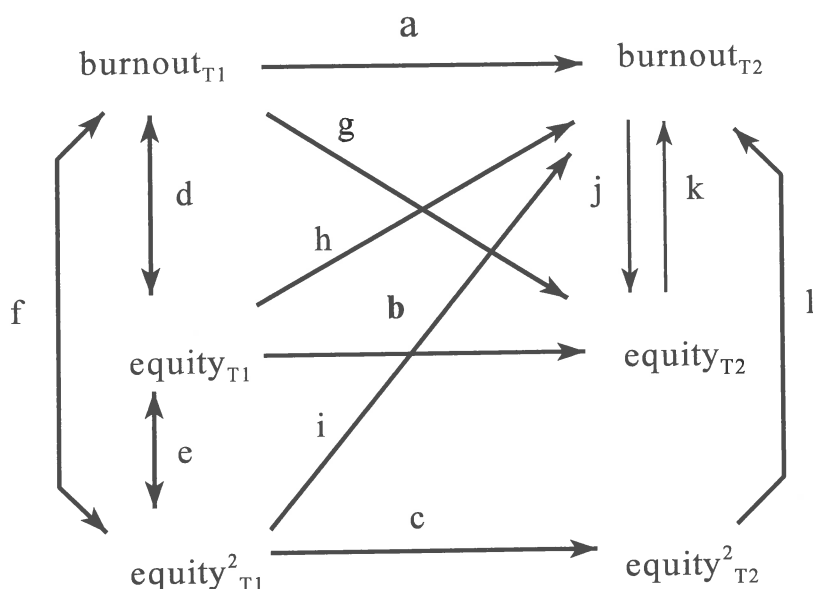


Figure 1 Model for testing longitudinal relations between burnout and equity

Results

Burnout and equity

The strength and the direction of the causal and the synchronous effects between the three burnout dimensions and inequity in both relationships were pairwise assessed with a so-called two-wave panel model (Zapf et al., 1996). As noted before, our analysis combined two methods into one. That is, exploring causal directions using panel analysis (Kessler and Greenberg, 1981) and investigating curvilinear relationships using multiple regression (Aiken and West, 1991).

Using LISREL 8 (Jöreskog & Sörbom, 1993) six structural equation models were tested for each combination of two variables (e.g., emotional exhaustion and equity in the relationship with recipients) each nested within a so-called stability model. By comparing the fit of each of these models to that of the stability model it was possible to determine what the most likely

direction, shape (linear or curvilinear), and time-frame (one year longitudinal or synchronous) of the effect was. Figure 1 shows the model that consisted of six variables: a particular burnout dimension at T1 and T2, the linear term of equity in one of the two relationships, and the quadratic term of equity in this relationship. The quadratic terms were added to the model to test for possible curvilinear relationships between equity and burnout. The linear terms were centered before calculating the quadratic terms to correct for multicollinearity (Aiken & West, 1991). In the so-called stability model, only the stability coefficients (arrows a, b, & c) and the correlations at Time 1 (arrows d, e, & f) were released; the cross-lagged coefficients (arrows g, h, & i) and the synchronous coefficients at T2 (arrows j, k, & l) were fixed at zero. In each of the six models that were tested, the stability model was adjusted by releasing one or two additional paths. In tables 2 and 3 these paths are described as causal models (burnout_{t1} → equity_{t2}, equity_{t1} → burnout_{t2} & equity_{t1}² → burnout_{t2}) and as synchronous models (burnout_{t2} → equity_{t2}, equity_{t2} → burnout_{t2} & equity_{t2}² → burnout_{t2}), respectively. Notice that in the curvilinear models two paths were released, the linear term *and* the curvilinear term, as is recommended when testing for curvilinear effects with multiple regression (Aiken & West, 1991). For a curvilinear effect to be acknowledged, the model encompassing the curvilinear effect needs to significantly improve the fit of the model that only includes the linear term.

As a double-check on the results, the curvilinear effects found in the analyses described below were verified with multiple regression analysis. This confirmed our results.

Table 2 shows the fit of the models examining the longitudinal relationships between the three burnout dimensions and equity in the relationship with recipients. With respect to the relationship between emotional exhaustion and equity in the relationship with recipients, the model encompassing a causal curvilinear relationship from equity in the relationship with recipients at T1 to emotional exhaustion at T2 shows the best fit. This model improved the fit of the stability model and the model with the linear term significantly ($\Delta \chi^2_{(2)} = 5.96, p = .05$; $\Delta \chi^2_{(1)} = 5.46, p = .02$, respectively). The fit of this model was still non-significant because of the inclusion of both the linear and curvilinear terms of equity: a large part of the remaining variance is due to covariance between the linear and curvilinear terms at T2. This relationship was fixed at zero to be able to test the curvilinear hypothesis in line with the method used in multiple regression analysis.

Table 2 Causal relations between burnout and equity in the relationship with recipients ($n=245$)

	χ^2	df	p	AGFI	$\Delta\chi^2$	p
EE \leftrightarrow EQR						
Stability model	105.71	9	.000	.65		
Causal models:						
EE _{t1} \rightarrow EQR _{t2}	105.47	8	.000	.61	.24	.624
EQR _{t1} \rightarrow EE _{t2}	105.21	8	.000	.61	.50	.480
& EQR _{t1} ² \rightarrow EE _{t2}	99.75	7	.000	.58	5.96	.051
Synchronous models:						
EE _{t2} \rightarrow EQR _{t2}	103.49	8	.000	.62	2.22	.136
EQR _{t2} \rightarrow EE _{t2}	105.38	8	.000	.61	.33	.566
& EQR _{t1} ² \rightarrow EE _{t2}	104.87	7	.000	.56	.84	.657
DEP \leftrightarrow EQR						
Stability model	97.94	9	.000	.67		
Causal models:						
DEP _{t1} \rightarrow EQR _{t2}	7.51	8	.000	.64	.43	.512
EQR _{t1} \rightarrow DEP _{t2}	97.79	8	.000	.64	.15	.699
& EQR _{t1} ² \rightarrow DEP _{t2}	97.66	7	.000	.59	.28	.869
Synchronous models:						
DEP _{t2} \rightarrow EQR _{t2}	97.93	8	.000	.64	.01	.920
EQR _{t2} \rightarrow DEP _{t2}	97.89	8	.000	.64	.05	.823
& EQR _{t1} ² \rightarrow DEP _{t2}	97.25	7	.000	.59	.69	.708
PA \leftrightarrow EQR						
Stability model	103.22	9	.000	.66		
Causal models:						
PA _{t1} \rightarrow EQR _{t2}	102.81	8	.000	.62	.41	.522
EQR _{t1} \rightarrow PA _{t2}	103.20	8	.000	.57	.02	.888
& EQR _{t1} ² \rightarrow PA _{t2}	102.49	7	.000	.57	.73	.694
Synchronous models:						
PA _{t2} \rightarrow EQR _{t2}	98.78	8	.000	.64	4.44	.035
EQR _{t2} \rightarrow PA _{t2}	100.56	8	.000	.63	2.66	.103
& EQR _{t1} ² \rightarrow PA _{t2}	7.49	7	.000	.59	5.73	.057

Note. $\Delta\chi^2$ signifies the change with the stability model

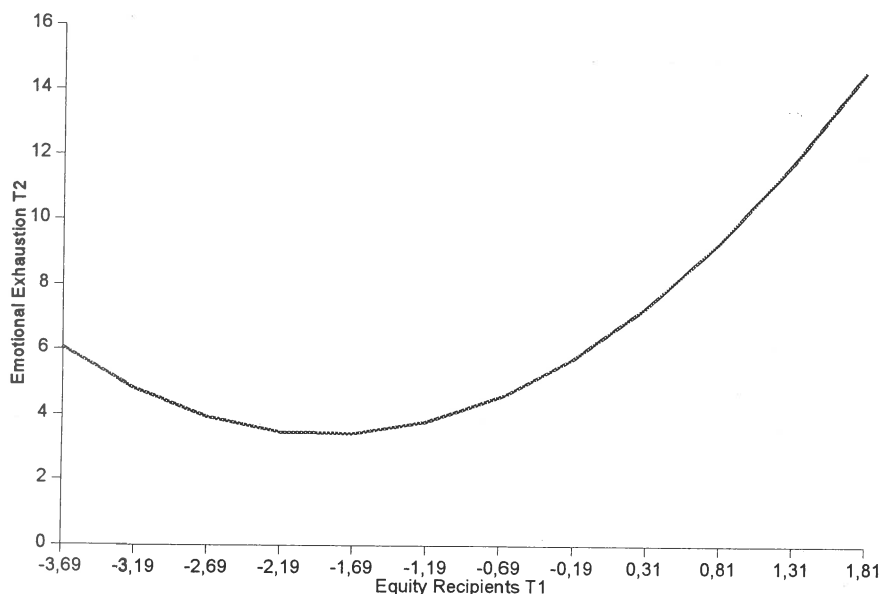


Figure 2 Curvilinear relationship between equity in the relationship with recipients at T1 and emotional exhaustion at T2

The data from the multiple regression analysis were used to depict this curvilinear effect. Figure 2 shows the relationship between equity in the relationship with recipients at T1 and emotional exhaustion at T2, controlling for emotional exhaustion at T1. The curve shows that compared to a slightly underbenefited relationship, an overbenefited relationship as well as a stronger underbenefited relationship led to more emotional exhaustion, hereby confirming the hypothesis. A remarkable finding is that the lowest level of emotional exhaustion was not found for the equitable relationship (equity in the relationship with recipients_{T1} = 0), but for a relationship that was perceived as slightly underbenefited (equity in the relationship with recipients_{T1} \approx -2).

The stability model of depersonalization and equity in the relationship with recipients was not significantly improved with either one of the causal or one of the synchronous models. Accordingly, depersonalization and equity in the relationship with recipients seem to be

longitudinally unrelated.

The stability between personal accomplishment and equity in the relationship with recipients was significantly improved with the synchronous relationship of personal accomplishment at T2 towards equity in the relationship with recipients at T2 ($\Delta \chi^2_{(1)} = 4.44$, $p = .04$). The improvement of fit of the curvilinear synchronous model- equity in the relationship with recipients₂ & equity in the relationship with recipients² → personal accomplishment₂- failed to reach significance both in comparison to the stability model as to the linear model ($\Delta \chi^2_{(2)} = 5.73$, $p = .06$) ($\Delta \chi^2_{(1)} = 3.07$, $p = .08$). It is therefore concluded that the most likely direction of this relationship runs from personal accomplishment at T2 to equity in the relationship with recipients at T2. The path coefficient for this relationship is .16, signifying that feelings of personal accomplishment led to perceiving more benefits from the relationship with recipients.

In sum, the results with respect to possible relationships between equity in the relationship with recipients and burnout show that equity in the relationship with recipients causally and curvilinear influences emotional exhaustion. Furthermore, no relationship was found between equity in the relationship with recipients and depersonalization. Finally, personal accomplishment has a positive synchronous influence on equity in the relationship with recipients.

Table 3 shows that the stability model of emotional exhaustion and equity in the relationship with the organization could not be improved significantly upon with either causal or synchronous relationships. Like depersonalization and equity in the relationship with the organization, these two variables seem to be longitudinally unrelated. The stability coefficients in these models as well as in the other models in this article were comparable to the correlations between the variables. That is, .59 for emotional exhaustion, .64 for depersonalization, .66 for personal accomplishment, .58 for equity in the relationship with recipients, and .62 for equity in the relationship with the organization.

The relationship between depersonalization and equity in the relationship with the organization is somewhat more complicated. The causal linear model of equity in the relationship with the organization at T1 influencing depersonalization at T2 significantly improved the stability model ($\Delta \chi^2_{(1)} = 5.76$, $p = .02$) just as both curvilinear models ($\Delta \chi^2_{(2)} = 6.94$, $p = .03$; $\Delta \chi^2_{(2)} = 6.10$, $p = .05$, for the causal and the synchronous model,

Table 3 Causal relations between burnout and equity in the relationship with the organization ($n = 245$)

	χ^2	df	p	AGFI	$\Delta\chi^2$	p
EE \leftrightarrow EQO						
Stability model	94.84	9	.000	.69		
Causal models:						
EE _{t1} \rightarrow EQO _{t2}	94.72	8	.000	.65	.08	.777
EQO _{t1} \rightarrow EE _{t2}	94.58	8	.000	.65	.26	.610
& EQO _{t1} ² \rightarrow EE _{t2}	94.58	7	.000	.61	.26	.878
Synchronous models:						
EE _{t2} \rightarrow EQO _{t2}	92.79	8	.000	.66	2.05	.152
EQO _{t2} \rightarrow EE _{t2}	94.56	8	.000	.65	.28	.597
& EQO _{t1} ² \rightarrow EE _{t2}	92.86	7	.000	.61	1.98	.372
DEP \leftrightarrow EQO						
Stability model	99.78	9	.000	.67		
Causal models:						
DEP _{t1} \rightarrow EQO _{t2}	99.17	8	.000	.63	.61	.435
EQO _{t1} \rightarrow DEP _{t2}	94.02	8	.000	.65	5.76	.016
& EQO _{t1} ² \rightarrow DEP _{t2}	92.84	7	.000	.61	6.94	.031
Synchronous models:						
DEP _{t2} \rightarrow EQO _{t2}	99.77	8	.000	.63	.01	.920
EQO _{t2} \rightarrow DEP _{t2}	97.02	8	.000	.64	2.72	.099
& EQO _{t1} ² \rightarrow DEP _{t2}	93.68	7	.000	.60	6.10	.047
PA \leftrightarrow EQO						
Stability model	99.67	9	.000	.67		
Causal models:						
PA _{t1} \rightarrow EQO _{t2}	99.56	8	.000	.63	.11	.740
EQO _{t1} \rightarrow PA _{t2}	96.91	8	.000	.64	2.76	.097
& EQO _{t1} ² \rightarrow PA _{t2}	96.53	7	.000	.59	3.14	.208
Synchronous models:						
PA _{t2} \rightarrow EQO _{t2}	97.91	8	.000	.64	1.76	.185
EQO _{t2} \rightarrow PA _{t2}	9.67	8	.000	.63	0	1.00
& EQO _{t1} ² \rightarrow PA _{t2}	92.95	7	.000	.61	6.72	.035

Note. $\Delta\chi^2$ signifies the change with the stability model

respectively), a curvilinear effect still seems the most accurate description of the relationship between equity in the relationship with the organization and depersonalization. First, it is striking that both curvilinear models differed significantly from the stability model. In addition, in accepting the linear model, we would be confronted with having to explain a positive path coefficient (.11), suggesting that the more a professional receives from the organization, the more depersonalized he or she becomes, an interpretation that is both depressing and contrary to common sense and current theory. In contrast, a curvilinear effect, albeit still somewhat puzzling, is easier to interpret. As is shown in figure 3, the highest level of depersonalization was experienced at a level of underbenefitedness just below equity. Both perceiving oneself in the relationship with the organization as more underbenefited as perceiving this relationship as more overbenefited caused less depersonalization.

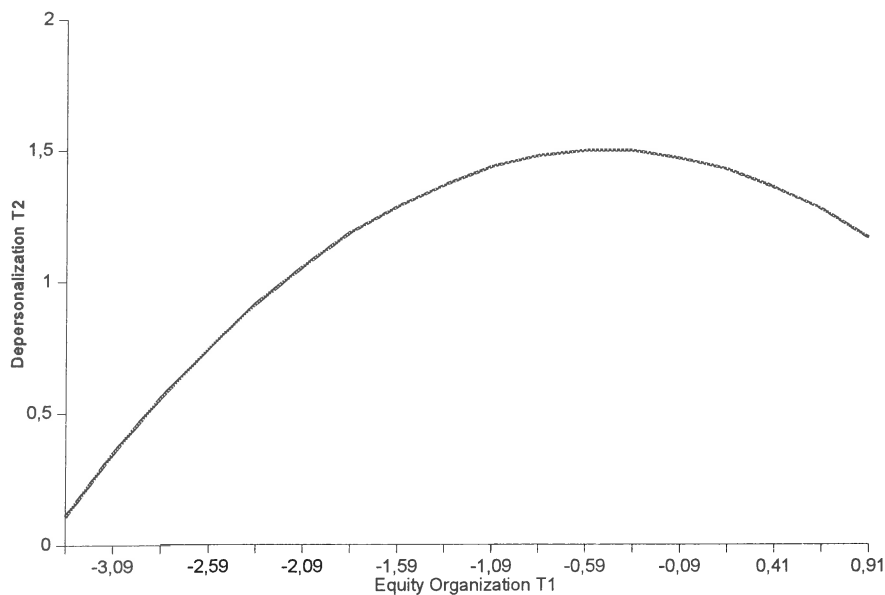


Figure 3 Curvilinear relationship between equity in the relationship with the organization at T1 and depersonalization at T2

The relationship between personal accomplishment and equity in the relationship with the organization is more obvious since the best fitting model is clearly the synchronous curvilinear model of equity in the relationship with the organization at T2 toward personal accomplishment at T2. This model significantly improves the fit of the stability model as well as the linear model ($\Delta \chi^2_{(1)} = 6.72, p = .03$; $\Delta \chi^2_{(1)} = 6.72, p = .03$, respectively). Figure 4 shows that this curvilinear effect is comparable to the one in figure 3 featuring depersonalization, hereby lending credence to this curvilinear effect. Again, there is a break-point in equity in the organizational relationship relating to personal accomplishment. The level of personal accomplishment is lowest at this "break-point", where the professionals felt somewhat underbenefited. Receiving more as well as receiving less from the organization raised the level personal accomplishment within a relatively short, synchronous, time-frame.

It is possible to speculate that professionals react to their perception of equity in the relationship with the organization by changing their attitude towards recipients (depersonalization) and their feeling of competence (personal accomplishment). The curvilinear effects suggest two kinds of reactions, depending on whether professionals

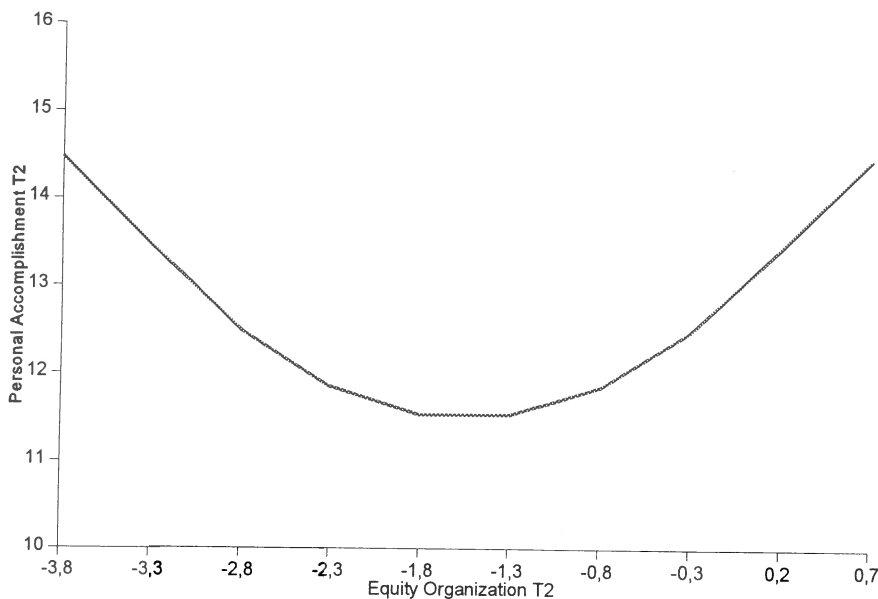


Figure 4 Curvilinear relationship between equity in the relationship with the organization at T2 and personal accomplishment at T2

perceive themselves in this relationship as under- or overbenefited. The first kind of reaction involves those professionals feeling overbenefited or slightly underbenefited (the right side of the curve in figures 3 and 4). For them, receiving more from the organization resulted in a more positive attitude towards their work: they became less depersonalized and felt more personal accomplishment. This is in line with equity theory

The second kind of reaction in these curvilinear effects is just the opposite. Starting from a level of underbenefitedness somewhat below equity, professionals feeling more underbenefited did not become burned out; in contrast depersonalization decreased and personal accomplishment increased. It is possible to speculate that these professionals react to the lack of support from the organization by distancing themselves from the organization- because no rewards are to be expected for their efforts in this relationship- and focusing more on their recipients instead.

In sum, curvilinear synchronous relationships were found for equity in the relationship with the organization in relation to depersonalization and personal accomplishment. No longitudinal relationship was found between equity in the relationship with the organization and emotional exhaustion.

Causal relations between burnout dimensions

For the relationships between the three burnout dimensions, similar analyses were performed as described in the previous section. That is, for each combination of two dimensions, the fit of models with causal or synchronous relationships was compared to the model with only the stability paths and the correlation at T1 specified. Since no curvilinear effects were hypothesized, no curvilinear terms were included in the models, leaving four variables or four relationships to be tested against the stability model. Table 4 shows the results of these analyses.

