

Chapter 2

THE SOCIALLY INDUCED BURNOUT MODEL

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ABSTRACT

The study described in this chapter investigates socially induced burnout among a sample of 490 employees of a large banking and insurance company, working in one of 47 teams. Previous research has suggested that burnout may transfer from one employee to another in a direct or indirect way. The results of the present study confirm this phenomenon of burnout contagion by showing that team burnout is directly related to individual team members' burnout (i.e., exhaustion, cynicism and reduced professional efficacy), and indirectly through its relationship with individual members' job demands, job control, and perceived social support. The implications of the socially induced burnout model for interventions aimed at the prevention and reduction of occupational burnout are discussed.

INTRODUCTION

"If burnout only affected individuals in isolation, it would be far less important and far less devastating in its impact than it is."

Edelwich & Brodsky (1980; p. 25)

In the past two decades, several authors have used anecdotal evidence to argue that job-induced strain and burnout may transfer from one employee to another (e.g., Cherniss, 1980; Edelwich & Brodsky, 1980). Recent, more systematic studies have provided empirical evidence for this phenomenon (Bakker, LeBlanc & Schaufeli, 1997; Bakker & Schaufeli,

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2000; Bakker, Schaufeli, Sixma & Bosveld, 2001; Westman & Etzion, 1999). In addition to a direct effect of stimulus persons' burnout to target persons' burnout, these latter studies also suggested alternative, indirect routes of burnout transference (see also Westman & Vinokur, 1998). For example, it has been shown that the burnout levels of a team can have a positive impact on individual team members' workload, and that this increased workload causes burnout in individual team members (Bakker et al., 1997). The study described in this chapter expands this line of research by investigating socially induced burnout among a sample of 490 employees of a large banking and insurance company, working in one of 47 teams. In this chapter, we will focus on direct and indirect transference of burnout from the team to individual team members.

Occupational Burnout

Burnout is a work-related stress-reaction that can be found among employees in a wide range of occupations (Bakker, Demerouti & Schaufeli, 2002; Schaufeli & Enzmann, 1998). Most contemporary researchers agree that the syndrome is characterized by three related, but empirically distinct elements, namely exhaustion, cynicism, and reduced professional efficacy (Leiter & Schaufeli, 1996; Maslach, Jackson & Leiter, 1996; Maslach & Leiter, 1997). Feelings of exhaustion or energy depletion are generally considered a core symptom of the burnout syndrome (e.g., Shirom, 1989). Cynicism refers to the development of negative, cynical attitudes toward work and the people with whom one works (e.g., clients and colleagues). The third dimension of burnout, reduced professional efficacy refers to the belief that one is no longer effective in fulfilling one's job responsibilities.

Several authors have argued that burnout results from a misfit between job demands and job resources (e.g., Lee & Ashforth, 1996; Maslach & Leiter, 1997; Schaufeli & Enzmann, 1998). Indeed, recent studies among employees from a wide range of occupations provide strong evidence for such a job demands – resources model (e.g., Bakker, Demerouti, De Boer, & Schaufeli, in press; Demerouti, Bakker, Nachreiner & Schaufeli, 2000, 2001). Moreover, these studies offer evidence for a specific pattern of relationships between characteristics of the working environment and the different burnout components. Job demands (such as time pressure, work overload, and demanding clients) are most strongly and positively related to feelings of exhaustion (as compared to the two other components), whereas job resources (such as social support, job control, financial rewards, recognition, and performance feedback) are most strongly related to cynicism (negatively) and professional efficacy (positively). Importantly, these relationships were found using self-reports and independent observer ratings of the working environment (Demerouti et al., 2001).

In short, previous research has clearly shown that high job demands and low job resources form the breeding ground for burnout (see also, Lee & Ashforth, 1996). But what happens once a significant number of individuals have developed burnout symptoms? Does the presence of burned-out colleagues change one's working environment? It is the central aim of the research described in this chapter to show that burnout can be socially induced. More specifically, we expect that the prevalence of burnout in a working team can explain unique variance in burnout among individual team members that is not explained by traditional job demands and (lack of) resources in the working environment.

