Patient demands, lack of reciprocity, and burnout: A five-year longitudinal study among general practitioners

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Summary

This study among a sample of 207 general practitioners (GPs) uses a five-year longitudinal design to test a process model of burnout. On the basis of social exchange and equity theory, it is hypothesized and found that demanding patient contacts produce a lack of reciprocity in the GP-patient relationship, which, in turn, depletes GPs' emotional resources and initiates the burnout syndrome. More specifically, structural equation analyses confirmed that both at T1 and T2 lack of reciprocity mediates the impact of patient demands on emotional exhaustion. Emotional exhaustion, in turn, evokes negative attitudes toward patients (depersonalization), and toward oneself in relation to the job (reduced personal accomplishment). Moreover, this process model of burnout was confirmed at T2, even after controlling for T1-scores on each of the model components. Finally, T1 depersonalization predicted the intensity and frequency of T2 patient demands, after controlling for T1 patient demands. This major finding suggests that GPs who attempt to gain emotional distance from their patients as a way of coping with their exhaustion, evoke demanding and threatening patient behaviors themselves. The theoretical and practical implications of these findings are discussed.

Introduction

Helping people who experience major life problems constitutes a major challenge to many health professionals. Such work can be quite rewarding, for example when patients show gratitude after consultation, or when they recover because of a doctor's efforts (Maslach, 1993). Unfortunately, everyday reality is that health professionals are regularly confronted with patients who don't follow

their advice, make impossible demands, resist change, and who sometimes even lie, cheat, and manipulate (Cherniss, 1995). This situation may progress into a chronic disequilibrium, whereby caregivers feel that they continuously have to put more into relationships with their recipients than they receive back in return. The present longitudinal study among general practitioners (GPs) examines the consequences of dealing with demanding patient behaviors from the perspectives of equity theory (Adams, 1965; Pritchard, 1969; Walster, Walster and Berscheid, 1978), and social exchange theory (Blau, 1964). On the basis of these theories, we will argue that imbalanced GP-patient relationships may eventually deplete caregivers' emotional resources, and initiate the burnout syndrome.

Social exchange, equity, and reciprocity

According to equity theory (Adams, 1965; Walster et al., 1978), people evaluate their relation- ships with others in terms of investments and outcomes. A central proposition is that individuals have a deeply, evolutionary rooted tendency to pursue reciprocity in interpersonal relationships, and that those who find themselves participating in an unreciprocated relationship will become distressed (Buunk and Schaufeli, in press). Reciprocity exists when a person's investments and outcomes in a relationship are proportional to the investments and outcomes of the other person in the relationship (Adams, 1965; Walster et al., 1978), or when a person's own investments equal his or her own outcomes (Pritchard, 1969). A second proposition in equity theory is that the greater the inequity or lack of reciprocity that exists, the more distress individuals will experience, and the harder they will try to restore equity (Walster et al., 1978).

How important is reciprocity for doctors, the participants in our study? One may argue that the relationship between GPs and their patients is out-of-balance by its very nature, because GPs are supposed to provide care, whereas patients are supposed to receive. Blau's (1964) social exchange theory suggests that even in such a relationship equity theory's propositions will hold. At a conceptual level, Blau argues that individuals in high power positions such as GPs expect deference and gratitude from those in low power positions (i.e., their patients). Deference and gratitude are exchanged for the services of the powerful in order to preserve equity in an otherwise lopsided relationship.

In the relationship with patients, GPs' investments may include time and effort. These investments are reciprocated when patients show gratitude and appreciation after consultation, or when patients' physical condition improves after treatment. However, GPs may often feel that what they invest in their relationships with patients is not in proportion to what they get out of it. Every day, GPs put a lot of effort in this relationship by providing care, empathy, and attention (high investments). Although these investments may contribute to patients' well-being and may elicit gratitude, GPs are regularly confronted with patients who make impossible demands, threaten, intimidate, and do not follow medical prescriptions (low outcomes). For example, Hobbs (1994) conducted a study among almost 1100 British GPs, and found that no less than 63 per cent had suffered some degree of aggression in the previous 12 months. The strains of this asymmetric relationship between GPs and their patients may eventually deplete GPs' emotional resources and initiate the burnout syndrome.

Burnout

Burnout is a response to the chronic stress of dealing with other people, particularly when they are troubled or having problems (Maslach and Schaufeli, 1993). Feelings of emotional exhaustion or energy depletion are generally considered a core symptom of the burnout syndrome (Pines and Aronson, 1981; Shirom, 1989). In addition, two central characteristics of burnout have been documented in the literature: the development of negative, cynical attitudes about the recipients of one's service or care (depersonalization), and the development of negative attitudes regarding oneself in relation to the job (reduced personal accomplishment) (Maslach, 1993; Maslach and Jackson, 1986). Research on burnout has been strongly encouraged by the construction and validation of a standardized instrument to measure these three burnout com- ponents. This instrument is called the Maslach Burnout Inventory

(MBI; Maslach and Jackson, 1981, 1986). Although most studies confirm the original three-factor structure of the MBI (e.g., Fimian and Blanton, 1987; Gold, 1984), a two-factor structure (e.g., Brookings et al., 1985; Green, Walkey and Taylor, 1991), and a four-factor structure (Iwanicki and Schwab, 1981; Powers and Gose, 1986) has also been found. As a prerequisite to the primary objectives of this study, we will use confirmatory factor analyses to test models with different factor structures. We predict that burnout consists of three related, but empirically distinct components, namely emotional exhaustion, depersonalization, and (reduced) personal accomplishment (Hypothesis 1). According to Leiter and Maslach's (1988) process model of burnout, emotional exhaustion arises first in response to environmental stressors. Many studies, using different theoretical perspectives, have shown that an imbalance between professionals' investments and outcomes in their relationships with recipients (i.e., a lack of reciprocity) is an important predictor of physical fatigue and emotional exhaustion (e.g., Lee and Ashforth, 1996; Schaufeli and Enzmann, 1998; Schaufeli, Van Dierendonck and VanGorp, 1996; Siegrist, 1996; Van Dierendonck, Schaufeli and Sixma, 1994; Van Horn, Schaufeli and Enzmann, 1999; Van Yperen, Buunk and Schaufeli, 1992). Emotional exhaustion, in turn, evokes negative attitudes towards recipients (depersona- lization), as professionals attempt to gain emotional distance from them as a way of coping with their exhaustion. Consequently, a negative attitude develops regarding one's accomplishment at work: a decline in one's feelings of competence and successful achievement in one's job. This process model of burnout has been supported by earlier studies (e.g., Leiter and Maslach, 1988; Leiter and Meechan, 1986). Recently, however, some studies using structural equation modeling techniques have suggested that feelings of reduced personal accomplishment may also develop as a direct consequence of emotional exhaustion, simultaneously with depersonalization (e.g., Bakker et al., in press; Cordes, Dougherty and Blum, 1997). In the present study, we will contrast these two models: The first model predicts that the impact of emotional exhaustion on personal accomplishment is mediated by depersonalization. Thus, it predicts that there exists a positive relationship between emotional exhaustion and depersonalization, a negative relationship between depersonalization and personal accomplishment, but no direct relationship between emotional exhaustion and personal accomplishment (Hypothesis 2). In the alternative model, the direct relationship between emotional exhaustion and personal accomplishment is included (Hypothesis 3).