For the relationship between emotional exhaustion and depersonalization, the model in which depersonalization at T2 synchronously influenced emotional exhaustion at T2 showed the best fit. The fit of this model differed significantly from the fit of the stability model ($\Delta \chi^2_{(1)} = 30.63, p = .00$) and this improvement in fit was stronger than that of the reversed synchronous relationship. Model testing showed that the relationship between emotional exhaustion and personal accomplishment was also synchronous in which emotional

exhaustion at T2 influenced personal accomplishment at T2. This model significantly increased the fit of the stability model ($\Delta \chi^2_{(1)} = 7.36, p = .00$). Finally, the relationship between depersonalization and personal accomplishment was synchronous. The model in which personal accomplishment at T2 influenced depersonalization at T2 proved the best fit, significantly better than the stability model ($\Delta \chi^2_{(1)} = 9.08, p = .00$).

Table 4 Causal relations between burnout dimensions (n=245)

	χ^2	df	p	AGFI	$\Delta \chi^2$	p
EE ↔ DEP						
Stability model	34.72	3	.000	.76		
Causal models:						
EE _{t1} → DEP _{t2}	32.95	2	.000	.65	1.77	.183
DEP _{t1} → EE _{t2}	34.27	2	.000	.64	.45	.502
Synchronous models:						
EE _{t2} → DEP _{t2}	13.07	2	.001	.86	21.65	.000
DEP _{t2} → EE _{t2}	4.09	2	.04	.91	30.63	.000
EE ↔ PA						
Stability model	11.41	3	.010	.92		
Causal models:						
EE _{t1} → PA _{t2}	11.39	2	.003	.88	.02	.888
PA _{t1} → EE _{t2}	10.66	2	.005	.89	.75	.386
Synchronous models:						
EE _{t2} → PA _{t2}	4.05	2	.13	.96	7.36	.007
PA _{t2} → EE _{t2}	8.08	2	.02	.91	3.33	.068
DEP ↔ PA						
Stability model	10.60	3	.014	.93		
Causal models:						
DEP _{t1} → PA _{t2}	10.40	2	.006	.89	.20	.655
PA _{t1} → DEP _{t2}	9.50	2	.009	.90	1.10	.294
Synchronous models:						
DEP _{t2} → PA _{t2}	3.80	2	.15	.96	6.80	.009
PA _{t2} → DEP _{t2}	1.52	2	.47	.98	9.08	.003

Note. $\Delta \chi^2$ signifies the change from the stability model

Thus, it seems that the best fitting models of the relationships between the burnout dimensions are all synchronous. This means that these dimensions influenced each other within a short time-frame. If the best fitting relationships between the burnout dimensions resulting from the model testing are combined, the results suggest a feedback loop between the dimensions in which emotional exhaustion negatively influences personal accomplishment (path coefficient = $-.11$), that in its turn negatively influences depersonalization (path coefficient = $-.13$). Depersonalization closes the feedbackloop by positively influencing emotional exhaustion (path coefficient = $.28$).

Discussion

In this article the causal relationships were investigated between (1) equity in the relationship with recipients and equity in the relationship with the organization on the one hand and the three burnout dimensions on the other hand, (2) additionally, a possible curvilinear relationship between equity and burnout was investigated. (3) Furthermore, the causal relationships between the three burnout dimensions were examined. Although the results are not always straightforward or easy to interpret, the most plausible interpretation seems that (1) equity influences burnout, (2) the relationship between equity and burnout is curvilinear, and (3) the burnout dimensions reflect different variables that may influence each other synchronously.

Causal relations between equity and burnout

With respect to the first research question, concerning the direction and the time-frame of the relationships between equity and burnout, four significant relationships were found (of a possible six). Of these four, three were curvilinear relationships in which equity influenced burnout and not the other way around. These longitudinal findings lend credence to previous cross-sectional findings. As suggested in the dual-level social exchange model (Schaufeli et al., in press), both the interpersonal and the organizational relationship are related to burnout. However, the link between these relationships and burnout is somewhat more complicated than suggested in this model. First of all, this study shows again that by differentiating between the three dimensions instead of using them as one construct, more insight is gained into the specific characteristics of the separate dimensions (Maslach, 1993). Furthermore, it

can be concluded that among human service professionals, perceptions of equity have a curvilinear effect on burnout as reported in Chapter Four.

Equity in the relationship with recipients has a different effect on burnout than equity in the relationship with the organization. Perceptions of equity in the interpersonal relationship influence emotional exhaustion, the stress dimension of burnout (Maslach & Schaufeli, 1993). As found cross-sectionally in the study of van Dierendonck et al. (1996, chapter 4), feeling more underbenefited as well as feeling more overbenefited resulted longitudinally in more emotional exhaustion, in which-contrary to what equity theory predicts-overbenefitedness results in more emotional exhaustion than underbenefitedness. This finding and the fact that the lowest level of emotional exhaustion was found among professionals with an underbenefited relationship strengthens the explanation that professional-recipient relationships are asymmetrical by their very nature. Obviously, an overbenefited relationship runs counter to the professional's attitude (which is directed at giving) in such a strong and fundamental way, that it might become stressful in itself (Chapter 4).

Whereas equity in the relationship with recipients primarily affected emotional exhaustion, equity in the organizational relationship was related to both depersonalization and personal accomplishment-the attitudinal dimension of burnout- in a similar curvilinear way. It is remarkable that equity in the organizational relationship influences these two recipient-oriented dimensions and not equity in the interpersonal relationship. This finding is contrary to cross-sectional findings as reported by Schaufeli et al. (1996) and to the intercorrelations at T1 in this research. Cross-sectionally, emotional exhaustion is more strongly related to equity in the organizational relationship than the other two attitudinal dimensions, with a seemingly very logical direction of receiving more being related to less exhaustion.

A possible explanation for the relationship between equity in the organizational relationship and depersonalization and personal accomplishment can be found in defining the relationship with the organization as a resource for the professionals. Following Leiter (1993), it is to be expected that demands (e.g., work load, dull routine) are more strongly related to emotional exhaustion, whereas resources are expected to be more strongly related to depersonalization and personal accomplishment. A recent meta-analysis on the correlates of the three burnout dimensions confirmed that demands correlated strongest with emotional exhaustion (Lee & Ashforth, 1996). A lack of organizational support is then considered a

decrease in resources. Following this line of thought it is to be expected, as this research shows, that the recipient relationship (i.e. work load) is related to emotional exhaustion and the organizational relationship (i.e. resource) is related to the attitudinal dimension of burnout.

Additional evidence for considering personal accomplishment as a resource is found in the synchronous time-frame in which personal accomplishment leads to the perception of getting more out of the relationships with recipients. Of the three dimensions, personal accomplishment is the most cognitively oriented in that it reflects a dimension of self-evaluation, i.e. the evaluation of one's own competence at work (Maslach, 1993). This dimension can also be viewed as being related to self-efficacy (Bandura, 1977), a personality related concept. This makes it plausible that reduced personal accomplishment is situated at the start of the burnout process as well as being the dimension that is most difficult to influence.

Causal relations between burnout dimensions

The models with synchronous relationships described the data best. Emotional exhaustion is positively influenced by depersonalization, which is negatively influenced by personal accomplishment, which is in its turn negatively influenced by emotional exhaustion. In order to compare our results to those of other studies, a re-analysis was performed on the data of three previous longitudinal studies that provided necessary data for such an analysis. These are the Leiter (1990) study, the Jackson et al. (1986) study, and the Lee and Ashforth (1993) study. Just as the samples in the present research, causal and synchronous models were tested for improvements in fit against the null model. In a few of these relationships the fit of the two synchronous models was almost similar. Choosing one or the other direction would be an arbitrary and not empirically validated decision. Therefore, it was decided that in these instances a model that allowed the synchronous variables in question to correlate would reflect best the covariance matrix, suggesting a reciprocal relationship.

The Leiter (1990) study among 122 mental health workers had a time lag of six months. The best fitting models suggested that emotional exhaustion_{t2} and depersonalization_{t2} were positively correlated ($\chi^2_{(2)} = 2.21, p = .33, AGFI = .95$), that more personal accomplishment_{t1} caused less emotional exhaustion_{t2} ($\chi^2_{(2)} = .20, p = .91, AGFI = 1.00$), and that depersonalization_{t2} and personal accomplishment_{t2} were negatively correlated ($\chi^2_{(2)} = 1.59$,

$p = .45$, AGFI = .96).

In the study of Lee and Ashforth (1993), 143 supervisors and managers in a public welfare setting participated with a time-lag of eight months. Increased depersonalization_{t2} was related to more emotional exhaustion_{t2} ($\chi^2_{(2)} = 2.55$, $p = .33$, AGFI = .96). No relationships were found between emotional exhaustion and personal accomplishment. More personal accomplishment_{t1} caused less depersonalization_{t2} ($\chi^2_{(2)} = .97$, $p = .62$, AGFI = .98).

In the sample of Jackson et al. (1986) among 248 teachers one year elapsed between the two measurements. Increased depersonalization_{t2} was related to more emotional exhaustion_{t2} ($\chi^2_{(2)} = 13.37$, $p = .001$, AGFI = .86). Emotional exhaustion_{t2} and personal accomplishment_{t2} influenced each other negatively ($\chi^2_{(2)} = .70$, $p = .71$, AGFI = .99). More personal accomplishment_{t2} was synchronously related to less depersonalization_{t2} ($\chi^2_{(2)} = 2.57$, $p = .28$, AGFI = .97).

In sum, in the reanalysis of these three studies two synchronous relationships from depersonalization_{t2} toward emotional exhaustion_{t2} were found and one correlational relationship was found between these two variables. Personal accomplishment and depersonalization were correlational related at T2 in one study, whereas in the other two studies, personal accomplishment_{t2} was synchronously related to decreased depersonalization_{t2}. Emotional exhaustion and personal accomplishment were unrelated in one study, in another study personal accomplishment_{t1} influenced emotional exhaustion_{t2}, in the third study emotional exhaustion and personal accomplishment were correlated at T2.

Based on the reanalysis of these three studies and the present research, a trend emerges in which the three burnout dimensions influence each other within a short, synchronous, time-frame. The most consistent results show that Personal Accomplishment negatively influences Depersonalization, which positively influences Emotional Exhaustion. The relationship between Personal Accomplishment and Emotional Exhaustion is not clear since the outcomes in the four studies are different in time-frame and direction. Of course, this is a tentative trend since only two measurement points were included in all studies. Future research with more measurement points should further explore this trend.

It seems that no definite confirmation has been found for either the ideas of Leiter and Maslach (1988) or for those of Golembiewski et al. (1986). The results with respect to personal accomplishment even suggest that neither model suffices. Possible alternatives are

the parallel development of, on the one hand, emotional exhaustion and depersonalization, and on the other hand personal accomplishment as suggested by Leiter's process model (1993). However the causal direction between emotional exhaustion and depersonalization as suggested by Leiter (1993) could be reversed. The latter directional influence is in line with the ideas of Golembiewski et al., (1986) that depersonalization signifies coping inadequately with the demands of the job which will eventually lead to emotional exhaustion.

An alternative approach is that of Van Dierendonck et al. (1994) who showed cross-sectionally that the attitudinal dimension of burnout (i.e., personal accomplishment and depersonalization) can be considered part of a feedbackloop, in which this dimension is influenced by emotional exhaustion on the one hand and the experience of harassment by patients on the other hand. Our longitudinal results suggest a reformulation of this model by reversing the feedbackloop so that the attitudinal dimension influences emotional exhaustion.

Note that only one causal relationship across one year was found between the three burnout dimensions. It seems difficult to establish causal relations between the burnout dimensions across such a relatively long time-frame. Changes in one dimension are followed within a short time by changes in another dimension. This might be interpreted as an indication of the interconnectedness of these dimensions, each forming an unique, interlinked aspect of one underlying syndrome.

Comments and Implications

The results with respect to causal relationships between equity and burnout suggest that when developing interventions, it is important to take into consideration which burnout dimensions one wants to influence. Based on the present research interventions at the interpersonal level are expected to be more effective for influencing emotional exhaustion, whereas interventions at the organizational level will be more effective for influencing depersonalization and personal accomplishment. Remarkable, these findings suggest that organizations that want to influence their professionals attitude towards recipients and their feelings of competence may do so by providing their professionals with an equitable or even overbenefited relationship with the organization. Furthermore, given the curvilinear effects, it is important to take the level of equity into consideration of the professionals undergoing such interventions. Professionals at different levels of equity could very well react differently to an

intervention and, therefore, need a different approach.

A problem with the present research, is our use of single-item measures of equity. If in future research, equity is measured with more items, or with more measures, the reliability of such a measure could be taken into account. It is important that such measures acknowledge the existence of overbenefited perceptions.

Another focus for future research is research encompassing more than two measurement points. With only two points, as in this study, the suggested trend of causal effects between the burnout dimensions can only be considered tentative since all changes took place in the same time-frame. Nevertheless, the consistency of the findings across our own and three previous studies lends credence to the suggested trend.

In conclusion, the importance of synchronous relationships between equity and burnout opens up speculations whether the perception of inequity is not so much a separate construct but actually part of the burnout construct, or as Lazarus (1991, p.353) puts it: "The solution is to recognize that emotion is a superordinate concept that includes cognition, which is its cause in a part-whole sense." From this perspective it is also quite plausible that depersonalization and personal accomplishment-being the attitudinal and cognitive dimensions of burnout-precede emotional exhaustion in synchronous relationships.

CHAPTER 6

THE EVALUATION OF A BURNOUT INTERVENTION PROGRAM¹

Since its 'discovery' in the early seventies, burnout has been recognized as a serious threat, particularly for human service professionals (Schaufeli, Maslach, & Marek, 1993). Research over the past two decades has shown that burnout is not only related to negative outcomes for the individual, such as physical symptoms and depression, but also to negative outcomes for the organization, including high absenteeism and turnover rates, and lowered productivity (for a review see Schaufeli & Buunk, 1996). It is therefore not surprising that a number of intervention programs have been developed. Most intervention programs offer one-point-in-time workshops aimed at the individual professional. Usually, such individually based workshops combine several approaches, including relaxation techniques, cognitive stress management, time management, social skills training, didactical stress management, and attitude change (Pines & Aronson, 1988). The present research examined the effectiveness of an individually based intervention program for professionals working in direct care of mentally disabled. The program contained elements similar to the ones mentioned above, moreover it was embedded in a broader organizationally based strategy to reduce burnout that included stimulating support from within the organization for the participants.

Burnout intervention programs: a brief review

To date, ten studies have more or less systematically evaluated burnout intervention programs for human service professionals, but the results of these studies are mixed. Pines and Aronson (1983) were among the first to evaluate their one-day burnout workshop for the employees of two social services. Although the authors claim that at the post-test - one week

¹ This has been submitted for publication: Van Dierendonck, D., Schaufeli, W.B. & Buunk, B.P. (1996). The evaluation of burnout intervention program.

after the workshop ended - the level of burnout (i.e. exhaustion) in the experimental group had "decreased slightly" (p. 270), this effect did *not* reach significance ($p < .10$). However, compared to the control group that did not participate in the workshop, satisfaction with colleagues increased significantly in the experimental group. In a similar vein, Brown (1984) showed that weekly held staff-support groups did *not* reduce the level of burnout for nurses after five months, but that the nurses were more satisfied with their colleagues and superiors. These findings agree with Larson (1986), who evaluated a twelve-week staff-support group training program for hospice and oncology workers. He also observed *no* significant decrease in burnout-scores (i.e. emotional exhaustion). However, as in the previous studies, participants were quite satisfied with the training program they received. West, Horan, and Games (1984) were more successful in combatting burnout in hospital nurses by using stress inoculation training. A four months follow-up showed that burnout (i.e. emotional exhaustion and reduced personal accomplishment) decreased significantly, as did anxiety and systolic blood pressure. In contrast, Freedy and Hobfoll (1994), who used a somewhat similar stress inoculation approach among nurses, did not observe a significant decrease in the level of burnout after a five-week follow up. Higgins (1986) studied the effectiveness of a cognitive behavioral program among women from various helping professions that included, amongst others, assertiveness training and Rational Emotive Therapy. At the post-test after seven sessions, the level of emotional exhaustion had significantly decreased, whereas *no* significant changes were observed in the non-treated control-group. Using a more sophisticated pre-test post-test *matched* control group design in a sample of social services workers, Corcoran and Bryce (1983) showed positive effects of a four-week interpersonal skills training on levels of burnout (i.e. emotional exhaustion). Finally, Schaufeli (1995) observed a decrease in levels of emotional exhaustion, but not in either other burnout component (i.e. depersonalization and reduced personal accomplishment), for community nurses one month after they had followed a three-day burnout workshop that included most of the elements mentioned earlier by Pines and Aronson (1988).

It is rather difficult to draw general conclusions from this brief review because the studies used different samples, procedures, time frames, measurement instruments, and approaches. Moreover, many studies suffer from methodological inadequacies such as the lack of one or more control groups (e.g. Brown, 1984; Larson, 1986; Schaufeli, 1995). In addition, the number of subjects included is generally rather small. For instance, in the best designed study, four groups

of only nine participants were included (Corcoran & Bryce, 1983), whereas the largest study (Freedy & Hobfoll, 1994) included no more than 87 subjects. Nevertheless, one conclusion can be drawn: the core symptom of burnout - exhaustion - can be reduced. It seems that this can be achieved by training professionals to use particular coping skills, most notably relaxation techniques, cognitive restructuring, and social skills. On the other hand, exclusively providing social support, like in staff-support groups, does not seem to have a positive impact on burnout levels, although it may increase the level of satisfaction with colleagues and superiors.

The present study attempts to contribute to the existing literature in four ways. First, a longer time-frame was used than in previous research where the time frame spanned six months at most. Two follow-ups were conducted, six and twelve months after the program was completed. The three measurement points offered the possibility for a thorough examination of the effects of the program by allowing for tests of short-term as well as long-term effects of the intervention. Second, the present study is unique by including additional behavioral criteria to assess the effectiveness of a burnout intervention program (i.e. turnover intention and registered absenteeism). Especially absenteeism is important in this respect because of its objective nature. Third, our study included two control groups whereas some studies failed to include even one control group. The so-called internal control group allows for comparisons *within* the target-organization. Because the burnout intervention program also encompassed a workshop for the middle management to deal with burnout-prone professionals, changes in levels of burnout and absenteeism might not be restricted to the experimental group, but may have affected all professionals in the organization. In addition, carry-over effects can be expected because professionals who followed the program continue to work closely together with their colleagues who did not follow the program. Therefore, in order to control for the overall organizational change effect as well as the carry-over effect, a so-called *external* control group was also included. This group consisted of the same kind of professionals, who were employed at a similar organization but in another part of the country. Finally, last but not least, our study has a particular theoretical perspective in which equity theory and social resources play an important role.

Equity theory

Most burnout research has been rather a-theoretical, borrowing its designs from

organizational stress research. Although it is generally recognized that the emotionally demanding relationship between professional and recipient lies at the core of burnout (Cherniss, 1980; Maslach, 1993), the specific nature of that relationship has not yet been acknowledged at a more theoretical level. Recently, Buunk and Schaufeli (1993) have suggested that the concept of equity could fill this theoretical gap. They argued that the relationship between professional and recipient can be considered as an ongoing social exchange process that is governed by the principles of equity. According to equity theory, people evaluate their relationships with others in terms of costs and benefits, or investments and outcomes (cf. La Gaipa, 1977). They expect that the amount they invest and gain from a relationship is proportional to what the other party in the relationship invests and gains (Adams, 1965; Harris, 1983). However, the relationship between professionals and recipient in the human services is complementary by its very nature: the professional is supposed to *provide* care, support, comfort, and so on, whereas the recipient is supposed to *receive*. Accordingly, from an equity perspective the professional-recipient relationship is potentially distressing. A number of recent studies among nurses (Schaufeli & Janczur, 1994; VanYperen, Buunk, & Schaufeli, 1992), physicians (Van Dierendonck, Schaufeli & Sixma, 1994) and therapists (Van Dierendonck, Schaufeli & Buunk, 1996) confirmed that - as expected - inequity in the professional-recipient relationship is positively associated with burnout.

In addition, a social exchange relationship also exists between the professional and the organization. Individuals pursue equity in the employee-organization relationship (Hatfield & Sprecher, 1984). Employees, including human service professionals will feel that they contribute to the organization with their work (e.g. time, effort, skills) and will, therefore, expect rewards or inducements in return (e.g. salary, esteem, career advancement) that are proportional to their contributions. Recent studies among student-nurses (Schaufeli, Van Dierendonck & Van Gorp, in press) and therapists (Van Dierendonck, et al., 1996) have shown that employees who perceive inequity at the organizational level experience relatively more burnout

The intervention program

Generally speaking, the rationale behind the intervention program that was the focus of the present research was to reduce the risk of burning out by increasing the fit between one's present goals and expectations, and the current work situation, the fit between the Person and the

Environment (French, Caplan, Harrison, 1982). The participants were stimulated to discover ways to improve the fit between their motives, needs, and capacities on the one hand and the demands and provisions of the organization on the other hand. Or put in terms of equity theory: the program was aimed at reducing feelings of inequity that resulted from a discrepancy between goals and expectations concerning recipients and organization on the one hand, and the every-day reality of the job on the other hand.