Socially Induced Burnout: Possible Processes

Research on the symptomatology of burnout has shown that the syndrome may manifest itself in various ways. Schaufeli and Enzmann (1998) counted more than 100 burnout-symptoms in the literature, including such highly visible symptoms as hyperactivity, physical fatigue, and enhanced irritability. Moreover, researchers have identified several "social symptoms" of burnout, most notably negative or cynical attitudes toward clients and work (see also Burisch, 1989, for an overview). Such negative attitudes may take the form of reduced empathy, cynicism, black humor, and stereotyping. Burnout symptoms expressed by colleagues may therefore transfer to individual employees when they socialize with one another on the job or in informal meetings. For example, a nurse who is repeatedly exposed to cynical remarks about patients made by her colleagues, may develop feelings of cynicism or depersonalization when these remarks remind her of the times that her own patients were unappreciative of her help (Bakker et al., 1997). Below we will briefly describe theoretical and empirical work on the transmission of emotions to illustrate how other burnout symptoms may be socially induced.

Buunk and Schaufeli (1993) have suggested that colleagues may act as role models, whose symptoms are imitated through a process of "emotional contagion." That is, employees may perceive symptoms of burnout in their colleagues and automatically take on these symptoms. This process is similar to what has been described as *emotional contagion*: "The tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person and, consequently, to converge emotionally" (Hatfield, Cacioppo, & Rapson, 1994:5). The emphasis in this definition is clearly on a *non-conscious* process. Research has indeed shown that, in conversations, people automatically mimic the facial expressions, voices, postures, and behaviors of others (e.g., Bavelas, Black, Lemery, & Mullett, 1987; Bernieri, Reznick, & Rosenthal, 1988), and that people's conscious experience may be shaped by such facial feedback (Laird, 1984; Siegman & Reynolds, 1982). We believe that particularly the exhaustion component of burnout is a likely candidate for unconscious contagion or induction, because it is often expressed in a visible way (facial expressions, postures, movements).

There is, however, a second way in which people may "catch" emotions and attitudes of others. Transference may also occur via a *conscious* cognitive process by "tuning in" to the emotions of others. This will be the case when a person tries to imagine how he or she would feel in the position of another, and, as a consequence, experiences the same feelings. Thus, the realization that another person is happy or sad may trigger memories of the times we have felt that way, and these reveries may spark similar emotions (see Hsee, Hatfield, Carlson, & Chemtob, 1990). At the workplace, there are several conditions and circumstances that may facilitate such a process of consciously tuning in to the emotions of colleagues.

The two attitudinal components of burnout, namely cynicism and professional efficacy, seem the most likely candidates for conscious transmission. Indeed, Bakker and Schaufeli (2000) found that teachers who frequently talked with their burned-out colleagues about problematic students had the highest probability of catching the negative attitudes expressed by their colleagues. In repeatedly trying to understand the problems their colleagues were facing, teachers presumably had to tune in to the negative attitudes expressed by their colleagues (about themselves and about the students). This creates exactly a condition under which central or systematic processing (instead of peripheral or heuristic processing) of

information is likely to occur (Petty & Cacioppo, 1986). The result will be negative attitude change, particularly when the burned-out colleague (the source) has evidence or strong arguments to bolster his or her frustration and uncaring attitudes.

Indirect Routes of Socially Induced Burnout

The first empirical indication for a socially induced burnout effect came from Rountree (1984), who studied over 180 task groups in over twenty different work settings. He observed that almost 90% of those high in burnout were members of work groups having at least 50% of all members suffering from advanced burnout. After reviewing similar additional studies, Golembiewski, Munzenrider and Stevenson (1986:184) concluded that: "Very high and very low scores on burnout tend to concentrate to a substantial degree." They added: "These findings suggest 'contagion' or 'resonance' effects" (185).

However, this concentration of burnout in particular work groups may also be explained by a negative change in the working conditions, because burnout has been related to a wide range of detrimental behaviors. For example, Freudenberger (1974) observed that burned-out individuals do not perform efficiently, independently of how hard they try. Indeed, it has been found that they make more on-the-job mistakes, misuse work breaks, and have higher absenteeism rates (e.g., Bakker et al., in press; Kahill, 1988). In a team, each of these behaviors may increase the workload of the other team members, as they will have to compensate for the inefficient or disruptive behaviors of their burned-out colleagues.