Burnout among general practitioners
The bulk of the research evidence to date suggests that client- or patient-contacts play a key role in the development of the burnout syndrome. For example, burnout is associated with more difficult client problems (Meadow, 1981; Pines and Maslach, 1978), higher emotional demands of patients (Lewinson, Conely and Blessing-Moore, 1981), a greater percentage of time in direct care for patients (Cronin-Stubbs and Brophy, 1985), and a higher exposure to patients with a poor prognosis (Hare, Pratt and Andrews, 1988).
In a recent study among British GPs, Rout, Cooper and Rout (1996) demonstrated the importance of good relationships with patients. Their results suggest that the intensity of job demands related to patient-contacts, patients' expectations, and interruptions by patients has a negative impact on GPs' job satisfaction and mental health. Several other studies among GPs show that time pressure, dealing with problem patients, and night calls are important problems associated with 'on going' stress in the lives of GPs (e.g., Cooper, Rout and Faragher, 1989; Myerson, 1991; Rout and Rout, 1993). It is therefore not surprising that GPs are particularly susceptible to the burnout syndrome. Moreover, when compared with other human service professions, GPs experience relatively high levels of burnout (e.g., Deckard, Meterko and Field, 1994; Kirwan and Armstrong, 1995; Van Dierendonck et al., 1994).

Back of reciprocity and burnout: specification of the model

Although previous research has provided evidence for a positive relationship between demanding patient-contacts and burnout, theoretical explanations for this relationship are relatively rare. What is it that makes demanding patients so stressful? Through what processes do patient demands eventually lead to burnout? The present study among GPs uses a five-year longitudinal design to test the hypothesis that demanding relationships with patients are indirectly related to burnout through the experience of a lack of reciprocity. Parts of this model have been supported by earlier studies, but, as far as we know, no study has tested the full pattern of relationships across time.

More specifically, the first part of the process model presented and tested in this article predicts that GPs' perception of a lack of reciprocity in the relationship with their patients is stronger, the more demanding their contacts with patients are. The reasoning behind this is that higher patient demands will, in general, increase the chance of imbalance in the relationship: higher demands by patients require higher investments by doctors, or may be evaluated as (and contribute to) lower outcomes for doctors. Note that the model makes a conceptual distinction between an often identified stressor in GPs' jobs (i.e., patient demands) on the one hand, and an evaluation of the relationship with patients (i.e., the perception of reciprocity) on the other hand. The second part of the model predicts that a lack of reciprocity results in feelings of emotional exhaustion (see Figure 1). Emotional exhaustion, in turn, evokes negative attitudes towards patients (i.e., depersonalization) as GPs attempt to gain emotional distance from their patients as a way of coping with their exhaustion. Simultaneously or consequently, a negative attitude develops toward one's accomplishment in the job (reduced personal accomplishment).

It is important to note that our prediction regarding the development of negative attitudes is in line with both Leiter and Maslach's (1988) process model of burnout, and with equity theory (Adams, 1965; Walster et al., 1978). A basic assumption in the latter theory is that individuals will try harder to restore the balance in their relationships with others, the more distress they experience (Walster et al., 1978). Assuming that attitudes coincide with behaviors, GPs will decrease their investments in the relationship with patients. The present study restricts itself to attitudes, but an impressive amount of research has shown that, in general, people's attitudes are strong predictors of their behaviors (see Eagly and Chaiken, 1993, for an overview), and several studies have suggested that depersonalization is no exception to that rule. For example, negative attitudes toward patients (depersonalization) have been related to impaired performance, and have been shown to be detrimental to the quality of human service (e.g., Maslach and Jackson, 1981; Noworol et al., 1993).

[figure 1]

Van Dierendonck et al. (1994) found cross-sectional evidence for the proposed model. In addition, they hypothesized and found that depersonalization, in turn, is related to the quality of the doctor-patient relationship. More specifically, their results suggest that negative attitudes toward patients increase the likelihood of demanding patient contacts, presumably because patients feel rejected by their doctor. This reasoning agrees with Roter and Hall (1991) who showed that the behavior of patients toward their physicians is a reciprocal response of the attitude of physicians toward their patients. Thus, a more negative and distant attitude of burned-out GPs toward their patients seems to reinforce not only the subjective experience of emotionally taxing relationships with patients, but also the actual demanding behavior of patients.

A limitation of previous studies applying equity theory to burnout, is that the analyses are correlational and thus cannot confirm causality. The present study addresses this problem by using a longitudinal design, covering a five-year time-period. More specifically, a major aim of the present study is to expand and validate Van Dierendonck et al.'s (1994) model. The proposed model is graphically presented in Figure 1. By using two waves of data collection (1991 and 1996), we created a unique design that enables us to test the patient demands --- lack of recipro- city --- emotional exhaustion ---

depersonalization --- personal accomplishment sequence at T2, whereby T1-scores on each of these model components are controlled for. In addition, the design permits a test of the hypothesized negative feedback-loop from T1 depersonalization to T2 patient demands. Thus, demanding contacts with patients are considered to be a precursor of burnout, whereas burnout is assumed to aggravate the demanding nature of these contacts (Hypothesis 4).

Method

Participants and procedure

Participants were drawn from an official registration system at The Netherlands Institute for Primary Health Care (NIVEL). This system, encompassing virtually all GPs established in The Netherlands (N = 6.921), allowed us to draw a national exemplary sample. In 1991, a random sample of 801 practitioners received a mailed questionnaire about stress in general practice (see Van Dierendonck et al., 1994, for details). A total of 567 GPs filled out and returned the questionnaire (response = 71 per cent). Informed consent for a follow-up study was granted by 503 of the responding GPs (89 per cent). To secure that the questionnaires were filled out by the persons to which they were addressed, personal characteristics of the 503 respondents were linked back to the population data base. This procedure was successfully completed for 462 GPs. For 41 GPs, inconsistencies were found with respect to gender and/or date of birth. These 41 GPs were excluded from the longitudinal design. The group of 462 GPs was administratively followed over a five-year period, between 1991 and 1996. After five years, 11.9 per cent of this sample (55 GPs) were no longer practising as a GP.[1] A separate analysis on the data from the NIVEL-registration system showed that this drop-out rate is statistically similar to the rate for the entire Dutch GP population, which is 11.4 per cent. The remaining sample of 407 GPs received a second, mailed questionnaire in 1996, covering exactly the same scales (theoretical constructs) as in the 1991 questionnaire. A total of 299 GPs filled out and returned this second questionnaire (response = 73 per cent). This sample included 255 (85 per cent) male, and 44 (15 per cent) female practitioners. Their mean age was 47 years (S.D. = 6.19), and work experience ranged from 5 to 35 years (M = 16 years). Both at T1 and T2, participants completed a self-report questionnaire containing an expanded patient demands scale (Mechanic, 1970), the Maslach Burnout Inventory (Maslach and Jackson, 1986), and a scale to measure lack of reciprocity in the relationship with patients (Van Dierendonck, Schaufeli and Buunk, 1996). All persons with missing values on any of the key variables were excluded from the analyses, which reduced the number of participants who provided valid data to 207. The final sample did not differ significantly from the initial sample as far as gender distribution, age, and working experience in general practice was concerned.