The program focused directly on the three ways that people generally use to restore equity (Adams, 1965; Walster, Berscheid, & Walster, 1973). First, professionals can reestablish actual equity by adjusting their actual contributions or outcomes. This was achieved by stimulating participants to describe ways to start changing their work-situation in the plan they wrote at the end of the program. Second, participants can change their perceptions of investments and outcomes. This was done by making the expectations about the recipients of care and about the organization more realistic. For example, if only small and more realistic outcomes are expected in the relationship with recipients, it will be easier to reach equity. The third way to reestablish equity is to leave the situation. The program stimulated participants to actively pursue another career if equity could not be attained in their present job.

The intervention program was deliberately announced positively as 'Working at your career'. The program consisted of five weekly group-sessions of one morning or afternoon run by a psychologist with six to eight participants. Individuals participated voluntarily and belonged to various work-units. In order to help professionals regain control over their work situation (and therewith being able to restore equity), the approach was strongly cognitive-behavioral oriented (Matteson & Ivancevich, 1987). That is, the psychologist actively stimulated perspective taking and cognitive restructuring. The participants were encouraged to look at their situation in a different way and see opportunities for personal growth, not only hindrances. In the first two meetings attention was paid to the motivation for choosing the present job. In addition, a general introduction was given about burnout theory (e.g. development of burnout, risk factors to burnout) and how it applied to their work. At the third meeting the focus shifted towards the present situation and how this relates to one's actual goals and expectations. Moreover, the professionals were taught to handle the strain of working more adequately by learning a relaxation exercise. The self-image of the participants was explored in the fourth meeting. The program was concluded in the fifth meeting by developing a plan of action for the next year. This

plan was either directed towards changing one's present job, or looking for another job that would be more in line with one's present goals and expectations. After six months, a follow-up meeting was organized in order to evaluate the plan.

Social resources

As a part of the broader program to reduce burnout and absenteeism in the target organization, supervisors participated in a separate parallel workshop in which their communication skills and social skills were trained. This workshop consisted of three group-meetings and was conducted by the same psychologist. Social resources, such as support from one's supervisor and one's colleagues, are important for coping with stress and counteracting burnout (Schaufeli & Buunk, 1996). For instance, the Conservation Of Resources theory (Hobfoll, 1989) predicts that the availability of resources influences the ability and the motivation for change. That is, participants who can draw upon social resources at their workplace might benefit more from a burnout intervention program than those who have less resources at their disposal. However, Hobfoll, Freedy, Lane, and Geller (1990) suggested that although social resources may help counterbalance environmental demands, people may be reluctant to call upon support out of fear of being a burden. This was confirmed by Buunk, Schaufeli and Ybema (1994), who found that nurses who lacked personal accomplishment actually avoided others at work who performed better. Despite their strong need for social comparison, these burned-out nurses did not affiliate with their better performing colleagues, most probably because of embarrassment or out of fear of seeming incompetent. Accordingly, the authors concluded "Burned-out nurses may not use their social environment in a way that helps them to reduce burnout and to cope effectively with the stress imposed by their profession" (Buunk et al., 1994, p. 1713).

Following this line of thought, the supervisors learned how to deal with burnout-prone individuals by improving their own communication skills and social skills. These skills were supposed to enhance their capacity for providing adequate social support, which in turn is expected to counteract burnout and to reduce absenteeism rates. Social support from supervisors was considered to be crucial for the transfer of what the participants had learned and planned in their own workshops to the actual work situation. In a similar vein, it was expected that participating professionals who experienced social support from their colleagues would benefit

more from the workshop than those who experienced less support.

Absenteeism and turnover intention

The current intervention program was aimed at the restoration of equity at the interpersonal as well as at the organizational level. Therefore, it was predicted that the program would lead to more equity at both levels, and subsequently to less burnout. Since inequity at the organizational level predicts absenteeism among bus drivers (Geurts, Schaufeli & Buunk, 1993) and among blue collar workers (Geurts, Buunk, & Schaufeli, 1994a, 1994b), it is likely that the focus on the reduction of perceived inequity in the workshop will diminish the need to restore equity by temporarily withdrawing from the situation. Therefore, the cognitive restructuring in combination with an enhanced knowledge of burnout theory and being taught a relaxation exercise is expected to reduce the level of absenteeism among professionals.

A radical way to restore equity at organizational level is by actually leaving the field, i.e. by looking for work outside the present organization. Therefore, turnover intention was included as an outcome variable in the current research. Meta-analysis has shown that actual turnover is strongly predicted by turnover intention (Steel & Ovalle, 2d, 1984; Tett & Meyer, 1993). Since the intervention program was aimed at stimulating participants to achieve more equity and less burnout either within their organization or by finding employment elsewhere, no explicit hypothesis was formulated about the effect of the program on turnover intention for the group of participants as a whole. However, this effect was assumed to be dependent on the experienced social support. It has been shown that higher levels of support are related to more organizational commitment (Mathieu & Zajac, 1990). Participants who experience a lot of support from others in the organization (i.e., colleagues and supervisor) are probably more likely to choose strategies to reduce inequity that are aimed at behaviorally or cognitively adjusting contributions or outcomes within their organization. Turnover intention was, therefore, hypothesized to decrease in this particular group. In contrast, participants who experience less support from their supervisor or their colleagues were expected to be more inclined to restore equity by expanding their horizon outside the organization. Thus, turnover intention was hypothesized to increase among participants who experience relatively little social support.

Hypotheses

To summarize, seven hypotheses were tested pertaining to the effects of a burnout intervention program among professionals working in the direct care of mentally disabled. First, it was hypothesized that compared to colleagues in the internal as well as in the external control group, the participants in the program would experience lower levels of burnout at both follow-ups (*Hypothesis 1*). Second, compared to both control groups, the participants' level of perceived equity in relation to the recipients of one's care, as well as in relation to the organization was expected to increase (*Hypothesis 2*). Third, absenteeism was expected to decrease in the year following the intervention as compared to the year before, but only among the participants in the program (*Hypothesis 3*).

Perceived social support from colleagues and from the supervisor in the period between the workshop and the follow-up was expected to influence the effect of the intervention in two different ways. It was hypothesized that the impact of the program on burnout, absenteeism, and perceived inequity would be stronger for participants with more available social resources. In other words, participants who received more support from their colleagues and particularly from their supervisor were expected to show, compared to participants who experienced less support, a larger decrease in burnout (*Hypothesis 4*), a larger increase in perception of equity in both relationships (*Hypothesis 5*), and a greater decrease in absenteeism (*Hypothesis 6*). Finally, it was expected that the turnover intention would decrease among participants who experienced more social support, whereas turnover intention would increase among participants who experienced less social support (*Hypothesis 7*).

Method

Subjects

The quasi-experimental design (Cook & Campbell, 1979) of this study consisted of pre-, post- and follow-up measures among one experimental group and two control groups. Staff working in direct-care with mentally disabled were offered the opportunity to participate in the program. Participants were recruited on a voluntary basis by their supervisors who asked those professionals they thought would benefit most from the program. Two control groups were included. One group consisted of colleagues of the participants who were employed in the same

organization (*internal control group*). The second control group was employed in a different organization with comparable working conditions (*external control group*). Subjects were asked to fill in a questionnaire three times: before the program started (T1), six months after the program had been completed (T2), and one year after the program had been completed (T3).

Fifteen percent ($N=84$) of the overall professional workforce of the target organization participated in the program. Eighty-two professionals filled in the questionnaire before the program. Another eighty professionals served as the internal control group. The external control group consisted of 190 professionals, which is 68% of the total professional workforce that had been asked to participate.

Of all 352 professionals in the experimental group and both control groups who filled out the questionnaire at T1, 149 participated at T2 and T3 as well (42%). This group of nearly one-hundred and fifty professionals with complete data-records was used to explore the effects of the intervention program. The final experimental group consisted of 36 professionals, the internal and external control groups included 39 and 74 professionals, respectively.

Forty-one (28%) male and 108 (72%) female professionals were included in the overall sample. Their mean age was 33.4 years ($SD = 6.7$) and on the average they had 7.2 years ($SD = 5.7$) of work experience.

Measures

Burnout. Burnout was measured with a refined version of the Maslach Burnout Inventory (MBI), which consists of three subscales: Emotional Exhaustion, Depersonalization and Personal Accomplishment (Maslach & Jackson, 1986). The original items 12 ("I feel energetic") and 16 ("Working with people directly puts too much stress on me") were omitted beforehand because previous studies had shown their factorial validity as insufficient (Byrne, 1993; Schaufeli & Van Dierendonck, 1993). Because the depersonalization subscale generally shows rather low internal consistency (Schaufeli, Enzmann & Girault, 1993), two items were added, i.e. "Recipients bother me with personal matters, but I ignore them" and "I avoid personal contact with recipients as much as possible". Moreover, item 22 of the original scale ("I feel recipients blame me for some of their problems") was dropped because its item-total correlation was insufficient ($< .30$). Compared to the other two burnout-dimensions the resulting six-item depersonalization subscale shows a somewhat lower internal consistency ($\alpha = .65$). The internal

consistencies for Emotional Exhaustion (eight items) and Personal Accomplishment (seven items) are satisfactory ($\alpha = .88$ and $\alpha = .75$, respectively).

Equity was measured separately for the relationship with the recipients and for the relationship with the organization, by a measure based upon the Adams formula (Van Dierendonck et al., 1996). In advance, examples of investments in and outcomes from the relationship were described (e.g. time, patience, effort, appreciation, gratitude). Then, four questions were asked about the investments of both parties in the relationship, and about their outcomes. That is, in the relationship with recipients: "Overall, how much effort do you feel you put into the relationships with recipients", "Overall, how much do you feel recipients put into the relationships with you?", "How much benefit do you feel you receive from the relationships that you have with recipients?", and "How much benefit do you feel they receive from their relationships with you?". For the relationship with the organization the questions were: "How much effort do you feel you put into your work?", "How much do you feel the organization invests in you?", "How much do you feel you get out of your work?", and "How much do you think the organization receives from you?". A seven-point scale was used, ranging from *very little* (1) to *very much* (7). The degree of equity was calculated by using the Adams formula: $\text{outcomes self} / \text{inputs self} - \text{outcomes other} / \text{inputs other}$ (Adams, 1965). A resulting value of zero is indicative of an equitable relationship. Values less than zero are indicative of underbenefited perceptions in the particular relationship; values greater than zero are indicative of overbenefited perceptions.

Perceived Social Support. At Time 2, social support was measured separately in relation to the supervisor and in relation to colleagues using a scale based on the work of House (1981) (Peeters, Buunk, & Schaufeli, 1995). Respondents were asked to indicate the amount of support they perceived at work (i.e. emotional, appraisal, informative, and instrumental support). The scale consisted of eight items with an answering format ranging from *never* (1) to *always* (5). Internal consistencies were good ($\alpha = .89$ and $\alpha = .85$, for supervisors and colleagues, respectively).

Turnover intention. Turnover intention was measured with a single item "What is the probability that you will seek employment outside your organization within the next year?" A six-point answering format was used, ranging from 0% to 100%.

Absenteeism. Absenteeism was measured objectively using organizational records made

in the twelve months prior to the program and made in the twelve months following the program. Two absence measures were employed: frequency and duration (Smulders & Veerman, 1990). Absence frequency signifies the number of times professionals were absent during twelve months. Absence duration signifies the mean length of these absences in calendar days. Absence duration underwent a logarithmic transformation to adjust for outliers and skewness (Kleinbaum & Kupper, 1978). These two measures represent different aspects of absenteeism. According to Chadwick-Jones, Nicholson, and Brown (1982), absence duration is an indicator of the health complaints that underlie absenteeism, whereas absence frequency is more an indicator of the commitment to the job.

Results

The results are presented in three sections. Section one investigates whether drop-out was systematic (selection-effect). Section two examines the effect of the intervention program (Hypotheses 1 to 3). The concluding section investigates whether social support at T2 moderated the impact of the program (Hypotheses 4 through 7).

Selection-effect

Fifty-eight percent of the original respondents at T1 dropped out during the course of the research. Do these drop-outs differ significantly from those who continued to participate in our study? In order to answer this question two multivariate analyses of variance (MANOVA) were conducted including: (1) subjective outcome measures (i.e. three burnout-dimensions, perceived inequity at the interpersonal and the organizational level, and turnover intention) and (2) objective outcome measures (i.e., absenteeism: frequency and duration).

The subjective measures showed a difference at the multivariate level that approached significance ($F_{(6,329)} = 1.95, p = .07$), which was due to drop-outs perceiving themselves as less underbenefited than non drop-outs in the relationship with residents ($F_{(1,329)} = 8.72, p = .003$). Absenteeism rates also differed between drop-outs and non drop-outs ($F_{(2,228)} = 3.27, p = .039$) due to a longer absence duration of the drop-outs ($F_{(1,289)} = 3.91, p = .049$).

Table 1 Mean and Standard Deviation scores on dependent variables

	Experimental group (n=36)			Internal control group (n=39)			External control group (n=74)		
	T1	T2	T3	T1	T2	T3	T1	T2	T3
Emotional Exhaustion									
<i>M</i>	11.5	9.8	10.0	10.8	11.5	11.9	10.9	12.3	12.4
<i>SD</i>	6.1	6.5	5.6	6.1	7.0	9.1	5.6	7.2	7.5
Depersonalization									
<i>M</i>	4.9	4.6	3.7	4.3	4.5	3.8	4.2	4.6	4.1
<i>SD</i>	4.1	3.1	2.4	3.4	3.7	3.6	3.3	3.7	3.5
Personal Accomplishment									
<i>M</i>	31.6	30.5	31.4	31.1	31.3	31.8	32.0	32.7	32.5
<i>SD</i>	4.5	6.5	6.0	5.5	4.8	5.2	5.1	4.9	4.9
Inequity Residents ¹									
<i>M</i>	-.76	-.76	-.78	-.94	-.70	-.76	-.58	-.58	-.49
<i>SD</i>	1.48	.66	1.16	1.37	.87	.85	1.06	.87	.97
Inequity Organization ¹									
<i>M</i>	-.80	-.49	-.39	-.72	-.63	-.75	-.66	-.74	-.72
<i>SD</i>	1.29	.70	.47	1.59	1.22	1.18	.73	.95	.87
Intention to Quit									
<i>M</i>	31.7	35.0	27.2	12.3	24.1	43.4	19.7	21.1	19.5
<i>SD</i>	31.1	42.9	25.4	16.9	24.8	34.9	26.6	24.9	26.4
Absence frequency									
<i>M</i>	2.0		2.0	1.7		1.4	1.6		1.4
<i>SD</i>	1.8		2.5	1.8		1.2	1.8		1.2
Absence Duration ²									
<i>M</i>	5.7		4.4	3.3		9.2	7.4		5.7
<i>SD</i>	8.6		7.4	5.1		24.5	15.3		11.9
Support Supervisor									
<i>M</i>		3.83			3.77			4.06	
<i>SD</i>		.89			.78			.61	
Support Colleagues									
<i>M</i>		3.94			3.87			4.13	
<i>SD</i>		.62			.64			.55	
Age									
<i>M</i>	30.9			32.2			35.1		
<i>SD</i>	6.7			6.8			6.2		

¹ Zero signifies equity, < 0 signifies underbenefited, >0 signifies overbenefited.² Absence duration was loglinear transformed before analysis.

In addition, a test was done to see whether drop-outs and non drop-outs differed with respect to demographic factors such as age, work experience, and gender. *No* significant differences were observed. However, in the previous analyses the experimental and control groups were not distinguished. Therefore, in the next step we examined differential drop-out effects by performing similar MANOVA's as above, but adding another level (i.e. type of group: experimental group, internal control group, external control group). No significant drop-out versus group interaction effects were found.

In conclusion: a selection-effect did occur. Given the longer absence duration of the drop-outs it is plausible that actual absenteeism was partly responsible for this effect: those who were absent did not receive a questionnaire at T2 or T3 because questionnaires were distributed at the workplace. Nevertheless, the lack of significant effects with respect to burnout indicates that initially drop-outs did not experience more stress in their work. That drop-outs experienced a more equitable relationship with residents might indicate that professionals who felt underbenefited were more motivated to participate in the study because they hoped that this would stimulate improvements in their work.

Table 2 Intercorrelation of the dependent variables at T1, total sample (n = 149)

	1	2	3	4	5	6	7	8
1. Emotional Exhaustion								
2. Depersonalization	.51							
3. Personal accomplishment	-.25	-.22						
4. Inequity recipients ¹	-.04	-.09	.15					
5. Inequity organization ¹	-.24	-.09	-.04	.19				
6. Intention to Quit	.35	.28	-.07	.01	-.26			
7. Absence frequency	.15	.02	.03	.04	-.14	.10		
8. Absence duration ²	.12	.13	.01	-.04	-.27	.06	.35	
9. Age	-.04	.08	.12	.04	-.12	-.13	-.08	.13

¹ Note: a higher score means less underbenefited and more overbenefited

² Loglinear transformed

Intervention effects (Hypotheses 1, 2, and 3)

The effects of the intervention on burnout, inequity, turnover intention and absenteeism were investigated using a multiple univariate repeated measures design. We hypothesized that the intervention would have a beneficial effect on burnout, feelings of inequity in both relationships, and absenteeism.

A polynomial contrast was included in order to test short-term effects as well as long-term effects. A significant *linear* effect indicates a long-term effect in which the groups differ from T1 to T2 and continue to differ in the next six months until T3. A significant *curvilinear* effect indicates a short-term effect in which there is an effect from T1 to T2 that decreases during the next six months until T3. For the between-group differences a contrast was added that compared the mean scores of the experimental group to each of the mean scores of the two control groups separately.

Following the guidelines of Huberty and Morris (1989), multiple ANOVA's were considered the most appropriate for testing the hypotheses because most variables were conceptually independent as is exemplified by the low intercorrelations between the variables (with the exception of emotional exhaustion and depersonalization, see Table 2). In addition, the specific interest of this research is to examine the effect of the program on separate variables. Means and standard deviations of the outcome measures in the three groups are presented in Table 1.

Univariate contrast analysis showed that emotional exhaustion had linearly changed between T1 and T3 for both the experimental group compared to the internal as well as compared to the external control group (see Table 3). The figures in Table 1 show a sharp decline in the level of emotional exhaustion in the experimental group after six months (T2), whereas it had risen in both control groups. This positive effect on emotional exhaustion remained stable after another six months (T3).

A significant curvilinear effect for personal accomplishment was observed in the experimental group compared to the external control group across the period of one year. In the experimental group, feelings of personal accomplishment diminished at T2, but returned to the initial level at T3. In the external control group, personal accomplishment remained relatively stable. Changes across time in levels of personal accomplishment between the experimental group and the internal control group were not significant.

For turnover intention a significant linear Time versus Group interaction effect occurred for

Table 3 ANOVA subjective measures, averaged test of significance involving 'TIME' Within-Subject Effect

	SS	df	MS	F	p	Partial η^2	Linear		Curvilinear	
							t	p	t	p
Emotional exhaustion										
Within Cells	5185.35	292	17.76							
Time	8.48	2	4.24	.24	.788	.002				
Groep by Time	152.59	4	38.15	2.15	.075	.029				
Int. Control by Time	82.12	2	41.07	2.31	.101		1.89	.06	.88	.38
Ext.Control by Time	145.00	2	72.50	4.08	.018		2.35	.02	1.53	.13
Depersonalization										
Within Cells	1482.50	292	5.08							
Time	39.77	2	19.88	3.92	.021	.026				
Groep by Time	17.41	4	4.35	.86	.490	.012				
Int. Control by Time	6.11	2	3.06	.60	.548		1.06	.29	.33	.74
Ext.Control by Time	17.24	2	8.62	1.70	.185		1.84	.07	.32	.75
Personal accomplishment										
Within Cells	3091.19	284	10.88							
Time	10.26	2	5.13	.47	.625	.003				
Groep by Time	48.11	4	12.03	1.10	.354	.015				
Int. Control by Time	10.28	2	5.14	.47	.624		.10	.92	1.00	.32
Ext.Control by Time	46.34	2	23.17	2.13	.121		.61	.55	2.05	.04
Turnover intention										
Within Cells	106891.45	288	371.15							
Time	2841.53	2	1420.76	3.83	.023	.026				
Groep by Time	8611.49	4	2152.87	5.80	.000	.075				
Int. Control by Time	6856.84	2	3428.42	9.24	.000		4.43	.00	.84	.40
Ext.Control by Time	467.90	2	233.95	.63	.533		.79	.43	.80	.43
Equity Recipients										
Within Cells	79.87	278	.29							
Time	.14	2	.07	.23	.79	.002				
Groep by Time	.62	4	.15	.54	.71	.008				
Int. Control by Time	.27	2	.14	.48	.62		.39	.70	.97	.33
Ext.Control by Time	.13	2	.06	.22	.80		.56	.58	.29	.77
Equity Organization										
Within Cells	80.48	276	.29							
Time	.46	2	.23	.79	.453	.006				
Groep by Time	2.81	4	.70	2.41	.050	.034				
Int. Control by Time	2.05	2	1.03	3.52	.031		2.47	.02	.20	.85
Ext.Control by Time	2.20	2	1.10	3.78	.024		2.42	.02	.99	.32

the experimental group versus the internal control group. Turnover intention remained relatively stable in the experimental group, whereas in the internal control group, turnover intention increased linearly across the three measurement points. Turnover intention also remained stable in the external control group.