Indeed, evidence for this alternative, indirect route of socially induced burnout has been found in a study that included more than 1800 nurses from 80 European intensive care units (Bakker et al., 1997). In addition to a *direct* effect from unit burnout¹ to individual nurses' burnout, unit burnout had an *indirect* effect through its influence on individual nurses' workload and job autonomy. More specifically, structural equation modeling analyses revealed that unit burnout had a positive influence on the workload reported by individual nurses, and a negative impact on their autonomy. These changed working conditions, in turn, had a significant impact on their experience of burnout. That is, workload had a positive, and job autonomy had a negative influence on individual nurses' feelings of exhaustion, depersonalization (a specific form of cynicism), and reduced personal accomplishment (i.e., professional efficacy). This indirect influence of unit burnout on individual burnout can easily be explained by assuming that individual nurses had more work to do because of the impaired job performance of their burned-out colleagues. Conceptually similar findings have been reported by Westman and Vinokur (1998), who studied the crossover of depression within couples. These researchers argue that depression may be transmitted *indirectly* from one spouse to the other through an interpersonal exchange process. Indeed, they found that the

¹ Bakker, LeBlanc and Schaufeli (1997) used the human service version of the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996) to measure burnout. This scale incorporates three dimensions, namely emotional exhaustion, depersonalization, and reduced personal accomplishment. Unit burnout was calculated for each nurse separately, using the burnout data reported by colleagues in the unit. More specifically, scores on unit emotional exhaustion, unit depersonalization, and unit personal accomplishment were computed. The unit emotional exhaustion score represents the mean emotional exhaustion score of all team members, except the participant's own emotional exhaustion score. The same procedure was applied for unit depersonalization and unit personal accomplishment.

increase in depression in one partner triggered abusive behaviors toward the other partner, which in turn increased depression in the partner.

The Present Study

In the current investigation, we concentrate on the direct and indirect relationships proposed by the Socially Induced Burnout (SIB) model. We collected data from 490 employees of a large bank and insurance company, working in one of 47 teams. In addition to burnout, three relevant aspects of their working environment were examined, namely job demands, job control, and social support from colleagues. Earlier studies with the demand-control-support (DCS) model (Johnson & Hall, 1988; Karasek & Theorell, 1990) have convincingly shown that each of these working characteristics may have a significant impact on burnout (e.g., De Jonge & Kompier, 1997; Janssen, Bakker, & De Jong, 2001; Landsbergis, 1988). In general, jobs characterized by high demands (i.e., work overload and time pressure), limited job control or autonomy, and little social support evoke the strongest stress-reactions or strain (see also, Cordes & Dougherty, 1993; Lee & Ashforth, 1996; Theorell & Karasek, 1996). On the basis of our theoretical model, we formulated two hypotheses regarding the direct and the indirect socially induced burnout effect.

First of all, we predict that team burnout (as reported by colleagues and supervisors) shows a *direct* relationship with individual employees' burnout. More specifically, *Hypothesis 1* states that team exhaustion, team cynicism and team professional efficacy will explain a unique proportion of the variance in individual employees' levels of exhaustion, cynicism and professional efficacy, respectively, even after controlling for potentially stressful working conditions (job demands, lack of job control, limited social support). Thus, we expect that the prevalence of burnout in a work team may explain unique variance in burnout among individual team members that is not explained by traditional demands and (lack of) resources in the working environment. The SIB model is a cross-level theory since it describes relationships between independent and dependent variables at different levels (cf. Rousseau, 1985; Klein, Dansereau & Hall, 1994). Specifically we predict that individual group members (in the long term) respond to a characteristic of the group (group burnout) in a comparable or homogenous fashion (by experiencing comparable burnout levels).

Second, it is predicted that team burnout has an *indirect* influence on individual employees' burnout, through its influence on their working conditions. Specifically, team burnout will have a positive relationship with job demands, and a negative relationship with job control and social support. In turn, job demands will have a positive relationship with individual burnout, whereas job control and social support will have a negative relationship with individual burnout (*Hypotheses 2*).

To validate our results and to further examine the behavioral manifestations of burnout, we related employees' self-reported burnout scores to independently collected absenteeism data that were retrieved from the company's computerized registration system. On the basis of earlier research (for an overview, see Schaufeli & Enzmann, 1998), we predict that individual employees' burnout is positively related to absenteeism. More specifically, at the individual level, exhaustion and cynicism are positively related to absenteeism, and professional efficacy is negatively related to absenteeism (*Hypothesis 3*). Finally, we predict that team burnout and the three working conditions will have an *indirect* influence on

absenteeism, through individual employees' experiences of burnout (*Hypothesis 4*). The hypotheses are summarized in Figure 1.

