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Toward a process model of burnout: Results from a secondary analysis

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In this article, causal relations among three dimensions of burnout, as measured by the Maslach Burnout Inventory, were examined. Three causal models were examined using data from five earlier published longitudinal studies. Models were fitted using structural equation modelling (SEM) with multi-group analysis. In the best fitting model, personal accomplishment synchronously influenced depersonalization and depersonalization on its turn synchronously influenced emotional exhaustion Practical implications of this model for the prevention of burnout were suggested.

Research on burnout has shown that it might have negative consequences for both organizations and individuals. Burnout has been related to health problems, depression, reduced productivity, absenteeism, and job turnover (Schaufeli & Enzmann, 1998). This emphasizes the importance of effective individual and organizational practices to deal with burnout (Cordes & Dougherty, 1993). Since burnout is considered to be a multi-dimensional phenomenon an accurate understanding of the underlying developmental process is a crucial prerequisite for designing effective intervention strategies. Burnout is conceived as a three-dimensional concept that consists of 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) (Maslach, 1993). It is usually measured

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by using the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996). However, this multi-dimensional conceptualization of burnout raises questions about the interrelationships and the causal order of the constituting components. Do these develop simultaneously or is there developmental progression over time? And if so, which component develops first, and which next? As was noted by Lee and Ashforth (1993) there are two reasons why it is important to understand the causal sequence. First, it will facilitate early recognition of burnout, and thus foster its prevention and treatment at an early stage before it becomes chronic. Second, it will help to develop a theoretical process model that includes the antecedents and the consequences of burnout.

In a number of studies the MBI has been used as a one-dimensional instrument (e.g., Burke & Greenglass, 1995; Dignam & West, 1988), which evidently leads to a loss of information because burnout is supposed to be a three-dimensional 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 a more traditional conceptualization of job stress (Maslach & Schaufeli, 1993).

To date, two contrasting views exist on the causal order of the three burnout components. First, Leiter and Maslach (1988) argue that emotional exhaustion results from the emotional overload that is caused by working with difficult and demanding recipients. In an attempt to cope with this stressor and the resulting feelings of exhaustion, human services professionals distance themselves psychologically from their recipients, which takes the form of a cynical, indifferent, and callous attitude (i.e., depersonalization). Since such an attitude diminishes the capacity to adequately deal with recipients, employees are likely to fail their work goals and hence their sense of accomplishment might decrease. In contrast, Golembiewski and his colleagues (Golembiewski, Boudreau, Munzenrider, & Luo, 1996; Golembiewski, Munzenrider, & Stevenson, 1986) assume that depersonalization develops first as a (dysfunctional) attempt to deal with the stresses of the job. Likewise, as hypothesized by Leiter and Maslach (1988), this is expected to lead to a reduced sense of accomplishment. Finally, because no successes are obtained, a feeling of emotional exhaustion develops.

Although cross-sectional studies suggested some limited support for the Leiter and Maslach model (Cordes, Dougherty, & Blum, 1997; Leiter, 1989) as well as for the Golembiewski et al. model (Golembiewski et al , 1996), it is impossible to demonstrate the causal relationships suggested by either model in a cross-sectional design. Longitudinal studies make causal inferences more plausible by ruling out alternative explanations such as reverse causation and the impact of third variables, such as occasion factors (e.g., weather and mood) and background variables (e.g., age and sex) (Zapf, Dormann, & Frese, 1996).

It should also be noted that, although Golembiewski et al. (1996, pp. 49–50) described the onset of burnout as a within-subject model, the evidence for

their model is based on a between-subjects research design, which also the primary focus of their model. Hence, the adequacy of both models f describing a within-subjects process can be questioned and it is therefore n unlikely that an alternative causal model will describe the burnout process mo appropriately.

We identified five longitudinal studies that explicitly investigated caus relations between the three burnout dimensions Lee and Ashforth (199 reported results that seem to support the Leiter and Maslach model. Usi structural equation modelling they observed, in a sample of supervisors a managers of a public welfare setting, that emotional exhaustion w synchronously (i.e., at the same moment in time) related to bo depersonalization and personal accomplishment at time 1 as well as at time Depersonalization and personal accomplishment were not significantly relate The Leiter (1990) study of mental health workers, however, showed o significant causal relation between the three burnout dimensions: Person accomplishment at time 1 predicted emotional exhaustion 6 months later. Thi Leiter and Durup (1996) studied hospital-based health-care workers and found negative relation between personal accomplishment at time 1 a depersonalization 3 months later. The fourth study of Bakker, Schaufeli, Sixm Bosveld, and Van Dierendonck (2000) among general practitioners report results that support the Leiter and Maslach model across a time span of 5 yea Finally, Van Dierendonck, Schaufeli, and Buunk (in press) reported resu contrary to that of the Leiter and Maslach model. Exploratory analysis among sample of human service professionals suggested a model whereby person accomplishment influenced depersonalization and depersonalization in tu influenced emotional exhaustion A possible explanation for this remarkab finding is that exhaustion may result from an inadequate coping strategy, i. from depersonalization. This poor coping style is negatively influenced by reduced sense of personal accomplishment. So, Van Dierendonck et al. (in pres present an alternative causal order of the three burnout dimensions compared both Leiter and Maslach (1988) and Golembiewski et al. (1996)