Perceptions of organizational equity increased continuously in the experimental group after six and twelve months. In both control groups, however, these perceptions remained relatively stable. This is indicated by a linear effect of the experimental group versus both control groups.

Table 4 ANOVA absenteeism, averaged test of significance involving 'TIME' Within-Subject Effect

	SS	df	MS	F	p	Partial η^2
Absence frequency						
Within Cells	211.44	131	1.61			
Time	1.18	1	1.18	.73	.393	.006
Groep by Time	.71	2	.36	.22	.803	.003
Int. Control by Time	.70	1	.70	.43	.511	
Ext.Control by Time	.18	1	.18	.11	.73	
Absence duration						
Within Cells	117.05	146	.80			
Time	.03	1	.03	.04	.850	.000
Groep by Time	3.20	2	1.60	2.00	.140	.027
Int. Control by Time	3.17	1	3.17	3.96	.048	
Ext.Control by Time	.85	1	.85	1.06	.305	

Changes in absence duration were significantly different between the experimental group and the internal control group (see Table 4). This effect was caused by a decrease in absenteeism in the experimental group, whereas in the internal control group absence duration increased. No significant effects were found for absence frequency.

In sum, the expected beneficial effect of the intervention on the subjective and the objective measures was partly confirmed. Compared to the internal and/or external control groups, in the experimental group levels of emotional exhaustion and absence duration had dropped, whereas levels of organizational equity had increased. These positive changes were stable and still existed after a period of one year. Contrary to the expectations, *no* significant changes were observed in levels of depersonalization, interpersonal equity, and absence frequency, whereas feelings of

reduced personal accomplishment initially *increased* in the experimental group. However, after one year, feelings of accomplishment in the experimental group returned to the initial pre-workshop level. Thus, as far as emotional exhaustion is concerned Hypothesis 1 (stating a reduction in burnout levels) is supported, as far as organizational equity is concerned Hypothesis 2 (stating a more equitable relationship with recipients and the organization) is supported, and with the reduction of the absence duration Hypothesis 3 is partly confirmed. No effect on turnover intention was hypothesized and none occurred. Nevertheless, the fact that in the experimental group turnover intention remained constant compared to a surprising increase among the individuals in the internal control group does suggest a stabilizing effect of the intervention.

Moderating effects of social support (Hypotheses 4, 5, 6, and 7)

Next, the moderating role of social support was examined on changes in the outcome measures due to the program. High and low support groups were created by using a median split for both social support measures at T2. It is important to note that between T1 and T2 all supervisors received training. Supervisors and colleagues could have been more or less supportive in helping the professionals who followed the workshop to implement their plan of action resulting from the workshop. This was hypothesized to influence the impact of the program.

In order to test Hypotheses 4 to 7 about the moderating role of social support, multiple univariate repeated measures analyses were performed with the outcome measures as dependent variables. Two between-subjects levels were included: group (i.e. experimental, internal control and external control) and social support (i.e. high and low). A significant three-way Group by Moderator by Time interaction would be indicative for a moderating effect.

Tables 5 and 6 show three significant three-way interactions. The first significant three-way interaction effect was observed with respect to effects of the intervention on equity in the relationship with the organization. No support was found in these interactions for Hypotheses 4 and 6. With respect to support from the supervisor, the development of equity in the organizational relationship differed significantly in the experimental group compared to the external control group. With respect to a moderating effect of support from colleagues, a similar effect between the experimental group and the external control group regrettably only approached significance. So, Hypothesis 5 was partly confirmed.

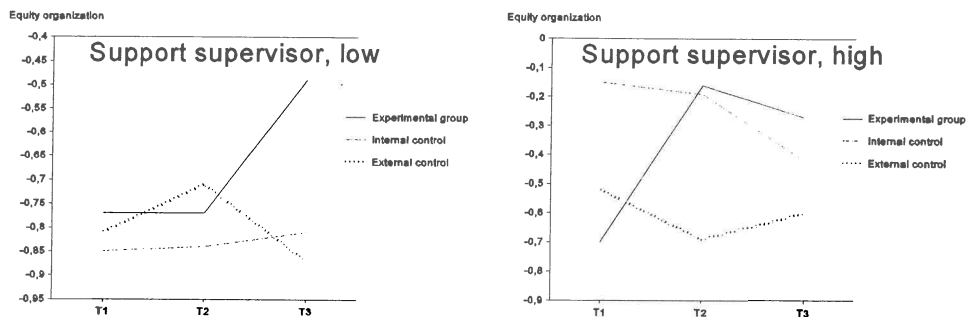
Table 5 Interaction effects of Perceived Support from Colleagues on effect intervention

	three-way effect partial η^2	linear contrast		curvilinear contrast	
		t	p	t	p
Emotional exhaustion	.005				
Int. Control by Time		.66	.51	.27	.78
Ext Control by Time		.46	.64	.91	.36
Depersonalization	.006				
Int. Control by Time		.60	.55	.86	.39
Ext Control by Time		.23	.82	.65	.51
Personal accomplishment	.009				
Int. Control by Time		1.31	.19	.31	.76
Ext Control by Time		.88	.38	.38	.71
Turnover intention	.019				
Int. Control by Time		.21	.83	1.35	.18
Ext Control by Time		.41	.68	2.24	.03
Equity Recipients	.018				
Int. Control by Time		1.42	.16	1.18	.24
Ext Control by Time		1.78	.08	.76	.45
Equity Organization	.014				
Int. Control by Time		.58	.56	.35	.73
Ext Control by Time		.29	.77	1.62	.11
Absence frequency	.015				
Int. Control by Time		.22	.83		
Ext Control by Time		1.50	.14		
Absence duration	.012				
Int. Control by Time		.41	.68		
Ext Control by Time		1.08	.48		

Table 6 Interaction effects of Perceived Support from Supervisor on effect intervention

three-way effect	linear contrast partial η^2	curvilinear contrast			
		t	p	t	p
Emotional exhaustion	.009				
Int. Control by Time		.86	.39	.24	.81
Ext Control by Time		1.37	.17	.65	.51
Depersonalization	.007				
Int. Control by Time		1.10	.27	.71	.48
Ext Control by Time		.51	.61	.73	.47
Personal accomplishment	.011				
Int. Control by Time		1.34	.18	1.03	.30
Ext Control by Time		1.01	.32	.95	.35
Turnover intention	.027				
Int. Control by Time		1.01	.31	1.35	.18
Ext Control by Time		1.04	.30	2.50	.02
Equity Recipients	.006				
Int. Control by Time		.53	.59	.06	.95
Ext Control by Time		.21	.83	.88	.38
Equity Organization	.033				
Int. Control by Time		1.22	.22	1.61	.11
Ext Control by Time		.71	.48	3.00	.00
Absence frequency	.007				
Int. Control by Time		.88	.38		
Ext Control by Time		.02	.98		
Absence duration	.007				
Int. Control by Time		1.20	.23		
Ext Control by Time		.30	.76		

Figure 1 Three-way interaction of Support from supervisor by Group by Time in relation to equity in the relationship with the organization



The trends in Figure 1 show that professionals who experienced a low level of support from their supervisor were relatively slow in experiencing an improvement in the level of equity. Among professionals with a low level of support from the supervisor, feelings of equity remained stable between T1 and T2, but improved between T2 and T3. In contrast, among professionals in the experimental group who experienced high levels of support, the perception of equity in the relationship with the organization improved immediately between T1 and T2.

The other two significant three-way interaction effects occurred with respect to the effects of the intervention on turnover intention. Here, including support from colleagues as well as including support from the supervisor resulted in a linear three-way interaction effect. In both effects the trend in the experimental group differed from the external control group.

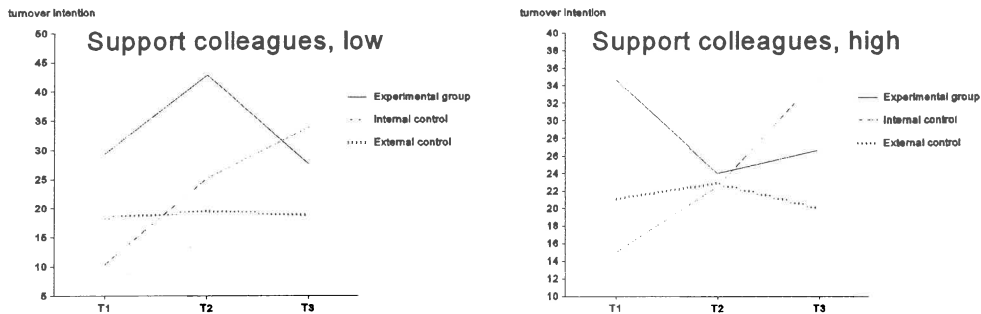
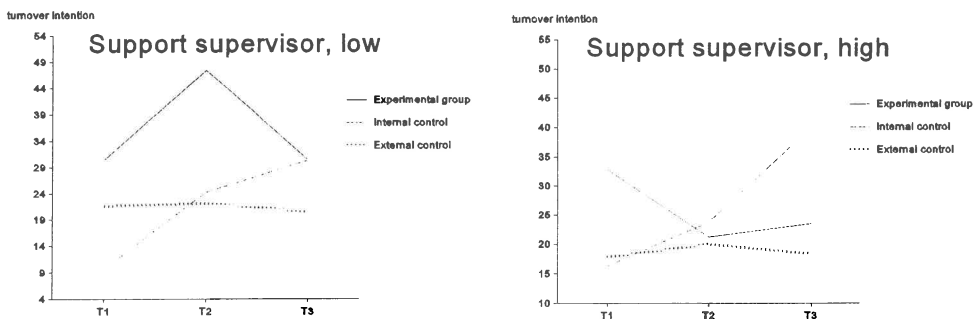
Figure 2 Three-way interaction of Support from colleagues at T2 by Group by Time relation to Turnover Intention**Figure 3** Three-way interaction of Support from supervisor at T2 by Group by Time in relation to Turnover Intention

Figure 2 as well as Figure 3 show a confirmation of Hypothesis 7 that among professionals with either a low level of support from colleagues or from their supervisor, turnover intention increased initially (from T1 to T2), to decrease again at T3 to a similar level to that at T1. In contrast, among those professionals who experienced a high level of support in either relationship, turnover intention decreased, as expected, from T1 to T2.

No significant three-way interaction effects were found with respect to burnout or absenteeism. Therefore, Hypotheses 4 and 6 concerning a stimulating effect of support on changes in these variables were not confirmed.

Discussion

The results of the current study clearly suggest that a primarily cognitively oriented intervention program can be effective in reducing burnout, underbenefited perceptions in the relationship with the organization, and absenteeism among professionals working in direct-care with mentally disabled. Hypothesis 1 was partly confirmed because it was shown that professionals in the experimental group experienced less emotional exhaustion after six and twelve months compared to both control groups. Contrary to our expectations, personal accomplishment diminished in the experimental group after six months compared to the external control group. However, this effect disappeared after one year. Regretfully, no main effects were found for depersonalization. Absence duration had slightly decreased in the experimental group, whereas among their colleagues in the internal control group absence duration had strongly increased. Therefore, it can be concluded that, as expected in hypothesis 3, the program had a positive effect on reducing absenteeism as well.

Hypothesis 2 was confirmed with respect to equity in the relationship with the organization. However no significant differences due to the program were found for the experienced equity in the relationship with recipients. The effect of the program on feelings of equity in the relationship with the organization was influenced by the availability of social resources (Hypothesis 5). Professionals who experienced social support from either their colleagues or supervisor improved faster compared to those with lower levels of support. No significant three-way interaction effects of support were found for burnout, absenteeism, or equity in the relationship with recipients. Accordingly, Hypotheses 4 and 6 were not confirmed and Hypothesis 5 was only partly confirmed.

As suggested in Hypothesis 7, the effect of the program on turnover intention dependent on the perceived social support from colleagues and the supervisor. Professionals with low levels of support tended to look for work outside the organization, whereas among those with high

levels of support, the turnover intention decreased, suggesting an increased commitment to the organization.

Burnout

The differential intervention effects on the three burnout dimensions confirm the importance of viewing burnout as a multi-dimensional construct (Maslach & Schaufeli, 1993). The effects on emotional exhaustion in this study confirm the previous findings that this dimension is the easiest to influence by cognitive techniques and relaxation exercises (e.g., Schaufeli, 1995; West et al, 1984). Our intervention program did not affect depersonalization (which explicitly focuses on the relationship with the recipient) nor feelings of inequity in the relationship with recipients. These findings suggest that the expectations about the relationship with these recipients are difficult to influence, which may be due to the fact that mentally disabled people are what they are by birth and are not likely to change.

Although the temporary decrease in personal accomplishment seems at first glance to contradict the intention of the program, it might indicate that the intervention sensitized participants towards the way they relate to residents. Becoming more aware of one's work situation can lead to a more critical and less self-confident attitude. This may even be interpreted as a positive outcome from the intervention since a characteristic of burned-out individuals is that they fail to acknowledge their problems and their own situation (Freudenberger, 1974). The return of personal accomplishment to its original level after another six months may indicate that the professionals have found a new balance.

Equity theory

The results with respect to inequity in the relationship with the organization suggest that it is especially important to focus on this relationship when designing a burnout prevention program. This relationship became more equitable as a result of the program, particularly if the participants felt supported from within their organization. It confirms the importance of embedding a workshop for the supervisors in the present intervention. More explicit interventions at the organizational level may be even more productive in countering burnout (Schaufeli & Buunk, 1996). Indeed, this level seems to offer more possibilities for interventions of burnout since inequities in the relationship with the organization may be more open for change than inequities

in the relationship with residents. That is, the way the work is organized is easier to change than the contents of the job. Furthermore, the influence of available social resources on changes in inequity in the relationship with the organization suggests that it may be useful to incorporate the ideas of Rusbult, Farrel, Rogers, and Mainous (1988) in this social exchange model. They formulated explicit hypotheses on the differential way employees react to inequities in their organization depending on job satisfaction, including feelings regarding supervisor and colleague relations, investment in the job, and available alternatives.

Social resources

The moderating effect of support from colleagues and the supervisor in relation to equity in the professional-organization relationship and turnover intention is in line with the premises of Conservation of Resources Theory (Hobfoll, 1989). People who have access to personal or social resources can deal with environmental demands more easily. Coping with stressful circumstances draws on resources. However, if there are enough resources, as is the case in the high support condition, professionals will be more motivated to deal with an underbenefited situation, and will be less likely to try to seek employment in other organizations. The decrease of turnover intention after six months in the low support group was to be expected because it is likely that if no other satisfying job outside the organization is found, professionals will become involved with their own organization once again, even if the social environment of their organization is less satisfying.

The importance of social resources for a successful intervention program suggests that incorporating in the workshop explicit attention to enhancing the resources of the participants might further increase the effect of a burnout intervention program as described here. Suggestions for achieving such an enhancement can be obtained from the intervention described by Freedy and Hobfoll (1994).

Strengths and weaknesses

The generalization of the results is complicated by the selection effect that occurred in this study. Professionals who felt more underbenefited and had lower levels of absenteeism were slightly overrepresented in the sample. One possible explanation for this phenomenon is that the questionnaires were distributed at the work-place. As a result, professionals who were on sick

leave during one of the measurement points or who had left the organization automatically dropped out of the research. This could suggest that the reported effects are more likely to be an underestimation than an overestimation of the actual effects within the experimental group as a whole. On the other hand, the drop-out effect did not differ between the three groups. An alternative explanation is that professionals with the highest motivation stayed committed to the evaluation. This would suggest that the reported effects might be an overestimation of the real effect. Thus, the influence of the selection effect on the results can only be speculated about.

Beehr and O'Hara (1987) listed several threats to the validity of an evaluation study. For example: history and maturity effects, statistical regression, and resentful demoralization of those who do not participate in the program. Although it can not be completely ruled out that these threats account for some of the findings, the research design and analysis suggest that the findings can be generalized towards other professionals in similar working conditions. Especially the two control groups, the extended time-frame of one year and the inclusion of subjective as well as objective measures are strong elements in this research. By also incorporating a specific workshop for the supervisors in the total program, the professionals were able to integrate the lessons of their workshop. This effect was shown by the moderating role of social resources on the effects of the intervention.

A limitation of our design is that assignment to the experimental and control groups was not random. Therefore, initial group differences on the demographic and dependent variables might have influenced the results. A stepwise discriminant analysis on the T1 data indeed showed that the three groups could be significantly discriminated by using two variables: age (Wilks' $\lambda = .940, p = .0056$) and Turnover Intention (Wilks' $\lambda = .873, p = .002$). Nevertheless, a reanalysis of the data including these two variables as covariates resulted in similar results. This lends credence to the observed effects.

The experimental group differed more from the external control group than from the internal control group. However, in several of the analysis, the direction of the effect encompassing the internal control group was the same, albeit not significant. Although the results would have been more robust if the experimental group and the internal control group had differed on more accounts, the carry-over effects from participating colleagues and the overall organizational effect of the workshop of the supervisors probably reduced the differences between both groups.

It must be noted that the program may have influenced other factors not accounted for in our

evaluation. For example, it is possible that the intervention influenced general job attitudes and therewith the perceived support. Also, the intervention might have enhanced feelings of control, especially escapability from a stressful situation. A replication of this research taking into account these factors could further enhance our understanding of this program. Such a replication can also explore the extent in which the outcomes are due to random error.

Final comments

Not only did the intervention program influence the subjective well-being of the professionals, but it also caused a decrease in registered absence duration. It seems that the program taught professionals to deal with their problems more effectively. They continued to take sick-leave if they felt unable to work. However, they were able to recuperate quicker than their colleagues from the same organization and, as a result, returned to work after spending fewer days at home than before participating in the program. This outcome is financially directly noticeable by the organization because less absence will result in smaller insurance contributions. Colleagues also benefit indirectly because the period is shorter in which they have to fill-in for a sick colleague.

In conclusion, this study is one of the few that evaluated an intervention program that not only influenced the stress component of burnout (i.e., emotional exhaustion) but also the attitudinal component (i.e., personal accomplishment). In addition, the program effected a cognitive concept like equity as well as objectively measured absenteeism. Although there is a great deal of skepticism surrounding the possible effects of burnout and stress management programs (Reynolds & Briner, 1994), this study suggests that it is possible to produce stronger effects than those that merely exist in the minds and memories of participants, and that those positive effects also last longer than just after finishing the program.

CHAPTER 7

CONCLUSION

The previous chapters have taken us along a road towards a better understanding of the etiology of burnout by using equity theory. For this purpose, five samples of human service professionals, including nurses, general practitioners, therapists working in a forensic psychiatric center, professionals employed in small-scale institutions for the mentally disabled, and professionals working in a nursing home annex lung clinic, participated in cross-sectional and longitudinal research. These studies cover five years of research. Five years, starting with the psychometric evaluation of a burnout instrument, and proceeding to finding valid measurement instruments for the perceptions of equity. These instruments evolved from Likert type scales to formula's based upon the original formulation by Adams (1965). At the beginning of our research, equity was only measured in the relationship with recipients, later this was extended to equity in the relationship with the organization. Cross-sectional studies were followed by longitudinal research, and the research program was concluded with an intervention study.

In this concluding chapter the results of these studies are summarized following the four research issues formulated in chapter 1. Next, implications are discussed for the measurement of burnout, for equity theory, for the burnout construct itself, and for the development of burnout intervention programs.

Initial research issues

1. Development of a valid and reliable measurement instrument for burnout.

To examine the etiology of burnout, it is important to have a clear definition of what we mean by the term 'burnout', and to have an instrument to measure burnout that is both valid and reliable. In the beginning of the nineties, when research for this thesis commenced, the most popular measurement instrument was the Maslach Burnout Inventory (Maslach & Jackson, 1986). Its three-dimensional definition of burnout consisting of emotional exhaustion, depersonalization, and personal accomplishment was implicitly accepted as the definition of burnout. Therefore, research was undertaken to test the construct validity and reliability of the Dutch version of the MBI. One of the methods used for this purpose was comparing it to another frequently used burnout instrument: the Burnout Measure (Pines, et al., 1981). In addition, the specificity of the burnout construct was examined compared to more general work stress.

With regard to the validity and reliability of the MBI, the study among 667 nurses (see Chapter 2) showed that the Dutch translation of the MBI had a good construct validity if two items were deleted from the questionnaire (i.e. items 12 and 16). This result was independently confirmed for the original English version (Byrne, 1993). The reliability of this slightly adjusted questionnaire was good as far as emotional exhaustion and personal accomplishment were concerned. The reliability of the depersonalization scale was acceptable with a value of .70. The analyses of chapter 2 were repeated for a pooled sample of 4,374 Dutch human service professionals (Schaufeli & Van Dierendonck, 1994) with comparable results although the reliability of the depersonalization scale was somewhat problematic in specific subsamples.