Measures

Patient Demands were assessed using an adapted version of a scale developed by Mechanic (1970). The original scale contains 14 items, each of which describes one type of patient behavior, for example 'A patient who insisted on referral to a consultant although you did not regard the referral as necessary', and 'A patient who threatened to write to the disciplinary committee to complain about you'. Van Dierendonck et al. (1994) supplemented the original scale with four items to include patient behaviors deemed important for Dutch GPs working in the nineties (e.g., 'A patient who threatens you physically'). These four items were derived from a series of open interviews with Dutch GPs. Participants were asked to indicate for each scenario the frequency (1 = never, 4 = often), and intensity (1 = no burden, 4 = very burdensome) of the patient behavior.

Lack of reciprocity in the relationships with patients was assessed using three items, namely: 'How often do you feel you invest more in the relationship with patients than you receive in return?', 'How often do you feel you lay out yourself too much in view of what you achieve?', and 'How often do you

feel you give your patients a lot of time and attention, but meet with little appreciation?'. The items were scored on a five-point rating scale, ranging from (1) 'never' to
(5) 'often'. A higher score on this measure indicates a more outspoken perception of a lack of reciprocity.

Burnout was measured using the Maslach Burnout Inventory (MBI; Maslach and Jackson, 1986), consisting of three subscales: emotional exhaustion, depersonalization, and personal accomplishment. 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). Both studies have shown that these items do not load on the intended factors, and thus create problems with factorial validity. Emotional exhaustion was measured with eight items, for example: 'I feel emotionally drained from my work'. Depersonalization was assessed with five items, including: 'I feel I treat some of my patients as if they were impersonal objects'. Finally, personal accomplishment was measured with seven items, such as: 'I feel I am positively influencing other people's lives through my work'. All items were scored on a seven- point rating scale, ranging from (0) 'never' to (6) 'every day'.

Model testing

As recommended by Jöreskog and Sörbom (1993), the hypothesized model was tested following a stepwise procedure. First, the factor structure of the MBI was tested with structural equation modeling (SEM), using LISREL 8 (Jöreskog and Sörbom, 1993) and the AMOS computer program (Arbuckle, 1997). In this analysis, the hypothesized Three-Factor Model underlying the MBI was tested against a Two-Factor Model and a One-Factor Model. The maximum likelihood method was used to examine the covariance matrices of the items. With help of SEM, the extent can be investigated to which a theoretically postulated structure is consistent with the data. In short, the estimated covariance matrix implied by the hypothesized model (the hypothesized pattern of relationships) is compared with the covariance matrix based on the empirical data. The analysis assessed the factor structure with the goodness-of-fit index (GFI) and the root mean square residual (RMR) to assess the quality of the models. Because the GFI depends on sample size, alternative-fit indices have been suggested that depend less on sample size and are thought to provide superior information on model fit (Marsh, Balla and McDonald, 1988). Three of these statistics provided by LISREL 8 are the incremental-fit index (IFI; Bollen, 1989), the normed-fit index (NFI), and the comparative-fit index (CFI). They are computed in relation to a Null Model that specifies no relationships among the measures.

The second step in the analysis concerned a test of the structural relationships between the variables included in the hypothesized model (see Figure 1). Again, the maximum likelihood method was used to examine the covariance matrices of the items. The model includes two latent variables, namely patient demands and lack of reciprocity. Patient demands is estimated by two manifest variables, i.e., the 18-item frequency and the 18-item intensity measure. Lack of reciprocity is estimated by three manifest variables, i.e., the three items described before. Finally, the model includes the three burnout components as manifest variables that are directly observed. Manifest variables can be included in a structural equation model, if they are valid and reliably measured (Jöreskog and Sörbom, 1993). Several studies have shown that the MBI has these psychometric properties (Maslach, Jackson and Leiter, 1996; Schaufeli and Van Dierendonck, 1993). In the current study, we will first examine the factorial validity of the MBI, before the components are included in the structural model. The reason to include the burnout components as structural variables in the model was to limit the total number of relationships to be estimated. Note that the total number of items measured is 41, both at T1 and T2. A simultaneous consideration of all manifest variables (i.e., items) would result in under-identification problems and insufficient power of the results (cf. Bentler and Chou, 1987).

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Results

Confirmatory factor analyses

The confirmatory factor analysis found that both at T1 and T2 all 20 MBI-items loaded significantly (well beyond the t = 1.96 criterion) on the predicted burnout factors (emotional exhaustion, depersonalization, and personal accomplishment). In addition, the proposed Three- Factor Model with correlations between the factors, but with no cross loadings, was found to provide a reasonable fit to the data. This is indicated by the goodness-of-fit analysis in Table 1. It is important to note that items with identical rating scales often have measurement errors that are correlated (Bryne, 1989). This means that the fit of the proposed model can be further improved if the measurement errors among the items of the subscales are considered. However, these improvements are irrelevant to the primary purpose of the present analysis.

SEM-analyses confirmed that, in 1991, the proposed model with an IFI of 0.893, a NFI of 0.816, and a CFI of 0.891 was a substantial improvement over the One-Factor Model with an IFI of 0.700, a NFI of 0.639 and a CFI of 0.696, respectively. Since the Two-Factor Model, collapsing emotional exhaustion and depersonalization into a single factor, and the proposed Three-Factor Model are nested in relation to one another, the chi-square difference test can directly test the improvement in fit (Bentler and Bonnet, 1980). As can be seen from Table 1, the improvement in fit for the 1991 data provided by the separation of emotional exhaustion and

depersonalization is substantial, $x2$ (dif) = 81.06, 2 df, $p < 0.001$. Comparable results were found for the data collected in 1996 (see Table 1). Taken together, these findings are consistent with earlier studies (e.g., Fimian and Blanton, 1987; Gold, 1984; Leiter and Durup, 1994), and provide evidence for the Three-Factor structure of the MBI. In conclusion, Hypothesis 1 was accepted.