Hence, a definite conclusion regarding the interrelations of the burno dimensions still stands out. A complicating factor is that different methods f data analysis were used in the previously mentioned studies, which makes comparison of results quite difficult. So far, the competing models were n explicitly tested against each other in order to identify the best-fitting model.

The purpose of the current article is to provide more insight into the burno process by exploring the causal directions among the three burnout dimensio by testing the models of Leiter and Maslach (1988) and of Golembiewski et a (1986) against each other, using linear structural modelling. Because the resu of previous studies are inconclusive and neither model can fully explain t cross-sectional and longitudinal findings, a third alternative model is tested th

assumes that the burnout process starts with reduced personal accomplishment, followed by depersonalization, which influences exhaustion (Van Dierendonck et al., in press). The rationale behind this model is that personal accomplishment may function as the basic or core resource to better handle the strains of the job. As a basic resource that helps dealing with difficult circumstances, a reduced sense of personal accomplishment interferes with a person's coping style. Depersonalization results from defensive coping with the demands of the job. This explains how—and why—personal accomplishment influences depersonalization. At first glance, it seems counterintuitive that depersonalization, which in fact implies investing less resources, may lead to resource depletion and hence to exhaustion. However, several authors have suggested that the most salient aspect of burnout (i.e., exhaustion) results from maladaptive coping (e.g., Cherniss, 1980; Hobfoll & Freedy, 1993). Coping takes place through investing resources. With maladaptive coping, there is a likelihood of resource depletion, with the likely final result of exhaustion.

METHOD

Studies

The relations between the three longitudinal dimensions are investigated with a multi-group analysis, using secondary data. A search for longitudinal research on burnout in the period 1974–2000 using PsycLit revealed 24 studies. Regretfully, only seven of these studies provided a correlation matrix that could be used as input for our analysis. The study of Bakker et al. (2000) was excluded because the time frame between the two measurement points is at least five times more than that of the other studies. It is also likely that the mutual influence of the burnout dimensions will become more diffuse if years span two measurements. The study of Van Dierendonck et al. (in press) was excluded because it reported the exploratory analyses that resulted in one of the models that will be tested in this article. The five studies that were included are: (1) Jackson, Schwab, and Schuler (1986), who studied 248 elementary and secondary school teachers within 1 year; (2) Leiter (1990), who studied 122 mental health workers with a 6-month interval; (3) Lee and Ashforth (1993), who examined burnout among supervisors and managers of a public welfare setting with an 8-month time lag; (4) Leiter and Durup (1996), who explored burnout among 151 hospital-based health care professionals with a 3-month study interval; and (5) Brouwers and Tomic (2000), who studied 243 secondary school teachers with a 5-month interval.

Measures

Burnout. Burnout was measured with the Maslach Burnout inventory, which consists of three subscales: Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA) (Maslach et al., 1996). In the studies of Jackson et al. (1986), Leiter (1990), and Leiter and Durup (1996) the original 22-item scale was used. Lee and Ashforth (1993) slightly adapted the scale for use with supervisors by rephrasing items that refer to subordinates instead of recipients. Brouwers and Tomic (2000) and Jackson et al. (1986) used the MBI-Educators Survey, which is similar to the original MBI, except that instead of recipients, students are referred to.

RESULTS

The strength and the direction of the relations between the three burnout dimensions were explored with a multi-group analysis with a so-called two-wave panel model (Zapf et al., 1996) using EQS (Bentler, 1989). This approach provides statistical tests that allow for directional conclusions, which are especially valuable if an important goal is to find empirical evidence for longitudinal directions. In addition, structural equation models may reveal synchronous relations between variables. Synchronous effects are represented in the model by a path of one variable (e.g., exhaustion) measured at time 2 that influences another variable (e.g., depersonalization), also measured at time 2. Synchronous effects are distinguished from correlations in that they are directional and that these effects do not necessarily occur simultaneously at time 2 (for more information, see Zapf et al., 1996).