As it turned out, the reliability of depersonalization was also problematic in the specific samples in the chapters three through six. Two additional items were therefore added to this scale that indicate disinterest and social withdrawal from recipients: "Recipients bother me with personal matters, but I ignore them" and "I avoid personal contact with recipients as much as possible". Item 22 of the original depersonalization scale ("I feel recipients blame me for some of their problems") was dropped because of its poor item-total correlation.

Accordingly a 21-item burnout measure resulted for research on burnout among human service professionals.

With respect to the specificity of burnout, it could be concluded that burnout differs from more general workstress and related syndromes like depression. The specificity of burnout lies in the combination of a negative affective state (i.e. exhaustion), and particular attitudes towards others with whom one is working professionally (depersonalization) and towards one's own job performance (reduced personal accomplishment). This conclusion was based on second-order factor models including the three MBI dimensions, the Burnout Measure, somatic complaints, and psychological strain. Among human service professionals, this two-factorial conceptualization can best be measured with the MBI.

In addition to the reliability and validity of the MBI, the causal relationships between the burnout dimensions were explored. For this purpose the composite sample of Chapter 5 was used. Furthermore, the data of three previous longitudinal burnout studies (Jackson et al., 1986; Lee & Ashforth, 1993; Leiter, 1990) were re-analyzed. The combined findings show two results that are consistent across the four studies. First of all, depersonalization causes synchronously emotional exhaustion. In this context, synchronously means 'within a short time-frame of a few days to a few weeks at the most'. Secondly, depersonalization is synchronously influenced by personal accomplishment. It can be speculated that by integrating these results, a picture emerges of a proces starting with reduced personal accomplishment, followed by depersonalization, and in the end leading to emotional exhaustion. This sequence suggests that emotional exhaustion is indeed the final stage of inadequate coping with job-related stress. This contradicts many burnout theories that suggest that burnout starts with emotional exhaustion (e.g. Maslach, 1993; Leiter, 1993) and is followed by depersonalization that can be seen as inadequately dealing with this emotional stress in that it impedes a good relationship with recipients, they are treated more as objects than as subjects (Golembiewski et al., 1986). This inadequate coping style is influenced by a reduced feeling of personal accomplishment, suggesting that the latter dimension might be the start of burning out. This conclusion is confirmed by the fact that personal accomplishment was the only burnout dimension which causally influenced perceptions of equity (leading to more equitable perceptions). Nevertheless, it should be noted that feelings of personal accomplishment were also influenced by the burnout intervention program and that in one

study in Chapter 5 personal accomplishment was influenced by emotional exhaustion. It's precise role and function is therefore still unclear which makes further research necessary.

2. Measurement and relevance of equity in relation to burnout for human service professionals.

In this thesis, three different ways of measuring equity were used. In our initial research among general practitioners, perceptions of equity were investigated in relation to recipients using a three-item measure (e.g., "How often do you feel you invest more in the relationships with patients than you receive in return") similar to the measure used by VanYperen et al. (1992). The main problem with this operationalization of equity is that two important aspects of equity as defined by Adams are not taken into account. First, the measure used in Chapter 3 allowed for underbenefited inequity only, whereas Adams's definition of equity explicitly states that people can also feel equitable or even feel overbenefited. Moreover, the amount of outcomes and inputs were not compared to that of a comparison other. Since these are central elements of Adams definition, it can be questioned whether such an instrument really measures equity. It is more likely that a general perception of lack of reciprocity is measured.

It may even be questioned whether this particular operationalization of equity, that is very much focused on a feeling of not receiving enough in return for own's efforts, can conceptually be separated from burnout. The high correlations between equity and burnout in Chapter 3 and in the study of Schaufeli et al. (1996), where similar measures were used, support this interpretation. The intercorrelations with the three dimensions are comparable to that of the dimensions among themselves so that it might be viewed as a dimension of burnout or it can even be considered part of the exhaustion dimension (feeling constantly tired will without a doubt be accompanied by feeling underbenefited).

In order to improve our measure of equity, in two quite different work settings (i.e., among therapists employed in a forensic psychiatric center and among professionals working with mentally disabled in small scale institutions) the issue of the measurement of equity was further explored. The chosen measurement instruments were based upon those successfully used in studies on the effects of inequity in intimate relationships: a detailed instrument using

the Adams formula and the Hatfield Global Measure of equity (Hatfield et al., 1985; Prins et al., 1993). Using the Adams formula, respondents were asked to indicate their own inputs and outcomes and that of their recipients and their organization. Next, the Adams formula was used to calculate the perception of inequity. Using the Hatfield Global Measure, respondents were asked to indicate their global perception of inequity. Both instruments take into account the possibility of equitable and overbenefited perceptions and ask the respondent to compare his or her situation to that of a comparison other.

The results show that in these human services samples it is possible to measure equity in a way that is close to Adams definition of equity. Of the two instruments, the most promising one was the detailed instrument directly based upon the Adams formula. Validity for this operationalization of equity was found in the sensitivity for the burden caused by recipient contacts and in a confirmation of the theoretically expected curvilinear effects. Both effects are in line with predictions based on equity theory that state that experiencing more burden from recipients would be related to feeling more underbenefited and that both feeling under- and overbenefited is related to an increase in distress.

The second part of this research topic concerned the relevance of perceptions of equity for burnout. The initial operationalization of equity used in studies by VanYperen et al (1992) and VanYperen (1996) showed encouraging results. The research in chapter three showed that inequity could be considered a mediator between harassment by patients and burnout among general practitioners. However, because of the problems with the construct validity of the equity measures in these studies, these results had to be replicated with more adequate instruments. Moreover, it was hypothesized that in addition to inequity in the relationship with recipients, inequity in the relationship with the organization would be an important determinant for burnout. This latter hypothesis was investigated in a previous study among two samples of student-nurses (Schaufeli et al., 1996) using an operationalization similar to the one used in Chapter 3. In this study, a so-called dual-level social exchange model was suggested and tested using LISREL VII. It was indeed shown that inequity in both relationships each explained a unique portion of the variance of burnout.

Following these encouraging results, in Chapter four the dual level model was cross-sectionally explored with the improved measurement instruments (i.e., Adams formula and Hatfield Global Measure). The results were promising. In both studies, the expected

curvilinear effects were indeed found for inequity in the relationship with recipients in relation to burnout. This effect was strongest for emotional exhaustion. In one of the two studies, among professionals working with mentally disabled, inequity in the organizational relationship was also curvilinearly related to emotional exhaustion

The results of Chapter 4 also made clear that feeling underbenefited in the relationship with recipients is not always related to burnout. Professionals working with mentally disabled who perceived equity as well as those who felt underbenefited experienced similar levels of emotional exhaustion and depersonalization. In addition, professionals who felt overbenefited experienced consistently high levels of burnout in both samples. These findings led to the conclusion that professionals expect to be the giving party in their relationship with the recipients. Consequently, an overbenefited relationship runs counter to the professional's attitude and becomes stressful in itself.

A similar result was also found among professionals working in a Canadian forensic psychiatric center (Van Dierendonck, 1995). Using regression analyses, a curvilinear relationship was found between emotional exhaustion and equity in the relationship with recipients. In addition, the level of inequity was investigated at which emotional exhaustion was lowest. Professionals who perceived themselves as slightly underbenefited in the relationship with recipients experienced less emotional exhaustion compared to colleagues who perceived themselves as more underbenefited as well as those who felt overbenefited. This finding again underlines that for professionals the 'natural' state of the professional-recipient relationship is one of giving.

A separate issue is the feeling of inequity in the professional-organization relationship. Although, on the whole, professionals perceive themselves more underbenefited in this relationship than in the relationship with recipients, the relations with burnout are less clear. Among professionals working with mentally disabled people, equity was linearly and curvilinearly related only to emotional exhaustion, but not to the other two burnout dimensions. However, among the therapists in the forensic psychiatric center the level of burnout did not significantly differ between those who felt underbenefited and those who felt equitably treated. The conclusion is, therefore, that experiencing inequity in the relationship with the organization is not by definition stressful, despite the promising relationships between inequity in the relationship with the organization and burnout among professionals

working with mentally disabled people. One reason for the different findings between both work settings might be that in the forensic psychiatric center personal officers are appointed to help professionals deal with the specific stressful circumstances of this center. An alternative explanation is that, unrelated to the work setting, in the interpretation of the relationship with the organization there are more individual differences between the professionals, whereas the relationship with recipient is more straightforward as far its content and appraisal is concerned. Another possible explanation lies in the use of the organization as the comparison other. Adams (1963, 1965) suggested that people compare themselves to similar others (e.g. colleagues). Therefore, an underbenefited situation becomes stressful only if others are perceived to have had a better deal. It seems that, although the use of the organization in the exchange relationship as the comparison other does circumvent the problems of the researcher to determine the correct comparison other (Pritchard, 1969) and by using a similar measurement instrument, a direct comparison was made possible of equity experienced in both relationships, this instrument does lead to a loss of information of how imbalanced exchange relationships with the organization influences burnout. Therefore, in future burnout research, it might be useful to also include an explicit comparison other to evaluate the relationship with the organization as was done in research on, for example, absenteeism (Geurts, Schaufeli, & Buunk, 1993) and marital satisfaction (e.g. Buunk & VanYperen, 1991). Possible comparison others are colleagues, professionals in other organizations with similar jobs, or friends with a similar educational background.

3. Causal effects of perceived inequity experienced by human service professionals on burnout in their relationships with recipients and the organization.

The longitudinal analyses with a composite sample of 245 professionals showed results that are promising but also surprising. On the whole it can be concluded that inequity influences burnout within a short time frame and that the relationship between inequity and burnout is curvilinear.

A more detailed look at the results shows two important findings with respect to the relationship between inequity perceptions and burnout. First of all, a longitudinal

confirmation of the cross-sectional curvilinear effects of inequity in the interpersonal relationship on emotional exhaustion. This effect was already found cross-sectionally in two Dutch and one Canadian sample and is now confirmed longitudinally in a composite sample. In this thesis, of the three burnout dimensions, emotional exhaustion gives the most consistent results. Across all studies, the lowest level of emotional exhaustion was found among professionals with (still) an underbenefited relationship with recipients (instead of among those with an equitable relationship), in addition and quite surprisingly professionals with an overbenefited relationship showed the highest level of emotional exhaustion.

Second, the attitudinal dimension of burnout was curvilinearly influenced by equity in the organizational relationship. As was discussed in the last section, cross-sectionally no such relationships were found. It seems, therefore, that an additional explanation for this lack of results is that the effects of the amount of equity in the relationship with the organization upon the attitudinal dimension of burnout take time to be effective.

Surprisingly, perceiving oneself in this relationship as overbenefited as well as perceiving oneself as strongly underbenefited caused a more positive attitude (less depersonalization and more personal accomplishment). It is speculated in Chapter 5 that the organizational support is an important resource for professionals that influences their attitude towards their work. If this resource is available in abundance (an overbenefited relationship), professionals have the opportunity to perform well and feel good about themselves. If this resource is less available, this leads to a more negative attitude at first. However, with an increase in underbenefitedness (decrease in resources) professionals are likely to withdraw their attention from the organization and focus more on their recipients instead. Although the level of care remains high despite a low level of organizational support, these professionals are likely to have a low level of organizational commitment (Schaufeli et al, 1996). This can cause problems if the management decides to change the organization. Given the continuing changes in the health care sector at present, this is a real threat for many organizations. These professionals see themselves as effective in the way they have performed their work and are, at the same time, cynical towards the organization, that has not supported them in the past. As a result, they will resist change instigated by their organization. Of course, this is all speculative and should be investigated in future research, preferably in organizations that are undergoing a change.

4. The effects of an intervention program on burnout and inequity.

Among professionals working with mentally disabled, a burnout intervention program was evaluated. This program was primarily cognitively oriented. It helped the professionals to reduce the risk of burning out by increasing the fit between one's goals and expectations about work, and the current work situation. To test the effects of the program one experimental group and two control groups (internal and external) were asked to fill out the same questionnaire three times: at the beginning of the program (pre), after six months (post), and a year after the program (follow-up).

It was shown that both emotional exhaustion and feeling underbenefited in the organizational relationship decreased among the participants of the program. In addition, the level of absenteeism decreased slightly, whereas among colleagues in the internal control group it increased. Furthermore, it was shown that the program was most effective among professionals who experienced higher levels of support from their colleagues or supervisor.

It is likely that these succesful results are partly due to the unique approach of this intervention: focused both at the individual level and at the organizational level. That is, the inclusion of a workshop for the supervisors enhanced the possibilities for the participants to achieve real changes in their work, if that was what they wanted. The importance of the organizational relationship in relation to burnout was already pointed out in cross-sectional research (Schaufeli et al., 1996, Chapter 3) and longitudinal research (Chapter 5). The moderator effects of social support in this intervention study supported these findings.

Implications

Measurement of burnout

It can be concluded that with the adjusted 21-item version of MBI we have an instrument that measures burnout among human service professionals in a valid and reliable way distinguishing it from related concepts. Of course, when scoring the Dutch version of the MBI, the American normative sample can not be used, since that is likely to lead to an underestimation of levels of burnout (Schaufeli & Van Dierendonck, 1995a). Therefore, norm

scores were developed specifically for the Dutch version of the MBI (Schaufeli & Van Dierendonck, 1995b).

It is important to realize that the concept of burnout was not based upon a theoretical perspective when Maslach and Jackson began the test-construction of the MBI. Given our improved understanding of burnout, it should be possible to further refine this instrument using a deductive rather than an inductive approach. Such a slightly modified instrument should include in particular a psychometrically stronger depersonalization scale, and could link research on burnout more directly to other theoretical models in organizational stress research.

The three dimensional structure of the MBI is a good starting point. The central characteristic of burnout is exhaustion (Shirom, 1989). This can, of course, be measured by the emotional exhaustion dimension of the MBI. An alternative measure is the Burnout Measure (Pines & Aronson, 1988). This latter instrument encompasses physical, emotional, as well as mental exhaustion. The high reliability of this measure (see chapter 2) suggests that it can be shortened with little loss of information. By viewing the second dimension-now called depersonalization-as not adequately coping with emotional stress, it can be reformulated in line with the appraisal and coping theories of Lazarus and Folkman (1984). For the third dimension the obvious choice for refinement seems to be professional self-efficacy. Although closely linked to the person, self-efficacy is not a personality trait, but is dependent on the specific situation (Schwarzer, 1993). Several authors have emphasized the importance of feeling competent in relation to burnout (e.g. Hobfoll & Freedy, 1993; Hallsten, 1993; Pines, 1993). Most explicit in this respect is Cherniss (1993) who views self-efficacy as playing a central role in the burnout process. This was confirmed in the forensic psychiatric center in chapter 4. Part of this study consisted of open-ended questions about work stressors, appraisal and coping strategies of the therapists (Van Dierendonck, 1994). Qualitative analysis of their answers showed that the therapists were very concerned about their own performance and functioning in appraising stressors. Feeling vulnerable, dependent and/or powerless-which are indicative for poor self-efficacy- were reason to experience a situation as stressful for almost half of the therapists.

A first, promising, step has been taken towards developing such an instrument. A burnout measure has been developed whose use is not restricted to human service professionals

(Schaufeli, Leiter, Maslach & Jackson, 1996). This instrument, the MBI-General Survey, is based on the conceptualization of burnout described above. It consists of 16 items that divide into three dimensions that are comparable to those of the MBI: Exhaustion, Cynicism, Professional Efficacy. The construct validity and the reliability is good for the Dutch version as well as for the Canadian and Finnish version (Leiter, Schaufeli, & Kalimo, 1996).

Equity theory and burnout

It can not be denied that despite the promising results the theoretical framework of this thesis has its limitations. If social exchanges processes in relation to burnout are to be further studied, the following points might be taken into consideration.

First, the reliability of our measurement instrument of equity can be improved. Subtracting and adding individual items, as was done with the Adams formula, negatively influences the reliability. A lower reliability diminishes the power and therewith the possibility of finding significant relationships. This could be an explanation for the low correlations found in Chapter 5. However, a lower chance of finding significant relationships makes the ones that were found in this thesis more meaningful.

A second, more fundamental issue is that research on social exchange processes has been limited to equity theory in this thesis. It can be questioned whether equity theory suffices to explain social exchange processes in the professional-recipient relationship. Cook and Emerson (1978) observed that formulations of equity are more applicable to settings in which some "central allocator or third party" distributes rewards between parties than to settings in which there is a direct two-party exchange of resources. This point of view contrasts that of (among others) Adams (1965) and Walster et al. (1976) who primarily used equity theory in two-party exchange processes. Back in 1975, Deutsch argued that at least two other principles of distributive justice should be considered: need and equality. The remarkable results with respect to feeling overbenefited lend credence to the suggestion that need might be an alternative criterium to evaluate distributive justice in the professional-recipient relationship. Including all three principles would provide a more comprehensive theoretical framework. Inspiration for such a model can be obtained from Folger, Sheppard, and Buttram (1995) who discuss, building on the ideas of Deutsch, how these principles are applicable on individual, interpersonal, and institutional level. They suggest that people sometimes want to reap what

they have sown. Here the equity principle applies, it fosters the motivation to work to the best of one's ability. In other aspects, they want to be treated like everybody else in their group or organization, regardless of what they have accomplished. This parallels the norm of equal distribution. It gives a sense of community of belonging to a group. Finally, sometimes people want to be treated as an individual because of their special needs.

A further suggestion for future research is adding a third level to our dual level model: the relationship with colleagues and the supervisor. Previous research has shown the importance of support from colleagues and from the supervisor in relation to burnout (Lee & Ashforth, 1996) and the relevancy of reciprocity in both relationships in relation to stress (Buunk et al, 1993). The latter study showed that being underbenefited and being overbenefited in the relationship with the supervisor was associated with negative affect. It can, therefore, be assumed that inequity experienced in the relationship with the supervisor or with colleagues will be related to burnout.

A fourth point concerns the exclusive use of distributive justice in this thesis. Research has shown that people are influenced by what they receive in return for their investments, but also by the way in which this distribution of outcomes has taken place. This could also explain, why in Chapter 4 among professionals working with mentally disabled people, underbenefited feelings were not related to burnout. Procedural justice (Thibaut & Walker, 1975) is likely to influence the impact of fairness in the professional-organization relationship. Distributive and procedural justice are likely to each have an unique but interactive role on burnout (Greenberg, 1987). For example, if decision makers within an organization are honest and make decisions based on accurate factual information, even a decision that is negative for a person (e.g. being passed over for a promotion) can be accepted by that person. Or, if employees are given the opportunity to raise objections ('voice') to new plans, like a change in the organization of care before implementation, a greater motivation can be expected for such changes. Future research on burnout should, therefore, also take procedural justice into account.

Finally, it must be noted that the present research has not considered the role of individual characteristics. One of these is the communal orientation, an individual characteristic that refers to the desire to give and receive benefits in response to the need of and out of concern for others (Clark, Oullette, Powell & Milberg, 1987); another the equity sensitivity construct

that is directly related to equity theory and presupposes that individuals have different preferences for equity (Huseman, Hatfield, Miles, 1987). Previous studies have demonstrated the importance of such concepts for equity theory research. High communal orientation was related to a greater responsiveness to the needs of others (Clark et al, 1987) and less vulnerability to burnout as a result of an underbenefited relationship with patients (VanYperen et al, 1992; VanYperen, 1996). Studies encompassing the equity sensitivity construct also confirmed the assumption that people who are more directed at giving are less distressed by an inequitable relationship (King, Miles & Day, 1993; Miles, Hatfield & Huseman, 1994).

Some thoughts on longitudinal research

The results of Chapter 5 suggest that a fundamental point should be made about longitudinal research. It seems that if data are analyzed with more sophisticated statistical techniques like structural equation modeling almost no long-term effects can be found. Changes in burnout seem to take place within a short time-frame, and sometimes the relationships between the burnout dimensions were reciprocal. Placing this finding against the theory, based on qualitative data, that burnout is the long-term result of not being able to cope with continuing stress of the work-place (Maslach, 1993), evokes the image of a volcanic eruption. It is as if people function at a certain stage for years, and then, for some reason start burning out within a few weeks, maybe even a few days. Veninga and Spradley (1981) suggest that people might work with enthusiasm for years, hereby slowly using up their adaptive energy, even slowly slipping into a phase of fuel shortage, thereby only experiencing a vague feeling of loss. Such people are in a process of denial, of frustrated strivings (Hallsten, 1993). Many professionals can live and work for years with such an attitude until something happens in their environment (e.g. serious conflict with their supervisor, harassment by a recipient) that demands more adaption effort than usual, resulting in a crisis from which recovery is a slow and time-consuming process. Like a volcanic eruption, there seems to be almost no warning, the initial warning symptoms mostly taking place underground. But when it comes the eruption is fast and devastating.