[table 1]

Descriptive statistics

Table 2 shows the intercorrelations and internal consistencies (Cronbach's alphas) of the variables included in this study. As can be seen from this Table, all scales showed acceptable internal consistencies (cf. Cortina, 1993), with only one exception, i.e., depersonalization at T1.

[table 2]

Test of the process model of burnout

SEM-analysis of the model in Figure 1 produced modification indices suggesting a relationship between the T1 and T2 error covariances of the manifest variables measuring patient demands and lack of reciprocity (within-subjects). Therefore, the coefficients of these error covariances were set free. These paths were allowed, because we reasoned that a person who fills out the same questionnaire twice is likely to make the same mistakes, and may show the same response bias over time. These relationships are not shown in the final model for reasons of parsimony.

After these modifications, SEM-analysis resulted in a significant chi-square statistic, $x2$ (90) = 166.67, $p < 0.001$. This suggests that the hypothetical model does not adequately fit to the data. However, the GFI was 0.907, which is good. Goodness-of-fit indices at or above 0.90 are believed to indicate acceptable fit (Medsker, Williams and Holahan, 1994). In addition, the IFI was 0.942, the NFI was 0.882, and the CFI was 0.941, indicating a good fit of the model, after excluding the influence of sample size. Moreover, all hypothesized relationships in the theoretical model are in the predicted direction, and significant at the $p < 0.05$ level. These findings are consistent with Hypothesis 2, which states that there exists a positive relationship between emotional exhaustion and depersonalization, a negative relationship between depersonalization and personal accomplishment, but no direct

relationship between emotional exhaustion and personal accomplishment. The results also provide evidence for Hypothesis 4, which predicts that depersonalization at T1 has a positive effect on T2 patient demands.

Hypothesis 3 states that the model should also include the direct relationship between emo- tional exhaustion and personal accomplishment. Indeed, the modification indices suggested that the fit of the model could be improved, and that the impact of emotional exhaustion on personal accomplishment is not completely mediated by depersonalization. The alternative model allowed, both at T1 and T2, a direct path from emotional exhaustion to personal accomplish- ment. In addition, the modification indices suggested that, at T1, there runs also an additional path from lack of reciprocity to depersonalization. This relationship was not predicted, but is in retrospect consistent with the propositions in equity theory. As noted earlier, theory claims that individuals who find themselves participating in an unreciprocated relationship will become distressed. In addition to emotional exhaustion, depersonalization is a central part of the stress reaction considered in the current study, i.e., burnout, and equity theory does not claim that a lack of reciprocity produces specific stress reactions. The respecified model shows a fit to the data that is somewhat better than the fit of the hypothesized model, x^2 (87) = 141.21, p < 0.001, GFI = 0.923, IFI = 0.959, NFI = 0.900, and CFI = 0.958. Indeed, the chi-square difference test shows that the revised model significantly increases the fit of the model to the data, x^2 (dif) = 25.46, 3 df, p < 0.001. Taken together, these findings provide support for Hypothesis 3, and are consistent with the results of two recent studies (Bakker et al., in press; Cordes et al., 1997). Figure 2 shows the standardized solution of the respecified model, and the standardized parameters.

As a final test of the process model of burnout, we performed an additional analysis in which the most critical path from patient demands at T1 to depersonalization at T2 was set free. This additional path hardly influenced the goodness-of-fit statistic, x^2 (86) = 140.78, p < 0.001. Moreover, the other fit indices had exactly the same values, and the coefficient of the path from T1 patient demands to T2 depersonalization was non-significant (path coefficient = -0.05, t < 1). This means that the impact of patient demands on depersonalization is mediated by perceptions of reciprocity and by feelings of emotional exhaustion.

The parameters of the respecified model in Figure 2 can be interpreted as regression coefficients. As hypothesized, both at T1 and at T2, patient demands has a positive impact on perceptions of a lack of reciprocity, which, in turn, has a positive impact on feelings of emotional exhaustion. Emotional exhaustion shows a positive relationship with depersonalization, and a negative relationship with personal accomplishment. These results suggest that feelings of emotional exhaustion evoke a depersonalized attitude towards patients, and coincide with a decline in one's feelings of competence. Depersonalization was also negatively related to personal accomplishment. Note that the results of the analysis indicate that this burnout process holds true at T2, even when baseline levels of each of the model components at T1 are controlled for. Each of the predictor variables in the sequence explains a significant, independent, and substantial amount of the variance in the next criterion variable. Thus, for example, emotional exhaustion at T2 is predicted by T2 lack of reciprocity, even after partialling out the impact of T1 emotional exhaustion. As can be seen in Figure 2, particular patient demands, emotional exhaustion, and personal accomplishment are fairly stable over a five-year time-period. The T1- T2 path coefficients are 0.58, 0.50, and 0.54, respectively. Thus, GPs who scored high on each of these variables in 1991, had a relatively high probability of scoring high on these variables in 1996. Hence, these findings show that our process model of burnout reasonably describes the data. Probably most important, the results are in full support of our hypotheses that demanding contacts with patients are a precursor of burnout, whereas burnout aggravates the demanding nature of these contacts.

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[figure 2]

Discussion

This study among GPs is unique in testing a process model of burnout using a five-year longitudinal design. The model proposes that repeated confrontation with demanding patients over a long period of time causes perceptions of inequity or a lack of reciprocity. This, in turn, depletes GPs' emotional resources and initiates the burnout syndrome. The results provide strong evidence for this process model of burnout. More specifically, the results of a series of structural equation analyses suggest that demanding contacts with patients for example repeated com- plaints and threats may lead to the perception that there exists a lack of reciprocity, which, in turn, causes feelings of emotional exhaustion. This pattern was found both at T1 and T2, and indicates that perceptions of reciprocity mediate the impact of emotionally demanding patient contacts on emotional exhaustion. Thus, the current study is consistent with Buunk and Schaufeli's (1993) argument that, in order to understand the development of burnout, attention has to be paid to the way individuals perceive, interpret, and construct the emotionally deman- ding behaviors of others.

Moreover, the results provide a theoretical explanation for the well-established patient demands burnout relationship by showing that it is not patient demands in itself, but rather the resulting perception of imbalance in the relationship between GPs and their patients that initiates the burnout syndrome. Theoretically, this finding is consistent with the proposition of equity theory that people have a chronic tendency to pursue reciprocity in interpersonal relationships, and that they will feel distressed if they perceive relationships as inequitable (Adams, 1965; Pritchard, 1969; Walster et al., 1978). We may conclude that even a relationship that is out of balance by its very nature, like the GP-patient relationship, will be experienced as stressful in the long run when human service professionals are repeatedly confronted with difficult and demanding patients (cf. Blau, 1964).