EQS provides several overall fit indices as well as modification indices that suggest improvements in fit of the model to the data. The goodness-of-fit of the models was evaluated using relative and absolute indices as recommended by Hu and Bentler (1998). The absolute goodness-of-fit indexes calculated were the chi-square goodness-of-fit index and the standardized root-mean-square residual (SRMR). A value of .08 or less is considered as indicating a relatively good fit for the SRMR. The relative goodness-of-fit indices computed were the comparative fit index (CFI) and the non-normed fit index (NNFI or TLI). For both indices, values greater than .95 are considered as indicating a good fit. It should be noted that the alternative models are nested only within the stability model, not each other. The Akaike Information Criterion (AIC; Akaike, 1987) was therefore calculated as an additional measure to obtain information for comparing the fit of alternative models (Cudeck & Browne, 1983). The AIC is always positive, lower values indicate a better fitting model.

In every study, the first step was to test the stability model in which the three dimensions were allowed to correlate at time 1 and the time 2 variable was regressed on itself on time 1. In the following models this stability model was extended by allowing one or two paths more to be estimated, so the predicted variables were always controlled for by their baseline levels. Zapf et al. (1996) argue that third variable effects like occasion factors and background variables are controlled for by partialling out the time 1 variable

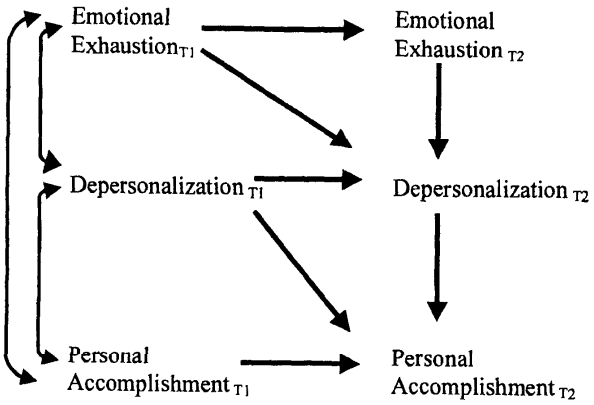

Figure 1. Leiter and Maslach (1988) model

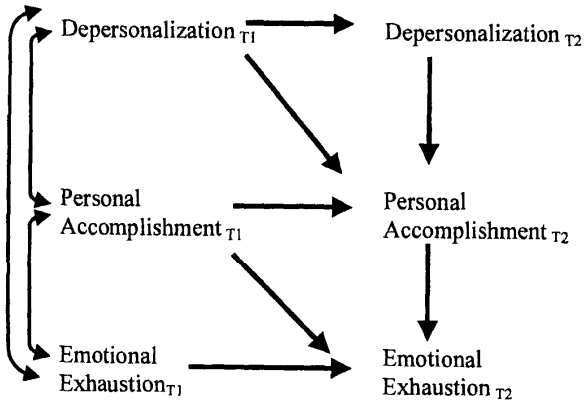

Figure 2. Golembiewski et al (1986) model

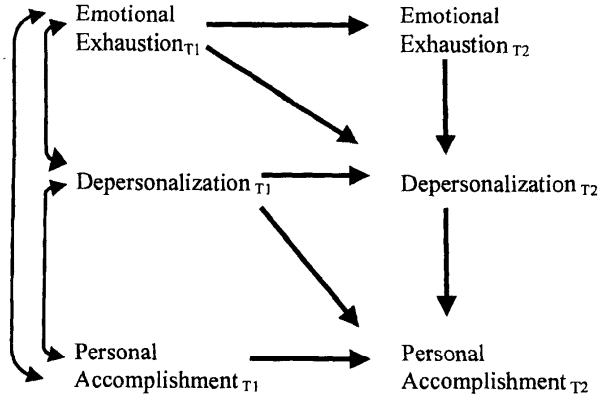

Figure 3. Van Dierendonck et al (in press) model.

Figures 1, 2, and 3 depict the three models with both longitudinal and synchronous paths. In order to make a comparison between the three models and to be able to decide whether the relations were synchronous or longitudinal, the two models were each tested twice. First, in each model the longitudinal hypothesized paths from time 1 to time 2 were freed to be estimated and the synchronous paths were fixed at zero. Second, the synchronous models were tested with the paths between the variables at time 2 freed to be estimated and the longitudinal paths fixed at zero. The paths between the variables were constrained across the five samples.

As Table 1 shows, the synchronous Van Dierendonck et al. model provides the best fit across the five studies. The SRMR meets with a value of .08 exactly the recommended value. Incremental fit indices show a good fit with values of .96 and .94, respectively. All in all, the analyses show a pattern whereby emotional exhaustion is synchronously influenced by depersonalization (path coefficient .32). Depersonalization is negatively influenced by personal accomplishment (path coefficient –.24). The stability coefficients were .60 for emotional exhaustion, .56 for depersonalization, and .66 for personal accomplishment.