Our standard battery of research techniques is less suitable for discovering such fast changes. An extra hindrance for finding causal relations is the relatively high stability of the

three burnout dimensions (between .59 and .67 across a year period). Although the stability is lower than found for personality questionnaires (e.g. the Dutch Personality Questionnaire-NPV- reports coefficients between .75 and .80 for a two year period, Luteijn, Starren, & van Dijk, 1985), controlling for previous burnout scores does not leave much variance that can be explained by subjective factors like equity. An alternative for statistical techniques like ANOVA's and regression analyses and the building of models with structural equation modelling can be found in the principles of chaos theory and system theory (Barton, 1994), where sudden short-term changes, reciprocal processes, and even feedback loops can be incorporated. To study such a phenomenon, longitudinal research should ideally not only extend over several years, but also ask the respondents to fill in questionnaires weekly. As with volcanoes, a constant monitoring is necessary to catch those moments when the actual events take place. Alternatively, more qualitative research could be performed, that focuses on such periods of change. Following individual persons might lead to the discovery of changes that are lost in more traditional statistical techniques that are based on group changes.

Burnout intervention programs

Throughout this thesis, some of the more surprising results could be explained by extending the theoretical framework with the Conservation of Resources Theory (Hobfoll, 1988; Hobfoll & Freedy, 1993). Especially when experiencing inequity, the availability of resources will probably influence the ability to restore actual or psychological equity. The results of the intervention study also emphasize the importance of adequate resources for professionals to allow themselves to fully benefit from such a program. This is not surprising since burnout is viewed by definition as a process in which the resources are depleted faster than they are replenished. These resources can be enhanced by, for example, incorporating elements of the intervention of Freedy and Hobfoll (1994) within this program. An alternative is offering individual counseling to professionals with poor resources. This latter suggestion is made because it is likely that professionals who lack social coping skills or self-confidence in groups are likely to have difficulties in mastering the material taught in a group (Van Dierendonck & Schaufeli, 1995). For these individuals, just being in such a group will be a stressor and this can seriously diminish their learning capacity. It might even work counterproductive.

The stressfulness of an overbenefited relationship with recipients underlines that special attention should be given to professionals in such a situation. At present it can only be speculated what actually causes such perceptions. Specific research might be useful in this respect. When developing intervention programs, it is important to take into account that professionals can feel this way. Since it is not to be recommended to change the actual situation, helping such professionals to redefine their situation might be helpful.

Based on these results it might be a suggestion to use equity theory as a starting-point to develop an intervention to more fully explore its value as a theory to counteract burnout. In future interventions, equity theory could be incorporated more explicitly in a program, for example by asking professionals to list inputs and outcomes and let them calculate their (im)balance.

Furthermore, the importance of the organizational relationship as a resource that helps professionals profit more fully from the intervention leads to the recommendation that individual burnout intervention programs should be actively supported from within the organization. Only in such a manner will an individual intervention program leave a lasting impression

A last suggestion with respect to intervention programs is that it is unwise to try to keep professionals in their present job at all costs. Working in one profession from one's twenties until one's retirement is too long. If somebody has worked in one place for, say, six to eight years, it may be time to move on. This is not easy in the Dutch culture where people of forty are already considered old and a health-risk. Nevertheless, taking on the challenge of working in a new organization, or maybe even taking on totally different work can help rediscover the joy of a fulfilling job. A higher work mobility is also profitable for the organization that gets people with fresh ideas and a greater willingness to try to improve the organization of care.

As a final remark, I would like to draw the image of burnout as a volcanic eruption one step further by stating that rebuilding takes time. Nevertheless, like the lava that is left after an eruption, the ground to rebuild on can be very fruitful.

REFERENCES

- Abu-Hilal, M.M. & Salameh, K.M. (1992). Validity and reliability of the Maslach Burnout Inventory for a sample of non-western teachers. *Psychological Reports*, 52, 161-169.
- Adams, J.S. (1963). Towards an understanding of inequity. *Journal of Abnormal and Social Psychology*, 67, 422-436.
- Adams, J.S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2, 267-299.
- Adams, J.C. & Freedman, S. (1976). Equity theory revisited: comments and annotated bibliography. In: L. Berkowitz & E. Walster (Eds.), *Advances in experimental social psychology*, Vol 9 (pp. 43-90). New York: Academic Press.
- Ackerley, G.D., Burnell, J., Holder, D.C. & Kurdek, L.A. (1988). Burnout among licensed psychologists. *Professional Psychology: Research and Practice*, 19, 624-631.
- Aiken, L.S. & West, S.G. (1991). *Multiple regression: testing and interpreting interactions*. Newbury Park: Sage publications.
- Anderson, N.H. (1976). Equity judgements as information integration. *Journal of Personality and Social Psychology*, 33, 291-299.
- Anderson, J.C., & Gerbing, D.W. (1988). Structural modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411-423.
- Anderson, M.B.G. & Iwanicki, E.F. (1984) Teacher motivation and its relationship to burnout. *Educational Administration Quarterly*, 20, 109-132.
- Aristotle,. (1925). *The works of Aristotle. Magna Moralia by St George Stock*. Oxford: Clarendon Press.
- Austin, W. G. (1972). *Theoretical and experimental explorations in expectancy theory*. Unpublished masters's thesis. University of Wisconsin-Madison.
- Austin, W. & Walster E. (1974). Reactions to confirmations and disconfirmations of expectancies of equity and inequity. *Journal of Personality and Social Psychology*, 30, 208-216.

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Behavioral review*, 84, 191-215.
- Barnard, C.I. (1938). *The functions of the executive*. Cambridge, Mass: Harvard University Press.
- Barton, S. (1994). Chaos, self-organization, and psychology. *American Psychologists*, 79, 449-454
- Beehr, T.A. & O'Hara, K. (1987). Methodological designs for evaluation of occupational stress interventions. In: S.V. Kasl, & C.L. Cooper (1987). *Stress and Health: issues in research methodology*. John Wiley & Sons Ltd.
- Belcastro, P.A., Gold, R.S. & Hays, L.C. (1983). Maslach Burnout Inventory: Factor structures for samples of teachers. *Psychological Reports*, 53, 364-366.
- Bergers, G.P.A., Marcelissen, F.H.G., & de Wolf, Ch.J. (1986). *Handleiding Vragenlijst Organisatiestress-Doetinchem* [Manual Organizational Stress Questionnaire]. University of Nijmegen: Department of Psychology.
- Bentler, P.M. & Bonnet, D.G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.
- Blau, P. (1964). *Exchange and power in social life*. New York: Wiley.
- Brookings, J.B., Bolton, B., Brown, C.E. & McEvoy (1985). Self-reported job burnout among female human service professionals. *Journal of Occupational Behaviour*, 6, 143-160.
- Brown, L. (1984). Mutual help staff groups to manage work stress. *Social Work with Groups*, 7, 55-66.
- Burke, R.J. & Greenglass, E.S. (1991). A longitudinal study of progressive phases of psychological burnout. *Journal of Health and Human Resources Administration*, 13, 390-408.
- Burke, R.J. & Greenglass, E.R. (1995). A longitudinal examination of the Cherniss model of psychological burnout. *Social Science and Medicine*, 40, 1357-1363.
- Burisch, M. (1984). Approaches to personality inventory construction. *American Psychologist*, 39, 214-227.
- Buunk, B.P., Doosje, B.J., Jans, L.G.J., & Hopstaken, L.E.M. (1993). Perceived reciprocity, social support, and stress at work: The role of exchange and communal orientation. *Journal of Personality and Social Psychology*, 65, 801-811.

- Buunk, B.P. and Hoorens, V. (1992). Social support and stress: The role of social comparison and social exchange processes. *British Journal of Clinical Psychology*, 31, 445-457.
- Buunk, B.P. & Schaufeli, W.B. (1993). Professional burnout: a perspective from social comparison theory. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (53-69). New York: Hemisphere.
- Buunk, B.P., Schaufeli, W.B. & Ybema, J.F. (1994). Burnout, uncertainty, and the desire for social comparison among nurses. *Journal of Applied Social Psychology*, 24, 1701-1718.
- Buunk, B.P. & VanYperen, N.W. (1991). Referential comparisons, relational comparisons, and exchange orientation: their relation to marital satisfaction. *Personality and Social Psychology Bulletin*, 17, 709-717.
- Byrne, B.M. (1991). The Maslach Burnout Inventory: Validating factorial and invariance across intermediate, secondary and university educators. *Multivariate Behavioral Research*, 26, 4, 583-605.
- Byrne, B.M. (1993). The Maslach Burnout Inventory: Testing for factorial validity and invariance across elementary, intermediate, and secondary teachers. *Journal of Occupational and Organizational Psychology*, 66, 197-212.
- Byrne, B.M., Shavelson, R.J. & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin*, 105, 456-466.
- Capel, S.A. (1991). A longitudinal study of burnout in teachers. *British Journal of Educational Psychology*, 61, 36-45.
- Caplan, R.D., Cobb, S., French, J.R.P., van Harrison, R., & Pinneau, S.R. (1975). *Job demands and worker health*. Ann Arbor (Michigan): Institute of Social Research.
- Cate, R.M., Lloyd, S.A., & Henton, J.M. (1985). The effect of equity, equality, and reward level on the stability of students' premarital relationships. *Journal of Social Psychology*, 125, 715-721
- Cate, R.M. & Lloyd, S.A. (1988). The role of rewards and and fairness in developing premarital relationships. *Journal of marriage*, 50, 443-452.
- Chadwick-Jones, J.K., Nicholson, N, & Brown, C. (1982). *Social psychology of absenteeism*. New York: Preager.
- Cherniss, C. (1980). *Professional burnout in human service organizations*. New York:

Preager.

- Cherniss, C. (1993). Role of professional Self-efficacy in the etiology and amelioration of burnout. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (135-149). New York: Hemisphere.
- Cherniss, C (1995). *Beyond burnout. Helping teachers, nurses, therapists, & lawyers recover from stress & disillusionment*. New York: Routledge.
- Chiriboga, D.A. & Bailey, J. (1986). Stress and burnout among critical care and medical surgical nurses: A comparative study. *Critical Care Nursing Quarterly*, 9, 84-92.
- Clark, M.S. & Mills, J. (1979). Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology*, 37, 12-24.
- Clark, M.S., Oullette, R. Powell. M.C., & Milberg, S. (1987). Recipient's mood, relationship type, and helping. *Journal of Personality and Social Psychology*, 53, 93-103.
- Cohen, L. & Holliday, M. (1982). *Statistics for the social sciences*. London: Harper & Row.
- Constable, J.F. & Russel, D.W. (1986). The effect of social support and work environment upon burnout among nurses. *Journal of Human Stress*, 12, 20-26.
- Cook, T.D. & Campell, D.T. (1979). *Quasi-experimentation: design and analysis issues for field settings*. Chigao: Rand McNally.
- Cook, K. & Emerson, R. (1978). Power, equity and commitment in exchange networks. *American Sociological Review*, 43, 721-739.
- Cooper, C.L., Rout, U., & Faragher, B. (1989). Mental health, job satisfaction and job stress among general practitioners. *British Medical Journal*, 298, 366-370.
- Corcoran, K.J. (1986). Measuring burnout: A reliability and convergent validity study. *Journal of Social Behavior and Personality*, 1, 107-112.
- Corcoran, K.J. & Bryce, A.K. (1983). Intervention in the experience of burnout: Effects of skill development. *Journal of Social Service Research*, 7, 71-79.
- Cordes, C.L., & Dougherty T.W. (1993). A review and an integration of research on job burnout. *Academy of Management Review*, 18, 621-656.
- Corrigan, P.W., Holmes, E.P., Luchins, D., Buican, B., Basit, A., & Parks, J.J. (1994). Staff burnout in a psychiatric hospital: a cross-lagged design. *Journal of Organizational Behavior*, 15, 65-74.
- Cox, Kuk, & Leiter (1993). Burnout, health, work stress, and organizational healthiness. In:

- W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (177-193). New York: Hemisphere.
- Cropanzano, R. & Randall, M.J. (1993). Injustice and work behavior: a historical review. In: R. Cropanzano, (Ed.), *Justice in the Workplace, approaching fairness in human resource management* (pp. 3-20). Hillsdale, N.J.: Lawrence Erlbaum Associates, publishers.
- Cudeck, R. & Browne, M.W. (1983), Cross-validation of covariance structures. *Multivariate Behavioral Research*, 18, 147-167.
- Davidson, B. (1984). A test of equity theory for marital adjustment. *Social Psychology Quarterly*, 47, 36-42.
- Davis-Sacks, M.L., Jayartne, S., & Chess, W.A. (1985). A comparison of the effects of social support on the incidence of burnout. *Social Work*, 30, 240-244.
- Deutsch, M. (1975). Equity, equality, and need: what determines which value will be used as the basis of distributive justice? *Journal of Social Issues*, 31, 137-149.
- Deutsch, M. (1983). Current social psychological perspectives on justice. *European Journal of Social Psychology*, 13, 305-319.
- Dijkstra, R.F.W., de Heus, P., Schouten, M.H., & Houtman, I.L.D. (1993). *Werken onder druk: een onderzoek naar de omvang en factoren van werkstress in Nederland*. Den Haag: VUGA.
- Dignam, J.T., Barrera, M. & West, S.G. (1986). Occupational stress, social support, and burnout among correctional officers. *American Journal of Community Psychology*, 14, 177-193.
- Dignam, J.T. & West, S.G. (1988). Social support in the workplace: tests of six theoretical models. *American Journal of Community Psychology*, 16, 701-724.
- Edelwich, J. & Brodsky, A. (1980). *Burn-out: stages of disillusionment in the helping professions*. New York: Human Services Press.
- Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organization support and employee diligence, commitment, and innovation. *Journal of Applied Psychology*, 75, 51-59.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71, 500-507.
- Enzmann, D. & Kleiber, D. (1989). *Helfer-Leiden: Stress und Burnout in psychosozialen*

- Berufen* [Helpers' ordeals: Stress and burnout in the human services professions]. Heidelberg: Asanger-Verlag.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row Peterson.
- Fimian, M.J. & Blanton, L.P. (1987). Stress, burnout, and role problems among teacher trainees and first year teachers. *Journal of Occupational Behaviour*, 8, 157-165.
- Fimian, M.J., Fastenau, P.A., Tashner, J.H. & Cross, A.H. (1989). The measure of classroom stress and burnout among gifted and talented students. *Psychology in the Schools*, 26, 139-153.
- Firth, H., McIntee, J., McKeown, P. & Britton, P. (1985). Maslach Burnout Inventory: Factor structure and norms for British nursing staff. *Psychological Reports*, 57, 147-150.
- Firth, H., McIntee, J., McKeown, P. & Britton, P. (1986). Burnout and professional depression: Related concepts?. *Journal of Advanced Nursing*, 11, 633-641.
- Folger, R., Sheppard, B.H., & Buttram, R.T. (1995). Equity, Equality, and Need: three faces of social justice. In: B.B. Bunker, J.Z. Rubin & associates (Eds.), *Conflict, cooperation, and justice: essays inspired by the work of Morton Deutsch* (pp. 261-289). San Francisco: Jossey-Bass Inc, Publishers.
- Fong, C.M. (1993). A longitudinal study of the relationships between overload, social support, and burnout among nursing educators. *Journal of Nursing Education*, 32, 24-30.
- Freedly, J.R. & Hobfoll, S.E. (1994). Stress inoculation for reduction of burnout: a conservation of resources approach. *Anxiety, Stress and Coping*, 6, 311-325.
- Freudenberger, H.J. (1974). Staff burnout. *Journal of social issues*, 30, 1, 159-165.
- Geurts, S.A., Schaufeli, W.B. & Buunk, B.P. (1993). Social comparison, inequity, and absenteeism among bus drivers. *European Work and Organizational Psychologist*, 3, 191-203.
- Geurts, S.A., Buunk, B.P. & Schaufeli, W.B. (1994a). Health complaints, social comparisons and absenteeism. *Work & Stress*, 8, 220-234.
- Geurts, S.A., Buunk, B.P. & Schaufeli, W.B. (1994b). Social comparisons and absenteeism: A structural modeling approach. *Journal of Applied Social Psychology*, 24, 1871-1890.
- Gil-Monte, P.R. & Schaufeli, W.B. (1992). Burnout en enmermería: Un estudio comparativo Espana-Holanda [Burnout among nurses: A comparative Spanish-Dutch study]. *Revista de Psicología del Trabajo y de las Organizaciones*, 7, 121-130.

- Girault, N. (1989). *Burnout: Emergence et strategies d'adaption* [Burnout: Emergence and strategies of adaptation], Unpublished doctoral-thesis, Paris: Université René Descartes.
- Gold, Y. (1985). The factorial validity of the Maslach Burnout Inventory in a sample of California elementary and junior high school classroom teachers. *Educational and Psychological Measurement*, 44, 1009-1016.
- Gold, Y., Bachelor, P. & Michael, W.B. (1989). The dimensionality of a modified form of the Maslach Burnout Inventory for university students in a teacher training program. *Educational and Psychological Measurement*, 49, 549-561.
- Golembiewski, R.T & Munzenrider, R.F. (1988), *Phases of burnout: Developments in concepts and applications*. New York: Preager.
- Golembiewski, R.T., Munzenrider, R.F., & Stevenson, J.G. (1986). *Stress in Organizations: toward a phase model of burnout*. New York: Preager.
- Golembiewski, R.T., Scherb, K., & Boudreau, R.A. (1993). Burnout in cross-national settings: generic and model-specific perspectives. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (217-236). New York: Hemisphere.
- Green, D.E. & Walkey, F.H. (1988). A confirmation of the three-factor structure of the Maslach Burnout Inventory. *Educational and Psychological Measurement*, 48, 579-585.
- Green, D.E., Walkey, F.H. & Taylor, A.J.W. (1991), The three-factor structure of the Maslach Burnout Inventory. *Journal of Social Behavior and Personality*, 6, 453-472.
- Greenberg, J. (1986). Determinants of perceived fairness of performance evaluations. *Journal of Applied Psychology*, 71, 340-342.
- Hallsten, L. (1993). Burning out: a framework. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (95-113). New York: Hemisphere.
- Harris, R.J. (1983). Pinning down the equity formula. In: D.M. Messick & K.S. Cook (Eds.) *Equity theory: psychological and sociological perspectives*. New York: Preager.
- Hatfield, E. & Sprecher, S. (1984). Equity theory and behavior in organizations. In: S.B. Bacharach & E.J. Lawler (Eds.), *Research in sociology of organization, Vol 3* (pp. 95-124). Greenwich, Conn: JAI Press.

- Hatfield, E., Traupman, J., Sprecher, S., & Hay, J. (1985). Equity and intimate relations: Recent research. In: W. Ickes (Ed.). *Compatible and incompatible relationships* (pp. 309-321). Oxford: Pergamon Press.
- Higgins, N.C. (1986). Occupational stress and working women: the effectiveness of two stress reduction programs. *Journal of Vocational Behavior*, 29, 66-78
- Hobfoll, S.E. (1988) *The ecology of stress*. New York: Hemisphere Publishing Corporation
- Hobfoll, S.E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American Psychologists*, 44, 513-524.
- Hobfoll, S.E., & Freedy, J. (1993). Conservation of resources: a general stress theory applied to burnout. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (115-129). New York: Hemisphere.
- Hobfoll, S.E, Freedy, J., Lane, C., and Chess, W.A. (1990). Conservation of social resources: social support resource theory. *Journal of Social and Personal Relationships*, 7, 465-478.
- Homans, G. (1961). *Social behavior: Its elementary forms*. New York: Harcourt, Brace, World.
- House, J.S. (1981). *Work stress and social support*. Reading, MA: Addison Wesley.
- Huberty, T.J. & Huebner, E.S. (1988). A national survey of burnout among school psychologists. *Psychology in the Schools*, 25, 54-61.
- Huberty, C.J. & Morris, J.D. (1989). Multivariate analysis versus multiple univariate analysis. *Psychological Bulletin*, 105, 302-308.
- Huseman, R.C., Hatfield, J.D., & Miles, E.W. (1987). A new perspective on equity theory: the equity sensitivity construct. *Academy of management review*, 12, 222-234.
- Iwanicki, E.F. & Schwab, R.L. (1981). A cross validation study of the Maslach Burnout Inventory. *Educational and Psychological Measurement*, 41, 1176-1174.
- Jackson, S.E., & Schuler, R.S. (1983). Preventing employee burnout. *Personnel*, pp. 58-68.
- Jackson, S.E., Schwab, R.L., & Schuler, R.S. (1986). Toward an understanding of the burnout phenomenon. *Journal of Applied Psychology*, 71, 630-640.
- Jöreskog, K. & Sörbom, D. (1993). *LISREL 8: Structural Equation Modeling, the SIMPLIS Command Language*. Chicago: Scientific Software International, Inc.
- Jöreskog, K.G., & Sörbom, D. (1989). *LISREL VII: User's reference guide*. Mooresville: Scientific Software.