In addition, the results suggest that emotional exhaustion, in turn, evokes a callous and cynical attitude towards patients (depersonalization), and a reduced feeling of competence. The reason for this is presumably that GPs attempt to gain emotional distance from their patients as a way of coping with their exhaustion (cf. Leiter, 1993; Leiter and Maslach, 1988). Through depersona- lization, people attempt to staunch the depletion of emotional energy by treating others as objects or numbers rather than as people (Lee and Ashforth, 1990; Maslach, 1982). The apparent use of this psychological withdrawal strategy by emotionally drained GPs is also consistent with the prediction from equity theory: GPs whose efforts are unreciprocated may develop negative attitudes toward their patients to reduce the tension, and to restore the balance by no longer 'investing' in them.

It is important to note that, at T2, we found evidence for our process model of burnout, even after controlling for T1-scores on each of these model components. More specifically, at T2, those GPs who reported relatively high levels of patient demands, also reported high levels of a lack of reciprocity, emotional exhaustion, and negative attitudes, after partialling out the impact of T1 scores on these variables. Thus, the present study corroborates and expands previous findings on the relationship between perceptions of a lack of reciprocity and burnout (Schaufeli et al., 1996; Van Dierendonck et al., 1994; Van Horn et al., 1999; Van Yperen, 1996; Van Yperen et al., 1992). The three dimensions of burnout as measured by the MBI (Maslach and Jackson, 1986) were included as separate factors in our process model of burnout, because a series of confirmatory factor analyses showed that the proposed Three-Factor model was a substantial improvement over alternative One-Factor and Two-Factor Models (both at T1 and at T2). These findings are consistent with the results of earlier factor-analytic studies (e.g., Fimian and Blanton, 1987; Gold, 1984; Leiter and Durup, 1994), and emphasize the multi-faceted nature of the burnout construct. Note that the fit of the Three-Factor model still fell below the commonly accepted threshold of 0.90, and could only be further improved if the measurement errors among the items of the subscales had been considered. However, this state of affairs is not unique to

the MBI, because items with identical rating scales often have measurement errors that are correlated (Byrne, 1989).

Furthermore, consistent with other recent findings (Bakker et al., in press; Cordes et al., 1997), we found that emotional exhaustion does not only evoke negative attitudes towards recipients (depersonalization), but also simultaneously a negative attitude regarding one's accomplish- ment in the job. The conclusion is that emotional exhaustion plays a crucial role in the develop- ment of the burnout syndrome. Thus, feelings of exhaustion are a precursor of depersonalization, and can be a direct cause of a decline in one's feelings of competence and successful achievement at work.

One major finding is that, consistent with our theoretical model, T1 negative attitudes predicted T2 patient demands, after controlling for T1 patient demands. This finding suggests that GPs who attempt to gain emotional distance from their patients as a way of coping with their exhaustion, evoke patient behaviors which pose a psychological and physical threat. This is an interesting, though alarming finding. Several theorists (e.g., Lief and Fox, 1963; Maslach, 1982) have argued that the development of an attitude of 'detached concern' is the ideal coping strategy for human service professionals who are confronted with emotionally charged relationships. Such an attitude blends professional care and commitment with appropriate emotional distance. The results of the present study clearly show that when this functional, distancing attitude eventually changes into a cynical attitude, it is likely that it becomes dysfunctional. Thus, there exists a thin line between detached concern and depersonalization. Negative attitudes from doctors and patients seem to reinforce each other (cf. Roter and Hall, 1991), and contribute to a further development of burnout.

We believe that the present results can be generalized to other health professionals than GPs. The main reason to assume this is that parts of our process model have been successfully applied to other professions. For example, the relationship between lack of reciprocity and emotional exhaustion has been found in studies among nurses (Van Yperen, 1996; Van Yperen et al., 1992), and teachers (Van Horn et al., 1999). The relationships among the three burnout components have been found in studies among teachers (Bakker et al., in press), and among human resource professionals (Cordes et al., 1997). Another reason to believe in adequate external validity of the findings is that the predictions are firmly rooted in theory. Finally, we did everything to assure that the study was conducted among a representative sample.

Limitations of this study clearly must be noted also. First, since self-report data were the most important source of information, common method variance may partly explain some of the results, particularly regarding the cross-sectional relationships at T1. However, Spector (1987) found little evidence for common method variance among measures of affective and cognitive or perceptual constructs that are quite similar to the ones studied here. Second, the autoregressive paths for two variables were rather small. The path coefficients were 0.24 and 0.35 for lack of reciprocity and depersonalization, respectively. We can only speculate about the reasons for this lack of stability in structural relationships over five years. One reason may be the limited number of items used to measure both constructs (as compared to the other variables in the model). Another possible explanation for the lack of stability is that the relatively long time interval 'permitted' several changes in doctors' working environment not controlled for. This latter possibility is also suggested by the unequal synchronous structural paths from emotional exhaustion to depersonalization (0.19 at T1 and 0.44 at T2), and from depersonalization to personal accomplishment (-0.44 at T1 and -0.22 at T2). These irregularities in the findings point at pitfalls of (usually desired) longitudinal designs.

A third limitation of this study is that we used a rather crude measure of lack of reciprocity. This measure was developed by two of the authors in the early nineties, and since then, some more refined measures of a lack of reciprocity have been developed (e.g., Bakker et al., in press; Van Dierendonck et al., 1996). Both from a theoretical and practical perspective, it is recommendable to use separate measures for investments and outcomes, and to compute ratios for lack of reciprocity. Such an operationalization corresponds more closely to equity theory, and poten- tially offers more insight in

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the specific investments and outcomes that are the most important determinants of burnout. This latter information may be useful for intervention programs aimed at preventing or reducing burnout (cf. Van Dierendonck, Schaufeli and Buunk, 1998).

Subject to these limitations, the present findings may have important implications for future research and practice. The study emphasizes the importance of perceptions of reciprocity in the burnout process, and provides several guidelines for interventions aimed at reducing or preven- ting burnout among GPs. A straightforward practical implication is that to prevent burnout, GPs should be provided with the opportunity to restore the balance in the doctor-patient relation- ship. This can be achieved by teaching medical students and practising doctors to develop an attitude of 'detached concern'. Another means of restoring equity is to give GPs the opportunity to terminate the relationship with patients who obviously exploit them (e.g., by repeatedly calling the doctor in the middle of the night for a minor illness or by being aggressive). However, this strategy is probably easier said than realized, because terminating the relationship with a patient runs counter to the GP's professional attitude. A GP is generally seen as someone who listens and helps, and devotes his or her attention to the life and problems of fellow human beings. The results of the present study suggest that such an attitude may eventually be counterproductive, as it may drain GPs' emotional resources and spark the burnout syndrome.

Notes

[1] Reasons for dropping out grouped together in five categories: 'retirement' (33 persons), 'death' (5 persons), 'illness' (4 persons), 'shift to another job' (9 persons), and 'other/unknown' (4 persons). Of the 50 GPs dropping out for reasons other than death, 39 did so before having reached the retirement age of 65 years. Elsewhere (Sixma et al., 1999), we have shown that GPs with high levels of emotional exhaustion have a significantly higher risk of dropping out between 1991 and 1996 than their colleagues with relatively low levels of emotional exhaustion.