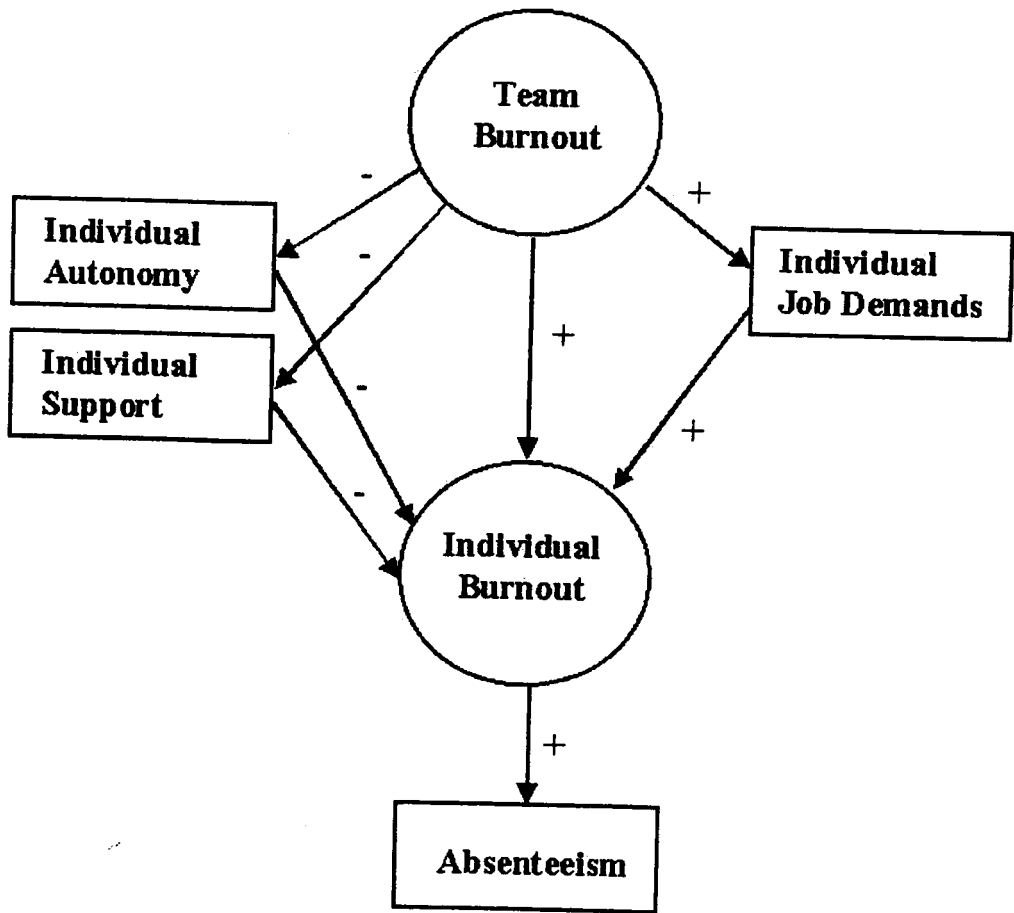


Figure 1: The Socially Induced Burnout Model.

METHOD

Participants and Procedure

In March 1998, a questionnaire was distributed among a stratified, representative sample of 850 employees of a banking and insurance company in The Netherlands. Employees were kindly requested to fill out the questionnaire in private, and to post it afterwards in a special box at their workplace. The confidentiality and anonymity of the answers was emphasized. Each questionnaire had a unique bar code. This code enabled an examination of the relationship between the self-reports and independently collected absenteeism data that were retrieved from the company's computerized registration system. In addition, the bar code was used to identify in which teams participants worked. A total of 571 employees returned the

questionnaire (response=67%). We decided to delete the data of participants who had sent back incomplete questionnaires, reducing the sample size to 490 employees. This sample did not differ from the original sample of 571 employees on relevant background variables (gender, age, organizational tenure, etc.). The final sample includes 303 males (62%) and 187 females (38%). The mean age was 36 years ($sd=9.5$), and the mean organization tenure was 12.5 years ($sd=9.5$). At the time of the study, 82% of the sample was full-time employed. Participants were a member of one of 47 teams, and the size of the teams ranged from two to 24 persons ($M=10.43$; $sd=6.22$). The term team was applicable since team members had task interdependence, shared work goals, were embedded in a larger organizational setting and were located at the same work place, which made their interactions easier (cf. Kozlowski, Gully, Salas & Cannon-Bowers, 1996).