- Justice, B., Gold, R.S. & Klein, J.P. (1981). Life events and burnout. *Journal of Psychology*, 108, 219-226.
- Kenny, D.A. (1979). *Correlation and Causality*. New York: Wiley.
- Kessler, R.C. & Greenberg, D.F. (1981). *Linear panel analysis: models of quantitative change*. New York: Academic Press.
- King jr., W.C., Miles, E.W., & Day, D.D. (1993). A test and refinement of the equity sensitivity construct. *Journal of organizational behavior*, 14, 301-317.
- Kleinbaum, D.G. & Kupper, L.L. (1978). *Applied regression analysis and other multivariable methods*. North Scituate (Mass.): Duxbury Press.
- Koeske, G.F., Kirk, S.A., & Koeske, R.D. (1993) Coping with job stress: which strategies work best? *Journal of Occupational and Organizational Psychology*, 66, 319-335.
- Koeske, G.F., & Koeske, R.D. (1988). Work load and burnout: Can social support and perceived accomplishment help?. *Social Work*, 243-248.
- Koeske, G.F. & Koeske, R.D. (1989), Construct validity of the Maslach Burnout Inventory: A critical review and reconceptualization. *The Journal of Applied Behavioral Science*, 25, 131-144.
- Kompier, M.A.J. & Marcelissen, F.H.G. (1990). *Handboek werkstress* [Handbook on Workstress]. Amsterdam: NIA.
- La Gaipa, J.J. (1977). Interpersonal attraction and social exchange. In: Duck, S. (Ed.) *Theory and Practice in Interpersonal Attraction* (pp. 29-164). London: Academic Press.
- Lahoz, M. & Mason, L. (1989), Maslach Burnout Inventory: Factor structures and norms for pharmacists. *Psychological Reports*, 64, 1059-1063.
- Larson, D.G. (1986). Developing effective hospice staff support groups: pilot test of an innovative training program. *The Hospice Journal*, 2, 41-55.
- Larson, D.G. (1987). Helper secrets: internal stressors in nursing. *Journal of Psychosocial Nursing*, 25(4), 20-27.
- Lazarus, R.S. (1991). Cognition and Motivation in Emotion. *American Psychologists*, 46, 352-367.
- Lazarus, R.S. & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lee, R.T. & Ashforth, B.E. (1990), On the meaning of Maslach's three dimensions of burnout. *Journal of Applied Psychology*, 75, 743-747.

- Lee, R.T. & Ashforth, B.E. (1993). A longitudinal study of burnout among supervisors and managers: comparisons between the Leiter and Maslach(1988) and Golembiewski et al. (1986) models. *Organizational Behavior and Human Decision Processes*, 54, 369-398.
- Lee, R.T. & Ashforth, B.E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81, 123-133.
- Leiter, M.P. (1989). Conceptual implications of two models of burnout, a response to Golembiewski. *Group & Organization Studies*, 14, 15-22.
- Leiter, M.P. (1990). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. *Journal of Organizational Behavior*, 11, 123-144.
- Leiter, M.P. (1990). The impact of family resources, control coping, and skill utilization on the development of burnout: a longitudinal study. *Human Relations*, 11, 1067-1083.
- Leiter, M.P. (1993). Burnout as a development process: consideration of models. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (237-250). New York: Hemisphere.
- Leiter, M.P. & Maslach, C. (1988). Impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, 9, 297-308.
- Leiter, M.P. & Schaufeli, W.B., (1996). Consistency of the burnout construct across occupations. *Anxiety, Stress, and Coping*, 9, 229-243.
- Levi-Strauss, C. (1969). *The elementary structures of kinship*. Boston: Beacon Press.
- Lewiston, N.J., Conley, J. & Blessing-Moore, J. (1981). Measurement of hypothetical burnout cystic fibrosis caregivers. *Acta Paediatrica Scandinavica*, 70, 935-939.
- Lief, H.I. & Fox, R.C. (1963). Training for "detached concern" in medical students. In: H.I. Lief, V.F. Lief, & N.R. Lief (Eds.), *The psychological basis of medical practice* (pp. 12-35). New York: Harper & Row.
- Lord, R.G., & Hohenfeld, J.A. (1979). Longitudinal field assesment of equity on the performance of major league baseball players. *Journal of Applied Psychology*, 31, 216-223.
- Lujanski, H. & Mikula, G. (1983). Can equity theory explain the quality and stability of romantic relationships? *British Journal of Social Psychology*, 22, 101-112.
- Luteijn, F., Starren, J., & van Dijk, H. (1985). *Handleiding Nederlandse Persoonlijkheidsvragenlijst* (herziene uitgave). Lisse: Swets & Zeitlinger.
- Marsh, H.W., Balla, J.R., & McDonald, R.P. (1988). Goodness-of-fit indexes in confirmatory

- factor analysis: The effects of sample size. *Psychological Bulletin*, 103, 391-410.
- Maslach, C. (1976). Burned-out. *Human Behavior*, 5, 16-22.
- Maslach, C. (1978). The client role in staff burnout. *Journal of Social Issues*, 34, 11-124.
- Maslach, C. (1982). Burnout: a social psychological analysis. In J.W. Jones (Ed.). *The burnout syndrome: current research, theory, interventions*. Park Ridge: London House Press.
- Maslach, C. (1993). *Burnout: A multidimensional perspective*. In W.B. Schaufeli, C. Maslach, & T. Marek (eds.), *Professional burnout: Recent developments in theory and research* (pp. 19-32), Washington: Taylor & Francis.
- Maslach, C. & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2, 99-113.
- Maslach, C. & Jackson, S.E. (1982). Burnout in the health professions. A social psychological analysis. In: G. Sanders & J. Suls (Eds.), *Social psychology of health and illness* (pp. 227-251). Hillsdale: Erlbaum.
- Maslach, C., & Jackson, S.E. (1984). Burnout in organizational settings. In: S. Oskamp (Ed.), *Applied Social Psychology Annual Vol 5: Application in organizational settings*. Beverly Hills: Sage.
- Maslach, C. & Jackson, S.E. (1984). Patterns of burnout among a national sample of public contact workers. *Journal of Health and Human Resources Administration*, 7, 189-212.
- Maslach, C., & Jackson, S.E. (1986). *MBI: Maslach Burnout Inventory; manual research edition*. Palo Alto: University of California, Consulting Psychologists Press.
- Maslach, C. & Pines, A. (1977). The burn-out syndrome in the day care setting. *Child Care Quarterly*, 6, 100-113.
- Maslach, C. & Schaufeli, W.B. (1993) Historical and conceptual development of burnout. In W.B. Schaufeli, C. Maslach, & T. Marek (eds.) *Professional burnout: Recent developments in theory and research*, (pp. 1-16). Washington: Taylor & Francis.
- Matteson, M.T. & Ivancevich, J.M. (1987). *Controlling work stress: effective resource and management strategies*. San Francisco: Jossey-Bass.
- Mathieu, J.E. & Zajac, D.M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108, 171-194.

- Maus, M. (1925/1969). *The gift*. London: Cohen & West.
- McDonald, R.P., & Marsh, H.W. (1990). Choosing a multivariate model: Noncentrality and Goodness of fit. *Psychological Bulletin*, 107, 247-255.
- McClintock, C.G., Kramer, R.M., & Keil, L.J. (1984). Equity and social exchange in human relationships. In: L. Berkowitz (Ed.). *Advances in Experimental Social Psychology: Vol 17* (pp. 183-228). New York: Academic Press.
- McPhee, R.D. & Babrow, A. (1987). Causal modeling in communication research: use, disuse, and misuse. *Communication Monographs*, 54, 344-366.
- Meadow, K.P. (1981). Burnout professionals working with deaf children. *American Annals of the Deaf*, 126, 13-22.
- Mechanic, D. (1970). Correlates of frustration among British general practitioners. *Journal of Health and Social Behavior*, 306, 458-463.
- Meier, S.T. (1983). Toward a theory of burnout. *Journal of Occupational Psychology*, 57, 211-219
- Meier, S.T. (1984). The construct validity of burnout. *Journal of Occupational Psychology*, 57, 211-219.
- Mellers, B.A. (1982). Equity judgment: a revision of Aristotelian Views. *Journal of Experimental Psychology: General*, 111, 242-270.
- Melamed, S., Kushnir, T. & Shirom, A. (1992). Burnout and risk factors for cardiovascular disease. *Behavioral Medicine*, 18, 53-60.
- Miles, E.W., Hatfield, J.D., & Huseman, R.C. (1994). Equity sensitivity and outcome importance. *Journal of Organizational Behavior*, 15, 585-596.
- Mowday, R.T. (1991). Equity theory predictions of behavior in organizations. In: L.W. Porter (Ed.), *Motivation and Work Behavior*. New York: McGraw-Hill Inc.
- Nunnally, N.C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Peeters, M., Buunk, A.P. & Schaufeli, W.B. (1995). Social interactions and feelings of inferiority among correctional officers: A daily-event recording approach. *Journal of Applied Social Psychology*, 25, 1073-1089.
- Peeters, M., Schaufeli, W.B. & Buunk, A.P. (1995). The role of attribution in the cognitive appraisal of work-related stressful events: an event-recording approach. *Work & Stress*, in press.

- Perlman, B., & Hartman, E.A. (1982). Burnout: Summary and future research. *Human Relations*, 35, 283-305.
- Petersen, L.R. & Maynard, J.L. (1981). Income, equity, and wives' housekeeping role expectations: bringing home the bacon doesn't mean I have to cook it, too. *Pacific Sociological Review*, 24, 87-105.
- Pierce, C.M & Molloy, G.N. (1989), The construct validity of the Maslach Burnout Inventory: Some data from down under. *Psychological Reports*, 65, 1340-1342.
- Pines, A.M. (1993). Burnout: an existential perspective. In: W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (33-51). New York: Hemisphere.
- Pines, A. & Aronson, E. (1983). Combatting burnout. *Children and Youth Services Review*, 5, 263-275.
- Pines, A. & Aronson, E. (1988). *Career burnout: Causes and cures*. New York: Free Press.
- Pines, A., Aronson, E. & Kafry, D. (1981). *Burnout: From tedium to personal growth*. New York: The Free Press.
- Pines, A. & Maslach, C. (1978). Characteristics of staff burn-out in mental health settings. *Hospital and Community Psychiatry*, 29, 233-237.
- Plewis, I. (1985). *Analysing change: measurement and explanation using longitudinal data*. Chichester: John Wiley & Sons.
- Poole, E.D., & Regoli, R.M. (1981). Alienation in prison. *Criminology*, 19, 251-270.
- Powers, S. & Gose, K.F. (1986). Reliability and construct validity of the Maslach Burnout Inventory in a sample of university students. *Educational and Psychological Measurement*, 46, 251-255.
- Prins, K.S., Buunk, B.P., & VanYperen, N.W. (1993). Equity, normative disapproval and extramarital relationships. *Journal of Social and Personal Relationships*, 10, 39-53.
- Pritchard, R.D. (1969). Equity theory: a review and critique. *Organizational Behavior and Human Performance*, 4, 176-211.
- Rachlin, V.C. (1987). Fair vs. equal role relations in dual-career and dual earner families: implications for family interventions. *Family Relations*, 36, 187-192.
- Reynolds, S. & Briner, R.B. (1994). Stress management at work: with whom, for whom and to what ends? *British Journal of Guidance and Counselling*, 22, 75-89.

- Rodgers, J.C. & Dodson, S.C. (1988). Burnout in occupational therapists. *American Journal of Occupational Therapy*, 42, 787-792.
- Roter, D.L. and Hall, J.A. (1991). Health education theory: an application to the process of patient-provider communication. *Health Education Research*, 6, 185-193.
- Rousseau, D.M. & Parks (1993). The contracts of individuals and organizations. In L.L. Cummings & B.M. Staw (Eds.), *Research in Organizational Behavior*, vol15 (pp. 1-43). Greenwich, CT: JAI Press.
- Rusbult, C.E., Farrel, D., Rogers, G., & Mainous III, A.G. (1988). Impact of exchange variables on exit, voice, loyalty, and neglect: an integrative model of responses to declining job satisfaction. *Academy of Management Journal*, 31, 599-627.
- Sashkin, M., & Williams, R.L. (1990). Does fairness make a difference?. *Organizational Dynamics*, 19, 56-71.
- Savicki, V. & Cooley, E. (1987). The relationship of work environment and client contact to burnout in mental health professionals. *Journal of Counseling and Development*, 65, 249-252.
- Savicki, V. & Cooley, E.J. (1994). Burnout in child protective service workers: a longitudinal study. *Journal of Organizational Behavior*, 15, 655-666.
- Schaufeli, W.B. (1990). *Opgebrand: Over de achtergronden van werkstress bij contactuele beroepen - het burnout-syndroom* [Burnout: About the jobstress in the human services professions - The burnout syndrome]. Rotterdam: Ad. Donker.
- Schaufeli, W.B. (1995). The evaluation of a burnout workshop for community nurses. *Journal of Health and Human Resources Administration*, 18, 11-30.
- Schaufeli, W.B. & Buunk, B.P. (1996). Professional burnout. In: M.J. Schabracq, J.A. Winnubst, & C.L. Cooper (eds.). *Handbook of work and Health Psychology*. Chichester: Wiley.
- Schaufeli, W.B., Enzmann, D., & Girault, N. (1993). Measurement of burnout: a review. In: W.B. Schaufeli, C. Maslach, & T. Marek (eds.), *Professional burnout: Recent developments in theory and research* (pp. 199-215). New York: Hemisphere.
- Schaufeli, W.B., & Janczur, B. (1994). Burnout among nurses, a Polish-Dutch comparison. *Journal of Cross-cultural Psychology*, 25, 95-113.
- Schaufeli, W.B., Keijsers, G.J., & Reis-Miranda, D. (1995). Burnout, technology use, and

- ICU-performance. In: S.L. Sauter & L.R. Murphy (eds.), *Organizational risk factors for job stress* (pp. 259-271). Washington DC: American Psychological Association.
- Schaufeli, W.B., Leiter, M., Maslach, C., & Jackson, S. (1996). MBI-General Survey. In C. Maslach, S.E. Jackson, & M. Leiter. *Maslach Burnout Inventory (3rd ed.)*. Palo Alto, Ca, Consulting Psychologists Press, Inc.
- Schaufeli, W.B., Maslach, C., & Marek, T. (eds.), *Professional burnout: Recent developments in theory and research*. New York: Hemisphere
- Schaufeli, W.B., & Van Dierendonck, D. (1993). The construct validity of two burnout measures. *Journal of Organizational Behavior*, 14, 631-647.
- Schaufeli, W.B. & Van Dierendonck, D. (1994). Burnout, een begrip gemeten: De Nederlandse versie van de Maslach Burnout Inventory (MBI-NL). *Gedrag en Gezondheid*, 22, 153-172.
- Schaufeli, W.B. & Van Dierendonck, D. (1995a). A cautionary note about the cross-national and clinical validity of cut-off points for the Maslach Burnout Inventory. *Psychological Reports*, 76, 1083-1090.
- Schaufeli, W.B. & Van Dierendonck, D. (1995b). *Maslach Burnout Inventory, Nederlands versie (MBI-NL), voorlopige handleiding*. Utrecht: Sectie Psychologie van Arbeid, Gezondheid en Organisatie.
- Schaufeli, W.B., Van Dierendonck, D., & van Gorp, K. (in press) Burnout and reciprocity: towards a dual-level social exchange model. *Work and Stress*.
- Schretlen, I. (1992). Het verbreken van de relatie met de patient. Vaagheden verhullen taboes [Breaking of the relationship with the patient. Vagueness conceals taboos]. *Medisch Contact*, 47, 2, 48-52.
- Scherer, R.F., Cox, M.K., Key, C.C., Stickney, F.A., & Spangler, E.M. (1992). Assessing the similarity of burnout dimensions in two business samples. *Psychological Reports*, 71, 28-30.
- Schulz, R., Greenley, J.R., & Brown, R. (1995). Organization, management, and client effects on staff burnout. *Journal of Health and Social Behavior*, 36, 333-345.
- Sharrard, H.E. (1992). Feeling the strain: job stress and satisfaction of direct-care staff in mental handicap service. *The British Journal of Mental Subnormality*, 38, 32-38.
- Shinn, M., Rosario, M., March, H., & Chestnut, D.E. (1984). Coping with job stress and

- burnout in the human services. *Journal of Personality and Social Psychology*, 46, 864-876.
- Shirom, A. (1989). Burnout in work organizations. In: C.L. Cooper & I. Robertson (Eds.), *International Review of Industrial and Organizational Psychology* (pp. 25-48). New York: Wiley.
- Sirigatti, S., Stefanile, C. & Menoni, E. (1988). Per un adattamento italiano del Maslach Burnout Inventory [About the Italian adaptation of the MBI]. *Belletino de Psicologia Applicata*, 187-188 33-39.
- Skorupa, J., & Agresti, A.A. (1993). Ethical beliefs about burnout and continued professional practice. *Professional Psychology: Research and Practice*, 24, 1-5.
- Smith, M.J. & Schroeder, D.A. (1984). Concurrent and construct validities of two measures of psychological equity/inequity. *Psychological Reports*, 54, 59-68.
- Smulders, P.G.W. & Veerman, T.J. (1990). *Handboek ziekteverzuim [Handbook of absenteeism]*. 's Gravenhage: DELWEL.
- Schnabel, P. (1988). De gezondheidszorg: van immuniteit tot publiek domein. In: A.M.J. Kreukels & J.B.D. Simonis (Red.), *Publiek Domein*. Meppel/Amsterdam:Boom.
- Spence, J. (1960). The need for understanding in the individual as part of the training and function of doctors and nurses. In: *The purpose and practice of medicine*. London: Oxford University Press, pp. 271-280.
- Skinner, B.F. (1973). *Science and human behavior*. New York: MacMillan.
- Sprecher, S. (1986). The relation between inequity and emotions in close relationships. *Social Psychology Quarterly*, 49, 309-321.
- Sprecher, S. (1992). How men and women expect to feel and behave in response to inequity in close relationships. *Social Psychology Quarterly*, 55, 57-69.
- Stouffer, S.A., Suchman, E.A., DeViney, L.C., Star, S.A., & Williams, R.M. (1949). *The American soldier: Adjustment during army life (Vol. 1)*. Princeton, N.J.: Princeton University Press.
- Steel, R.P. & Ovalle, 2d, N.K. (1984). A review and meta-analysis of research on the relationship between behavioral intentions and employee turnover. *Journal of Applied Psychology*, 69, 673-686.
- Stout, J.K. & Williams, J.M. (1983). Comparison of two measures of burnout. *Psychological Reports*, 53, 283-289.