References

Adams, J. S. (1965). 'Inequity in social exchange'. In: Berkowitz, L. (Ed.) *Advances in Experimental Social Psychology* (Vol. 2), Academic Press, New York, pp. 267-299.

Arbuckle, J. L. (1997). *Amos Users' Guide Version 3.6*, Smallwaters Corporation, Chicago.

Bakker, A. B., Schaufeli, W. B., Demerouti, E., Janssen, P., Van der Hulst, R. and Brouwer, J. (in press). 'Using equity theory to examine the difference between burnout and depression', *Anxiety, Stress, and Coping*.

Bentler, P. M. and Bonnet, D. G. (1980). 'Significance tests and goodness of fit in the analysis of covariance structures', *Psychological Bulletin*, 88, 588-606.

Bentler, P. M. and Chou, C. P. (1987). 'Practical issues in structural equation modeling', *Sociological Methods and Research*, l6, 78-117.

Blau, P. M. (1964). *Exchange and Power in Social Life*, Wiley, New York.

Bollen, K. A. (1989). *Structural Equations with Latent Variables*, Wiley, New York.

Brookings, J. B., Bolton, B., Brown, C. E. and McEvoy, A. (1985). 'Self-reported job burnout among female human service professionals', *Journal of Occupational Behaviour*, 6, 143-150.

Buunk, B. P. and Schaufeli, W. B. (1993). 'Professional burnout: a perspective from social comparison theory'. In: Schaufeli, W. B., Maslach, C. and Marek, T. (Eds) *Professional Burnout: Recent Developments in Theory and Research*, Taylor & Francis, New York, pp. 53-69.

Buunk, B. P. and Schaufeli, W. B. (in press). 'Reciprocity in interpersonal relationships: an evolutionary perspective on its importance for health and well-being'. In: Stroebe, W. and Hewstone, M. (Eds) *European Review of Social Psychology*, Vol. 10, John Wiley & Sons, Chichester.

Bakker, A.B., Schaufeli, W.B., Sixma, H.J., Bosveld, W., Dierendonck, D. van. Patient demands, lack of reciprocity, and burnout: a five-year longitudinal study about general practitioners. Journal of Organizational Behavior: 2000, 21(4), 425-441

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.

Cherniss, C. (1995). *Beyond Burnout: Helping Teachers, Nurses, Therapists, and Lawyers Recover from Stress and Disillusionment*, Routledge, New York.

Cooper, L., Rout, U. and Faragher, B. (1989). 'Mental health, job satisfaction and job stress among general practitioners', *British Medical Journal*, 298, 366-370.

Cordes, C. L., Dougherthy, T. W. and Blum, M. (1997). 'Patterns of burnout among managers and professionals: a comparison of models', *Journal of Organizational Behavior*, l8, 685-701.

Cortina, J. M. (1993). 'What is coefficient alpha? An examination of theory and applications', *Journal of Applied Psychology*, 78, 98-104.

Cronin-Stubbs, D. and Brophy, E. G. (1985). 'Burnout: can social support save the psych nurse?', *Journal of Psychosocial Nursing and Mental Health Services*, 23, 8-13.

Deckard, G., Meterko, M. and Field, D. (1994). 'Physician burnout: an examination of personal, professional, and organizational relationships', *Medical Care*, 32, 745-754.

Eagly, A. H. and Chaiken, S. (1993). *The Psychology of Attitudes*, Harcourt Brace Javanovich, Fort Worth, TX.

Fimian, M. J. and Blanton, L. P. (1987). 'Stress, burnout, and role problems among teachers, trainees and first-year teachers', *Journal of Occupational Behaviour*, 8, 157-165.

Gold, Y. (1984). 'The factorial validity of the Maslach Burnout Inventory in a sample of California elementary junior high classroom teachers', *Educational and Psychological Measurement*, 44, 1009-1016.

Green, D. E., Walkey, F. H. and Taylor, A. J. W. (1991). 'A three-factor structure of the Maslach Burnout Inventory', *Journal of Social Behavior & Personality*, 6, 453-472.

Hare, J., Pratt, C. C. and Andrews, D. (1988). 'Predictors of burnout in professional and paraprofessional nurses working in hospitals and nursing homes', *International Journal of Nursing Studies*, 25, 105-115.

Hobbs, F. D. (1994). 'Fear of aggression at work among general practitioners who have suffered a previous episode of aggression', *British Journal of General Practice*, 44, 390-394.

Iwanicki, E. F. and Schwab, R. L. (1981). 'A cross validation study of the Maslach Burnout Inventory', *Educational and Psychological Measurement*, 4l, 1167-1174.

Jöreskog, K. and Sörbom, D. (1993). *LISREL 8: Structural Equation Modeling with the SIMPLIS Command Language*, Lawrence Erlbaum, Hillsdale, NJ.

Kirwan, M. and Armstrong, D. (1995). 'Investigation of burnout in a sample of British general practitioners', *British Journal of General Practice*, 45, 259-260.

Lee, R. T. and Ashforth, B. E. (1990). 'On the meaning of Maslach's three dimensions of burnout', *Journal of Applied Psychology*, 75, 743-747.

Lee, R. T. and Ashforth, B. E. (1996). 'A meta-analytic examination of the correlates of the three dimensions of job burnout', *Journal of Applied Psychology*, 8l, 123-133.

Leiter, M. P. (1993). 'Burnout as a developmental process: consideration of models'. In: Schaufeli, W. B., Maslach, C. and Marek, T. (Eds) *Professional Burnout: Recent Developments in Theory and Research*, Taylor & Francis, New York, pp. 237-250.

Leiter, M. P. and Durup, J. (1994). 'The discriminant validity of burnout and depression: a confirmatory factor analytic study', *Anxiety, Stress, and Coping*, 7, 357-373.

Leiter, M. P. and Maslach, C. (1988). 'The impact of interpersonal environment on burnout and organizational commitment', *Journal of Organizational Behavior*, 9, 297-308.

Leiter, M. and Meechan, K. A. (1986). 'Role structure and burnout in the field of human service', *Journal of Applied Psychology*, 22, 47-52.

Lewinson, N. J., Conley, J. and Blessing-Moore, J. (1981). 'Measurement of hypothetical burnout among cystic fibrosis caregivers', *Acta Pediatrica Scandinavica*, 70, 935-939.

Bakker, A.B., Schaufeli, W.B., Sixma, H.J., Bosveld, W., Dierendonck, D. van. Patient demands, lack of reciprocity, and burnout: a five-year longitudinal study about general practitioners. Journal of Organizational Behavior: 2000, 21(4), 425-441

Lief, H. I. and Fox, R. C. (1963). 'Training for "detached concern" in medical students'. In: Lief, H. I., Lief, V. F. and Lief, N. R. (Eds) *The Psychological Basis of Medical Practice*, Harper & Row, New York, pp. 12-35.