TABLE 1
Causal relations between burnout dimensions, multi-group analyses

	X^2	*df*	*p*	*CFI*	*NNFI*	*SRMR*	*AIC*
Stability model	438 06	57	< 001	.85	80	.13	324 06
Leiter & Maslach, longitudinal	410 11	55	< 001	.86	81	11	300 11
Golembiewski et al , longitudinal	416 92	55	< 001	.86	81	12	306 92
Van Dierendonck et al , longitudinal	384 17	55	< 001	.87	.82	10	274 17
Leiter & Maslach, synchronous	200 94	55	<.001	.94	92	09	90 94
Golembiewski et al., synchronous	327 54	55	< 001	89	.85	10	217.54
Van Dierendonck et al , synchronous	167.55	55	< 001	.96	.94	.08	57.55

DISCUSSION

In this article causal relationships were investigated using secondary data among the three burnout dimensions: emotional exhaustion, depersonalization, and personal accomplishment. The results show that the Leiter and Maslach (1988) model fits better to the data than the Golembiewski et al. (1986) model. However, the fit of the Van Dierendonck et al. (in press) model is superior. In this model personal accomplishment synchronously influenced depersonalization, which in its turn synchronously influenced emotional exhaustion. This sequence is contrary to models presented in most other burnout studies.

Our finding suggests that reduced personal accomplishment may function in a way that is different from that proposed by Leiter and Maslach (1988), as the endpoint of the burnout process, or that proposed by Golembiewski et al. (1986), as a mediator in the relationship between depersonalization and emotional exhaustion. Instead, personal accomplishment might be the starting point of the burnout process.

This position of personal accomplishment at the beginning of the burnout process can be understood by considering the crucial role of professional competence. Several authors have emphasized the importance of feelings of competence (Harrison, 1983; Pines, 1993), mastery (Hobfoll & Freedy, 1993), and goal orientation (Hallsten, 1993) in the burnout process. Cherniss (1993) regards self-efficacy as playing a pivotal role in the burnout process. Personal accomplishment is defined as the evaluation of the relational skills in handling recipients, which may affect self-efficacy beliefs regarding future performance. We suggest that personal accomplishment may function as a basic or core resource to better handle the strains of the job. In order to cope with the daily stress professionals with a reduced sense of personal accomplishment choose to distance themselves from their recipients. Professionals who depersonalize their recipients are most likely experiencing their jobs as being unattractive. Indeed, Schaufeli and Enzmann (1998, p. 90) found that across more than 20 studies correlations between depersonalisation and job satisfaction were higher (−.52) compared to exhaustion (−.44) and personal accomplishment (.40). Recently, De Rijk, Schreurs, and Bensing (1999) showed that an unattractive situation (i.e., low attractiveness of external stimulation) was strongly related to fatigue as well as to overload.

A limitation of the present article is that with only 2 measurement points, a process model can only tentatively be tested. A second limitation is that we did not include so-called third variables in our design. This precludes an unambiguous demonstration of causal relationships (Zapf et al., 1996). The effects of non-constant third variables (common factors) remain unknown. Future research should ideally include at least three measurement points to build on our results and to test more elaborate models. A strong point is that we used one method of analysis to simultaneously explore the best-fitting model in five studies using confirmatory analyses.

It should be noted that the time frame might be an all-important determining factor in the causal order between the three dimensions. The strongest support for the Leiter and Maslach model was found in a study with a time frame of 5 years (Bakker et al., 2000). It is likely that different processes work in the short term (i.e., 1 year or less) and the long term (let's say 5 years). More research is clearly needed, encompassing more measurement points within a shorter period of time from each other.

Practical implications

Our model has two important practical implications. First, if personal accomplishment and depersonalization determine exhaustion, as our results suggest, these factors should be acknowledged as early warning signs of burnout. So contrary to the most popular model of Maslach (1993) the results of the current study suggests that it is wrong to focus on early signs of exhaustion because when these appear the burnout process is already under way. Instead, the focus should be on changed attitudes towards one's own competence (diminished personal accomplishment) and towards recipients (depersonalization). Particularly supervisors, but also colleagues at the shop floor should learn how to recognize a diminished sense of competence and upcoming signs of cynicism among their subordinates or fellow workers. It goes without saying that early detection is crucial since otherwise exhaustion really sets in and a full-blown burnout will develop. Second, our findings imply that primary prevention should focus particularly on increasing employee's levels of competence instead of teaching them how to cope with emotional exhaustion. In addition to learning specific job-related skills, a more general approach to enhance self-efficacy might also prove to be successful. As noted earlier, lack of self-efficacy has been identified as a key factor in the development of burnout (Cherniss, 1993). In order to enhance self-efficacy and thus increase the sense of personal accomplishment and counteract burnout, a training programme should include a variety of components (Bandura, 1997) such as role playing to provide success experiences (enactive mastery), models of performance (vicarious experiences), coaching, and encouragement (verbal persuasion). In other words, it follows from our results that instead of stress management training, (cognitive) skills training seems the most promising avenue to prevent the development of burnout.

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