- Stüssgen, R. (1993). De moderne patient tussen beeld en werkelijkheid. In: G. Horeweg, C. van Montfoort, & P. Schreuder (Red.), *Promotieonderzoek aan de faculteit der sociale wetenschappen: verwantschap en diversiteit*. Utrecht: ISOR.
- Summers, T. P., & Hendrix, W.H. (1991). Modelling the role of pay equity perceptions: A field study. *Journal of Occupational Psychology*, 64, 145-157.
- Tett, R.P. & Meyer, J.P. (1993). Job satisfaction, organiational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology*, 46, 259-293.
- Thibaut, J. & Kelley, H. (1959). *The social psychology of groups*. New York: Wiley.
- Thibaut, J. & Walker, L. (1975). *Procedural Justice: a psychological analysis*. Hillsdale, NJ: Erlbaum
- Traupmann, J. Petersen, R. Utne, M., & Hatfield (1981). Measuring equity in intimate relations. *Applied Psychological Measurement*, 5, 467-480.
- Van Dierendonck, D (1995). *Burnout among staff working in forensic psychiatric centres, a Dutch-Canadian comparison*. Paper presented at conference "Mental Health Care: The Challenge of Change." Toronto, 18-21 oktober 1995.
- Van Dierendonck, D. (1994). *Work stressors, appraisal, and coping of therapists working in a forensic psychiatric center*. Unpublished manuscript.
- Van Dierendonck, D., Groenewegen, P.P., & Sixma, H. (1992). *Opgebrand: een inventariserend onderzoek naar gevoelens van motivatie en demotivatie bij huisartsen*. Utrecht: NIVEL.
- Van Dierendonck, D. & Schaufeli, W.B. (1995). *Effect-evaluatie van een burnout preventie programma, uitgevoerd onder groepsleiders werkzaam in dagverblijven en tehuizen voor gehandicapten*. Eindrapportage. Utrecht: Psychologie van Arbeid, Gezondheid en Organisatie.
- Van Dierendonck, D., Schaufeli, W.B. & Buunk, B.P. (1996). Inequity among human service professionals: measurement and relation to burnout. *Basic and Applied Social Psychology*, 18, 429-451.
- Van Dierendonck, D., Schaufeli, W.B., & Buunk, B.P. (1996). Burnout and equity among human service professionals: a longitudinal study. Manuscript submitted for publication.
- Van Dierendonck, D., Schaufeli, W.B., & Buunk, B.P. (1996). The evaluation of an individual

- burnout intervention program. Manuscript submitted for publication.
- Van Dierendonck, D., Schaufeli, W.B., & Sixma, H. (1994). Burnout among general practitioners: A perspective from equity theory. *Journal of Social and Clinical Psychology, 13*, 86-100.
- Van Dierendonck, D & Sixma, H. (1994). Man, vrouw en burnout, een onderzoek bij Nederlands huisartsen [Men, women, and burnout, a study among Dutch general practitioners]. *Huisarts Nu, 23*, 141-148.
- VanYperen, N.W. (1996). Communal Orientation and the burnout syndrome among nurses: a replication and extension. *Journal of Applied Social Psychology, 26*, 338-354.
- VanYperen, N.W., & Buunk B.P. (1990). A longitudinal study of equity and satisfaction in intimate relationships. *European Journal of Social Psychology, 30*, 287-309.
- VanYperen, N.W. & Buunk, B.P. (1994). Social comparison and social exchange in marital relationships. In: M.J. Lerner & G. Mikula (Eds.), *Entitlement and the affectional bond: justice in close relationships* (pp. 89-115). New York: Plenum Press.
- VanYperen, N.W., Buunk, B.P., & Schaufeli, W.B. (1992). Imbalance, communal orientation, and the burnout syndrome among nurses. *Journal of Applied Social Psychology, 22*, 173-189.
- Veninga, R.L. & Spradley, J.P. (1981). *The work/stress connection: how to cope with job burnout*. Boston/Toronto: Little, Brown and company.
- Wade, D.C., Cooley, C., & Savicky V. (1986). A longitudinal study of burnout *Children and Youth Services Review, 8*, 161-173.
- Walster, E., Berscheid, E., & Walster, G.W. (1973). New directions in equity research. *Journal of Personality and Social Psychology, 25*, 151-176.
- Walster, E., Walster, G.W., & Berscheid, E. (1978). *Equity: Theory and research*. Boston, MA: Allyn and Bacon.
- Watson, D. & Pennebaker, J.W. (1989). Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychological Review, 96*, 234-254.
- Weiner, N. (1980). Determinants and behavioral consequences of pay satisfaction: a comparison of two models. *Personnel Psychology, 33*, 741-757.
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*, 548-573

- West Jr., D.J., Horan, J.J., & Games, P.A. (1984). Component analysis of occupational stress inoculation applied to registered nurses in an acute care hospital setting. *Journal of Counseling Psychology*, 31, 209-218.
- Whitehead, J.T. (1989). *Burnout in probation and corrections*. New York: Preager.
- Williams, C.A. (1989). Empathy and burnout in male and female helping professionals. *Research in Nursing and Health*, 12, 169-178.
- Wolpin, J., Burke, R.J., & Greenglass, E.R. (1991). Is job satisfaction an antecedent or a consequence of psychological burnout? *Human Relation*, 44, 193-209.
- Wouden, J.C. van der, Hingstman, L. & Elzinga, A.J. (1988). De medewerking van artsen aan postenquetes [The cooperation of doctors with postal questionnaires]. *Tijdschrift voor sociale gezondheidszorg*, 66,
- Zabel, R.H. & Zabel, M.K. (1982). Factors in burnout among teachers of exceptional children. *Exceptional Children*, 49, 261-263.
- Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress research: a review of the literature with reference to methodological issues. *Journal of Occupational Health*, 1, 145-169.

SAMENVATTING

In dit proefschrift is de rol onderzocht van sociale uitwisselingsprocessen bij de ontwikkeling van burnout. Het onderzoek richtte zich op professionals werkzaam in contactuele beroepen zoals artsen, therapeuten en groepsleiders. De laatste jaren hebben maatschappelijke veranderingen het risico om op te branden vergroot. De algehele werkdruk is toegenomen in alle beroepsgroepen en er is voor veel werknemers een toenemende eis om efficiënt te werken. Voor professionals in contactuele beroepen (veelal hulpverleners) zijn er nog een aantal factoren meer veranderd die het werk zwaarder hebben gemaakt. Zo is de relatie tussen hulpverlener en hulpvrager veranderd: de aanpak is tegenwoordig zakelijker en minder persoonlijk, bovendien is de autoriteit van de hulpverleners afgenomen.

Belangstelling voor en onderzoek naar burnout begon in 1974. Het heeft zich sinds die tijd in drie fasen voltrokken: (1) een pioniersfase met voornamelijk kwalitatieve beschrijvingen, (2) een empirische fase met veel correlationeel onderzoek en (3) de huidige conceptuele fase waarin vanuit psychologische theorieën onderzoek wordt verricht. Onderzoek waarbij het burnout-proces meer centraal komt te staan. Dit proefschrift is te zien als een onderdeel van de laatste (conceptuele) fase. De etiologie van burnout is hierin benaderd vanuit een specifieke sociale uitwisselingstheorie, te weten de billijkheidstheorie van Adams (1963).

Onderzoek naar de relatie tussen contacten met hulpvragers en burnout wees uit dat het niet zozeer de kwantiteit van deze contacten is die belangrijk is in relatie tot burnout maar dat het de kwaliteit van de contacten is die met name bepaalt of iemand meer of minder burnout ervaart. Uit voorgaand onderzoek bleek verder dat naast hulpvragercontacten, ook organisatorische factoren- zoals werkdruk, rolproblemen en autonomie-een belangrijke rol spelen bij burnout. Organisatie-factoren bleken zelfs belangrijker te zijn in samenhang met burnout dan hulpvrager-gerelateerde factoren. Deze organisatie-factoren worden in dit proefschrift gezien als onderdelen van de uitwisselingsrelatie tussen hulpverlener en de organisatie.

De kwaliteit van de hulpverlener-hulpvrager relatie en de hulpverlener-organisatie relatie werden als centrale elementen beschouwd bij het begin van het onderzoek. In de relatie die

hulpverleners hebben met de hulpvragers zijn ze zelf hun belangrijkste instrument. Als een contact met een hulpvrager minder succesvol is dan gehoopt of verwacht dan betreft een hulpverlener dit vaak direct op zichzelf als persoon. Voor hulpverleners is het vinden van resultaten of bevestiging in de relatie met hulpvragers lastig. Doorgaans vinden hulpvragers de verkregen hulp vanzelfsprekend: "Hij krijgt er toch voor betaald". Hulpvragers geven (te) weinig de nodige feedback aan de hulpverlener en ook komt het voor dat ze de hulpverlener gebruiken voor hun eigen doeleinden (zoals een patiënt die een verwijsbriefje nodig heeft van de huisarts).

In hoofdstuk 1 wordt de billijkheidstheorie van Adams beschreven. Benadrukt wordt dat het voor personen in een relatie belangrijk is dat de verhouding tussen investeringen en uitkomsten in balans is met die van anderen waarmee zij zich vergelijken. De theorie stelt dat mensen die het gevoel hebben te weinig of juist te veel terug te krijgen uit een relatie, ernaar streven om de balans te herstellen. Men staan verschillende strategieën ter beschikking. Men kan de werkelijke investeringen of uitkomsten trachten te veranderen, of men kan het beeld van hun relatieve waarde veranderen. De eerste studies naar de relevantie van de billijkheidstheorie waren voornamelijk experimentele onderzoeken in laboratoria naar uitwisselingsprocessen in de relatie organisatie-werknemer. Deze studies bevestigden de algemene theoretische uitgangspunten van Adams. In de loop van de jaren zeventig kwam er meer onderzoek naar uitwisselingsprocessen in persoonlijke relaties. Deze studies ondersteunden de theoretische uitgangspunten en vooronderstellingen van Adams ten dele.

Een knelpunt bij al het onderzoek naar billijkheid is het meten ervan. In de literatuur vindt momenteel een discussie plaats over hoe mensen bepalen dat een situatie billijk of onbillijk is en hoe de Adams formule het beste geoperationaliseerd kan worden.

Hoofdstuk 1 sluit af met de vier onderzoeksthema's die de centrale lijn van dit proefschrift vormen. 1) De ontwikkeling van een valide en betrouwbaar instrument om burnout te meten. 2) Het meten van billijkheid bij hulpverleners en het belang van billijkheid in relatie tot burnout. 3) Causale relaties van ervaren onbillijkheid met burnout in de relaties met hulpvragers en in de relatie met de organisatie. 4) De effecten van een burnout interventie programma.

Hoofdstuk 2 gaat in op het eerste onderzoeksthema, de ontwikkeling van een valide en

betrouwbaar instrument om burnout te meten. Onder 667 verpleegkundigen werd onderzoek gedaan waarbij twee instrumenten met elkaar zijn vergeleken. Naast het in de internationale literatuur populairste meetinstrument, de Maslach Burnout Inventory (MBI) was ook Burnout Measure (BM) onderdeel van de studie. Een confirmatieve factor-analyse bevestigde de driefactoriële structuur van de MBI: emotionele uitputting, depersonalisatie en persoonlijke bekwaamheid. Wel werden op basis van de resultaten twee ambigue items verwijderd uit het instrument. De congruente validiteit van het instrument werd ook bevestigd. Lineaire structurele analyses suggereren een onderliggende twee-dimensionele structuur waarbij emotionele uitputting de affectieve component vormt en het centrale kenmerk is van burnout en de andere twee dimensies gezamenlijk de houdingscomponent van burnout vormen. De eerste, affectieve component overlapt met psycho-somatische en psychische klachten.

In hoofdstuk 3 wordt een cross-sectionele studie beschreven onder een landelijk representatieve steekproef van 567 huisartsen. Met behulp van LISREL VII werd een specifiek model getoetst dat geënd was op de billijkheidstheorie. Het model dat de data goed weergaf suggereert het bestaan van een feedback loop waarbij belastende patiëntcontacten leiden via gevoelens van onbillijkheid tot uitputting. Uitputting leidt vervolgens tot depersonalisatie en verminderde persoonlijke bekwaamheid. Deze negatieve houding leidt op haar beurt weer tot meer belastende patiëntcontacten. Verder bleek sociale steun, van met name collega-huisartsen, een mediërende rol te vervullen tussen belastende patient-contacten en uitputting. Belastende patiëntcontacten bleken samen te gaan met minder ervaren sociale steun en sociale steun ging op haar beurt samen met minder uitputting.

In hoofdstuk 4 wordt het meten van billijkheid conform de Adams formule onderzocht in de relatie met hulpvragers en in de relatie met de organisatie. Twee studies vonden plaats. Eén studie onder 112 therapeuten werkzaam in een forensische psychiatrische kliniek. Een tweede studie onder 189 groepsleiders werkzaam in dagverblijven en tehuizen voor geestelijk gehandicapten. Vier hypothesen werden getoetst: 1) De perceptie van billijkheid in de relatie met hulpvragers is curvilineair gerelateerd aan burnout, 2) De perceptie van billijkheid in de relatie met de organisatie is curvilineair gerelateerd aan burnout, 3) Het niveau van burnout is hoger in de psychiatrische kliniek dan in de dagverblijven en tehuizen, 4) Therapeuten werkzaam in de forensische psychiatrische kliniek ervaren meer onbillijkheid in de relatie met hulpvragers dan groepsleiders werkzaam met geestelijk gehandicapten.

In het algemeen bleek dat met behulp van de Adams formule de beste met de theorie overeenkomende resultaten werden bereikt. Hierbij werd aan de respondenten gevraagd om apart een schatting te maken van hun investeringen en uitkomsten en van die van de vergelijksander (in dit proefschrift zijn dat de hulpvrager en de organisatie). De onderzoeker berekende met behulp van de Adams formule op basis van deze gegevens het niveau van billijkheid. De meerderheid van de hulpverleners in beide studies voelde zich benadeeld zowel in de relaties met hulpvragers als in de relatie met de organisatie. Van de drie burnout dimensies bleek het verband tussen emotionele uitputting en onbillijkheid curvilineair te zijn. Een curvilineair verband betekent dat hulpverleners die een billijke relatie ervaarden met de hulpvrager de minste gevoelens van burnout ervaarden. Hulpverleners die oftewel zich bevoordeeld voelden dan wel zich benadeeld voelden ervaarden vaker gevoelens van emotionele uitputting. Hypotheses 3 en 4 werden ook bevestigd. Hulpverleners in de forensische psychiatrie ervaren meer gevoelens van burnout en voelden zich sterker benadeeld in de relatie met hulpvragers dan hulpverleners in de geestelijk gehandicapten zorg.

Hoofdstuk 5 beschrijft de longitudinale analyses gedaan op de data van 245 hulpverleners werkzaam in verschillende organisaties, zoals een longkliniek, een verpleeghuis, dagverblijven en tehuizen voor geestelijk en lichamelijk gehandicapten. Op twee meetmomenten, een jaar van elkaar, werd informatie verzameld over de drie burnout dimensies, over billijkheid in de relatie met hulpvragers en billijkheid in de relatie met de organisatie. Uit de analyses bleek dat het waarschijnlijker is dat billijkheid burnout beïnvloedt dan andersom. Daarbij werden aanwijzingen gevonden dat billijkheid burnout curvilineair beïnvloedt (zowel meer krijgen uit de relatie als te weinig terug krijgen leidt tot emotionele uitputting). Dit bevestigt de cross-sectionele bevindingen uit hoofdstuk 4.

De longitudinale studie suggereert dat billijkheid in de relatie met hulpvragers met name emotionele uitputting beïnvloed. Billijkheid in de relatie met de organisatie blijkt daarentegen met name depersonalisatie en persoonlijke bekwaamheid te beïnvloeden. Een mogelijke verklaring voor deze laatste enigszins verbazingwekkende bevinding is dat de relatie met de hulpvragers meer het karakter heeft van een werklast. De relatie met de organisatie heeft in deze optiek meer het karakter van een hulpbron. Een hogere werklast leidt logischerwijs tot meer uitputting, terwijl een gebrek aan hulpbronnen leidt tot een negatievere houding ten opzichte van de hulpvragers en het eigen functioneren.

In dit hoofdstuk zijn ook de longitudinale relaties tussen de drie burnout dimensies onderling onderzocht. Hiervoor is naast de eigen studie ook de data van drie longitudinale studies uit de literatuur meegenomen (Leiter, 1990; Lee & Ashforth, 1993; Jackson et al., 1986). Het combineren van de resultaten van deze vier studies suggereert twee longitudinale effecten die plaats vinden binnen een relatief korte tijd (dagen dan wel weken). Het eerste effect is dat een gebrek aan persoonlijke bekwaamheid leidt tot depersonalisatie. Het tweede effect is dat depersonalisatie leidt tot emotionele uitputting.

Hoofdstuk 6 beschrijft de evaluatie van een individueel gericht burnout interventie programma. Groepsleiders werkzaam met geestelijk gehandicapten namen deel aan een programma bestaande uit vijf dagdelen die plaatsvonden in de loop van vijf weken. Het voornaamste doel van dit programma was de groepsleiders te stimuleren de doelen en verwachtingen die zij hebben t.a.v. hun werk en hun werksituatie beter op elkaar te laten aansluiten. De deelnemers werden gestimuleerd om afstand te nemen van hun huidige werksituatie. Men ging na of deze situatie wel paste bij wat zij werkelijk wilden en bij wat hun kwaliteiten waren. Daarnaast kregen ze informatie over oorzaken van burnout en leerden ze een ontspanningsoefening. Aan het einde van de vijf weken werd van hen verwacht dat ze een plan van aanpak maakten gericht op wat zij wilden bereiken het komende jaar. Een half jaar later werd de voortgang van dit plan geëvalueerd tijdens een follow-up bijeenkomst. Onderdeel van het burnout interventie programma was een aparte workshop voor de leidinggevendenden van deze groepsleiders. In deze workshop leerden deze leidinggevendenden beter omgaan met groepsleiders die dreigen op te branden.

Om de effecten van dit programma te kunnen bepalen werd de verandering in burnout, billijkheid, verloopintentie en daadwerkelijk ziekteverzuim van 36 deelnemers (experimentele groep) vergeleken met groepsleiders uit twee controlegroepen. Een interne controlegroep ($n=39$) bestaande uit directe collega's van de deelnemers en externe controlegroep ($n=74$) bestaande uit groepsleiders werkzaam in een andere vergelijkbare instelling. De groepsleiders werden gevraagd drie keer een vragenlijst in te vullen: voorafgaand aan het programma, na een half jaar tijdens de follow-up bijeenkomst en een jaar na afloop van het programma.

In vergelijking met de controlegroepen bleek het niveau van emotionele uitputting, de verzuimduur en het zich benadeeld voelen in de relatie met de organisatie te zijn verminderd. Het grootste verschil werd gevonden met de externe controlegroep. Naast de algemene

effecten van het programma is onderzocht in hoeverre de ervaren sociale steun van collega's en leidinggevende na een half jaar (tweede meetmoment) het effect van het programma hadden beïnvloed. Het bleek dat sociale steun bevorderend werkt: deelnemers die meer sociale steun ervoeren bereikten sneller een meer billijke relatie met de organisatie. Ook bleek dat onder groepsleiders die sociale steun ervoeren de verloopintentie afnam terwijl bij groepsleiders met minder sociale steun de verloopintentie juist toenam.

Er werden geen effecten van het programma gevonden met betrekking tot depersonalisatie en onbillijkheid in de relatie met bewoners. Een verbazingwekkend effect was dat het niveau van persoonlijke bekwaamheid na een half jaar bleek te zijn gedaald, waarna het zich weer herstelde in het daarop volgende half jaar. Dit effect kan verklaard worden doordat het programma mogelijk geleid heeft tot het meer kritisch kijken naar het eigen functioneren en daarmee tot een tijdelijke grotere gevoeligheid voor negatieve signalen van de bewoners.

Het proefschrift wordt afgesloten met een concluderend hoofdstuk. In dit hoofdstuk worden de bevindingen van de vorige hoofdstukken op een rij gezet. Geconcludeerd wordt dat de enigszins bijgeschaafde versie van MBI een valide en betrouwbaar instrument is voor het meten van burnout. Het verbeterde inzicht in het concept burnout stelt ons verder in staat dit instrument verder te verfijnen en aan te passen aan gebruik buiten de hulpverlenende beroepen.

Over het probleem van het meten van billijkheid wordt geconcludeerd dat door de respondent te vragen uitkomsten en investeringen apart in te vullen, om dan als onderzoeker het niveau van billijkheid te berekenen volgens de Adams-formule goede resultaten oplevert. Wel wordt gesuggereerd om meer te differentiëren in de investeringen en uitkomsten die worden bevraagd. Een verdere verfijning is om de vergelijkingsander te variëren. Ook een uitbreiding van het model met billijkheid in relaties met collega's en leidinggevende lijkt zinvol. Andere uitbreidingen die gesuggereerd worden zijn: rekening houden met de verdelingsprincipes 'behoefte' en 'gelijkheid', procedurele rechtvaardigheid en met individuele eigenschappen van de hulpverleners.

De succesvolle evaluatie van het interventieprogramma bevestigt de mogelijkheid burnout en gerelateerde concepten in positieve zin te beïnvloeden. Het lijkt hierbij zinvol om deze cognitieve aanpak aan te vullen met onderdelen die hulpverleners leert beter hun hulpbronnen aan te boren.

De curvelineaire longitudinale relaties bevestigen het belang van billijkheid voor burnout. Wel wordt geconcludeerd dat deze curvelineaire verbanden impliceren dat bij interventies het begin-niveau van billijkheid waarschijnlijk het effect van het programma beïnvloedt. De longitudinale resultaten roepen het beeld op van burnout als een vulkaan: De uitbarsting komt plotseling alhoewel onder de grond al langer het een en ander speelt. De uitbarsting op zichzelf is verwoestend, doch deze laat een vruchtbare grond achter waarop opnieuw gebouwd kan worden.

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Tot slot, Elise. Ik ben blij dat jij nog steeds in mijn leven bent.

CURRICULUM VITAE

Dirk van Dierendonck werd geboren op 27 november 1963 te Venray. In 1982 behaalde hij het diploma VWO-bèta aan het Boschveld-College te Venray. Aansluitend ging hij psychologie studeren aan de Katholieke Universiteit Nijmegen. Tijdens een retraite-periode van de studie in de jaren 1984-86 vervulde hij zijn vervangende militaire dienstplicht. In augustus 1990 rondde hij zijn studie af met het doctoraal examen in de Psychologie van de Arbeid en Organisatie. In juni 1991 trad hij in dienst van het NIVEL te Utrecht, waar hij een onderzoek uitvoerde naar gevoelens van burnout bij Nederlandse huisartsen. In februari 1992 werd hij aangesteld als assistent in opleiding bij de sectie Psychologie van Arbeid en Organisatie van de Katholieke Universiteit Nijmegen. Hier werd de basis gelegd voor het onderzoek waar dit proefschrift op gebaseerd is. In februari 1994 zette hij zijn promotie-onderzoek voort als assistent in opleiding bij de vakgroep Sociale en Organisationspsychologie van de Universiteit Utrecht. Sinds 1 september 1996 is hij werkzaam als wetenschappelijk medewerker bij het Helen Dowling Instituut te Rotterdam op het project 'Psychosociale zorg op maat'. Tevens is hij als consultant verbonden aan Aanbod te Hilversum.