Marsh, H. W., Balla, J. R. and McDonald, R. P. (1988). 'Goodness-of-fit indexes in confirmatory factor analysis: the effect of sample size', *Psychological Bulletin*, l03, 391-410.

Maslach, C. (1982). 'Burnout: A social psychological analysis'. In: Jones, J. W. (Ed.) *The Burnout Syndrome: Current Research, Theory, Interventions*, London House, Park Ridge.

Maslach, C. (1993). 'Burnout: A multidimensional perspective'. In: Schaufeli, W. B., Maslach, C. and Marek, T. (Eds) *Professional Burnout: Recent Developments in Theory and Research*, Taylor & Francis, New York, pp. 19-32.

Maslach, C. and Jackson, S. E. (1981). 'The measurement of experienced burnout', *Journal of Occupational Behavior*, 2, 99-113.

Maslach, C. and Jackson, S. E. (1986). *MBI: Maslach Burnout Inventory; Manual Research Edition*, University of California, Consulting Psychologists Press, Palo Alto, CA.

Maslach, C. and Schaufeli, W. B. (1993). 'Historical and conceptual development of burnout'. In: Schaufeli, W. B., Maslach, C. and Marek, T. (Eds) *Professional Burnout: Recent Developments in Theory and Research*, Taylor & Francis, New York, pp. 1-16.

Maslach, C., Jackson, S. E. and Leiter, M. P. (1996). *Maslach Burnout Inventory. Manual*, (3rd ed.), Consulting Psychologists Press, Palo Alto, CA.

Meadow, K. P. (1981). 'Burnout among professionals working with deaf children', *American Annals of the Deaf*, l26, 13-22.

Mechanic, D. (1970). 'Correlates of frustration among British general practitioners', *Journal of Health and Social Behavior*, II, 87-104.

Medsker, G. J., Williams, L. J. and Holahan, P. J. (1994). 'A review of current practices for evaluating causal models in organizational behavior and human resource management research', *Journal of Management*, 20, 439-464.

Myerson, S. (1991). 'Doctors' methods of dealing with "on going" stress in general practice', *Medical Science Research*, l9, 267-269.

Noworol, C., zarczyn'ski, z., Fa, frowicz, M. and Marek, T. (1993). 'Impact of professional burnout on creativity and innovation'. In: Schaufeli, W. B., Maslach, C. and Marek, T. (Eds) *Professional Burnout: Recent Developments in Theory and Research*, Taylor & Francis, New York, pp. 163-175.

Pines, A. and Aronson, E. (1981). *Burnout: From Tedium to Personal Growth*, Free Press, New York. Pines, A. and Maslach, C. (1978). 'Characteristics of staff-burnout in mental health settings', *Hospital and Community Psychiatry*, 29, 233-237.

Powers, S. and 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.

Pritchard, R. D. (1969). 'Equity theory: a review and critique', *Organizational Behavior and Human Performance*, 4, 176-211.

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.

Rout, U. and Rout, J. K. (1993). *Stress and the GPs*, Kluwer Academic Publishers, Lancester.

Rout, U., Cooper, C. L. and Rout, J. K. (1996). 'Job stress among British GPs: predictors of job dissatisfaction and mental ill-health', *Stress Medicine*, l2, 155-166.

Schaufeli, W. B. and Enzmann, D. (1998). *The Burnout Companion to Study and Practice: A Critical Analysis*, Taylor & Francis, London.

Bakker, A.B., Schaufeli, W.B., Sixma, H.J., Bosveld, W., Dierendonck, D. van. Patient demands, lack of reciprocity, and burnout: a five-year longitudinal study about general practitioners. Journal of Organizational Behavior: 2000, 21(4), 425-441

Schaufeli, W. B. and Van Dierendonck, D. (1993). 'The construct validity of two burnout measures',
Journal of Organizational Behavior, l4, 631-647.
Schaufeli, W. B., Van Dierendonck, D. and VanGorp, K. (1996). 'Burnout and reciprocity: towards a dual- level social exchange model', *Work & Stress*, l0, 225-237.
Shirom (1989). 'Burnout in work organizations'. In: Cooper, C. L. and Robertson, I. (Eds) *International Review of Industrial and Organizational Psychology*, John Wiley, Chichester, pp. 25-48.
Siegrist, J. (1996). 'Adverse health effects of high effort-low reward conditions', *Journal of Occupational Health Psychology*, I, 27-41.
Sixma, H. J., Bakker, A. B., Bosveld, W., Lobach, E., Groenewegen, P. P. and Schaufeli, W. B. (1999). 'Dropping out as a consequence of burnout: a longitudinal study among Dutch general practitioners', *Manuscript submitted for publication*.
Spector, P. E. (1987). 'Method variance as an artefact in self-reported affect and perceptions at work: myth or significant problem?', *Journal of Applied Psychology*, 72, 438-443.
Van Dierendonck, D., Schaufeli, W. B. and Buunk, B. P. (1996). 'Inequity among human service professionals: measurement and relation to burnout', *Basic and Applied Social Psychology*, l8, 429-451. Van Dierendonck, D., Schaufeli, W. B. and Buunk, B. P. (1998). 'The evaluation of an individual burnout intervention program: the role of inequity and social support', *Journal of Applied Psychology*, 83, 392-407.
Van Dierendonck, D., Schaufeli, W. B. and Sixma, H. J. (1994). 'Burnout among general practitioners: a perspective from equity theory', *Journal of Social and Clinical Psychology*, l3, 86-100.
Van Horn, J., Schaufeli, W. B. and Enzmann, D. (1999). 'Teacher burnout and lack of reciprocity', *Journal of Applied Social Psychology*, 29, 91-108.
Van Yperen, N. W. (1996). 'Communal orientation and the burnout syndrome among nurses: a replication and extension', *Journal of Applied Social Psychology*, 26, 338-354.
Van Yperen, N. W., Buunk, B. P. and Schaufeli, W. B. (1992). 'Imbalance, communal orientation, and the burnout syndrome among nurses', *Journal of Applied Social Psychology*, 22, 173-189.
Walster, E., Walster, G. W. and Berscheid, E. (1978). *Equity: Theory and Research*, Allyn & Bacon, Boston.

Bakker, A.B., Schaufeli, W.B., Sixma, H.J., Bosveld, W., Dierendonck, D. van. Patient demands, lack of reciprocity, and burnout: a five-year longitudinal study about general practitioners. Journal of Organizational Behavior: 2000, 21(4), 425-441

Figure and tables

Figure 1. Process Model of Burnout. Note. Dotted lines indicate the two alternative relationships between emotional exhaustion and personal accomplishment that can be predicted on the basis of previous research: An indirect relationship, through depersonalization (Hypothesis 2) or a direct relationship (Hypothesis 3)
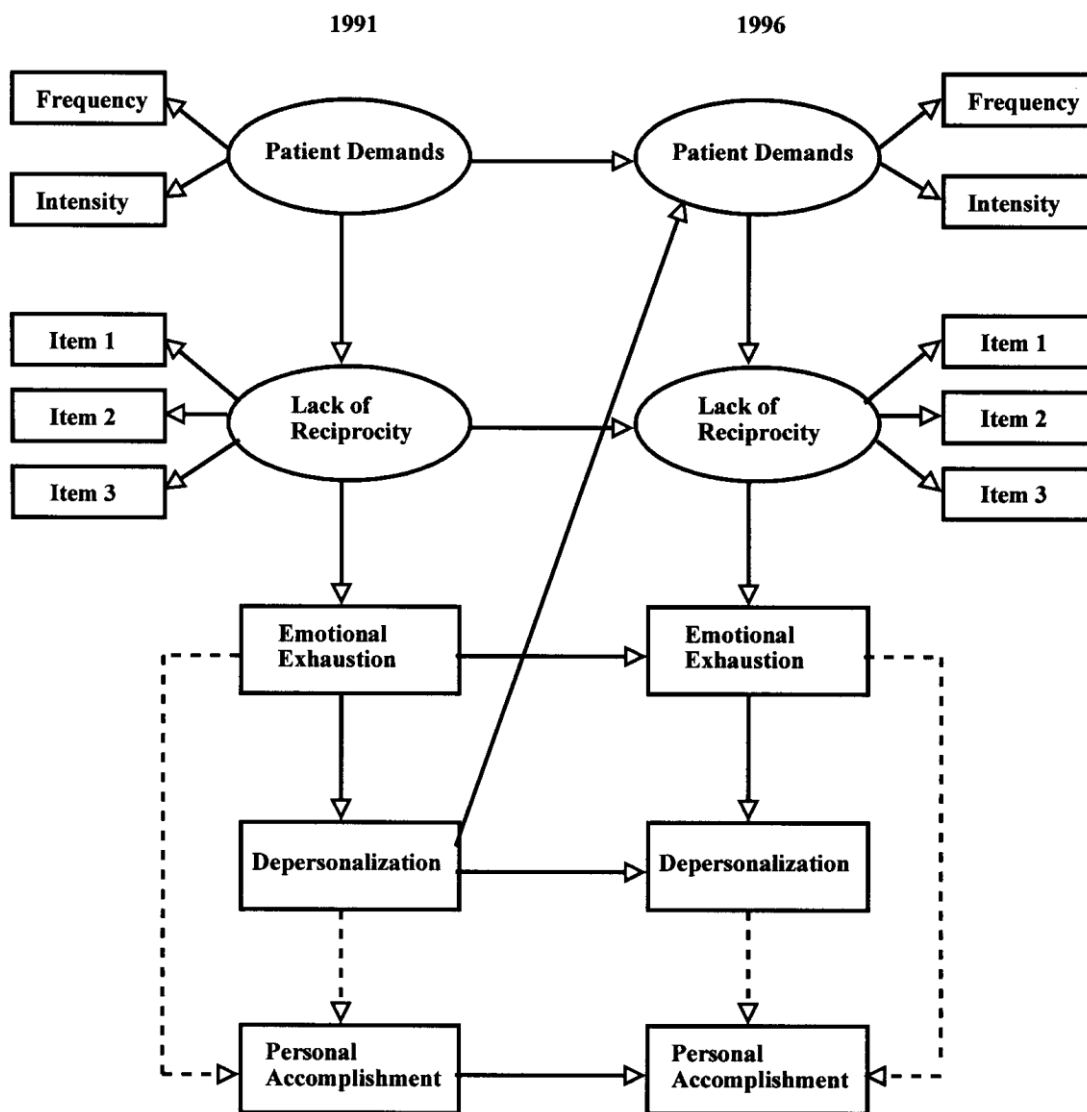
Table 1. Confirmatory factor analyses of the Maslach Burnout Inventory[1]: 1991 and 1996, N = 207

	x^2	DF	GFI	IFI	NFI	CFI	RMR
Three-Factor Model							
1991	353.79	165	0.885	0.893	0.816	0.891	0.065
1996	324.85	165	0.892	0.917	0.845	0.916	0.071
Two-Factor Model							
1991	434.85	167	0.861	0.848	0.774	0.846	0.082
1996	414.00	167	0.859	0.872	0.802	0.870	0.074
One-Factor Model							
1991	696.07	168	0.749	0.700	0.639	0.696	0.093
1996	528.21	168	0.813	0.813	0.748	0.811	0.084
Null Model							
1991	1925.77	190	0.425				0.306
1996	2093.07	190	0.370				0.362

Note: [1] Items 12 ('I feel energetic') and 16 ('Working with people directly puts too much stress on me') have been omitted. x^2 = chi square; DF = degrees of freedom; GFI = goodness-of-fit index; IFI = incremental-fit-index; NFI = normed- fit index; CFI = comparative-fit index; RMR = root mean square residual.

Table 2. Intercorrelations and internal consistencies (Cronbach's alphas—on the diagonal) of the variables included in this study, $N = 207$

Model component	1	2	3	4	5	6	7	8	9	10	11	12
Time 1												
1. Emotional exhaustion	(0.88)											
2. Depersonalization	0.36	(0.63)										
3. Personal accomplishment	−0.33	−0.50	(0.72)									
4. Lack of reciprocity	0.41	0.32	−0.22	(0.74)								
5. Patient demands, frequency	0.31	0.31	−0.21	0.43	(0.79)							
6. Patient demands, burden	0.36	0.39	−0.21	0.36	0.54	(0.78)						
Time 2												
7. Emotional exhaustion	0.62	0.26	−0.29	0.27	0.20	0.30	(0.90)					
8. Depersonalization	0.36	0.47	−0.34	0.21	0.22	0.20	0.54	(0.71)				
9. Personal accomplishment	−0.25	−0.26	0.65	−0.13*	−0.11*	−0.19	−0.42	−0.48	(0.71)			
10. Lack of reciprocity	0.29	0.25	−0.21	0.42	0.16*	0.17*	0.49	0.36	−0.23	(0.76)		
11. Patient demands, frequency	0.20	0.25	−0.12*	0.30	0.63	0.40	0.27	0.27	−0.19	0.33	(0.81)	
12. Patient demands, burden	0.26	0.29	−0.26	0.33	0.24	0.58	0.31	0.26	−0.26	0.28	0.34	(0.85)

Note. All correlations are significant at the $p < 0.01$ level, except those marked with an asterisk.

Figure 2. Respecified Process Model of Burnout, standardized solution. All structural relationships are significant at the p < 0.05 level, N = 207