Measures

Individual Burnout was assessed using the Maslach Burnout Inventory – General Survey (MBI – GS; Schaufeli, Leiter, Maslach, & Jackson, 1996). This inventory includes three subscales, namely exhaustion, cynicism and professional efficacy. *Exhaustion* was measured with five items, such as: “I feel emotionally drained from my work.” The internal consistency of the exhaustion scale was high: Cronbach’s alpha was .88. The second burnout dimension, *cynicism*, was also assessed with five items, including “I have become less enthusiastic about my work” (Cronbach’s alpha=.67). Finally, *professional efficacy* was assessed with six items, including “I feel exhilarated when I accomplish something at work” (Cronbach’s alpha=.77). All items were scored on a seven-point rating scale, ranging from (0) “never” to (6) “every day.” High scores on exhaustion and cynicism, and a low score on professional efficacy are indicative for burnout.

The dimensionality of the MBI-GS was tested through confirmatory factor analysis. The proposed three-factor structure with significant factor loadings of each item on the intended factor and no cross-loadings fitted significantly better to the data ($\chi^2=102.46$, $df=67$, $p=.003$, $GFI=.98$, $AGFI=.95$, $RMSEA=.03$, $NFI=.97$, $IFI=.99$, $CFI=.99$) than the two-factor model, collapsing all exhaustion and cynicism items in one factor with professional efficacy as the second factor ($\chi^2=281.25$, $df=68$, $p=.001$, $GFI=.93$, $AGFI=.85$, $RMSEA=.08$, $NFI=.91$, $IFI=.93$, $CFI=.93$) and the one factor model ($\chi^2=837.99$, $df=69$, $p=.001$, $GFI=.80$, $AGFI=.60$, $RMSEA=.15$, $NFI=.72$, $IFI=.73$, $CFI=.73$).

Team Burnout refers to the shared level of burnout that different employees working in the same team have in common. It was calculated for each participant separately, using the burnout data reported by his or her team members (i.e., colleagues and supervisor). We computed scores on team exhaustion, team cynicism, and team professional efficacy. The *team exhaustion* score represents the mean exhaustion score of a participant’s team, excluding the participant’s own exhaustion score. The same procedure was applied for *team cynicism* and *team professional efficacy*. A precondition to justify aggregation of individual responses is that there should be considerable within-group agreement. In the present study, we calculated the intraclass correlation coefficient [ICC(1); Shrout & Fleiss, 1979]. A positive intraclass correlation indicates that group members are more similar than nongroup members (Kenny & La Voie, 1985). The intraclass coefficients for exhaustion, cynicism and

professional efficacy were .58, .34 and .48 respectively, showing that the aggregation of the individual scores on the team level was meaningful.

Job demands were assessed with a scale derived from a Dutch version (Furda, 1995) of Karasek's (1985) Job Content questionnaire. The scale includes five items that refer to quantitative demanding aspects of the job (e.g., time pressure, working hard). A sample item is: "My work requires working very hard." Items are scored on a four-point Likert scale, ranging from (1) "(almost) never" to (4) "(almost) always." The job demands scale had a good internal consistency: Cronbach's alpha was .79.

Job Control was also derived from Karasek's (1985) Job Content questionnaire. The scale includes six items concerning *skill discretion* (i.e. the latitude of skills used by workers in performing their job) and three items concerning *decision authority* (i.e., freedom of action in accomplishing formal work tasks). In earlier studies, factor analyses have repeatedly demonstrated that all nine items load on one factor and can therefore be combined into one scale (De Jonge, Landeweerd & Nijhuis, 1993; Furda et al., 1994). A sample item is: "My job allows me to make a lot of decisions on my own." Items are scored on a four-point Likert-scale (1=(almost) never, 4=(almost) always). Cronbach's alpha was .73.

Social Support was measured by means of a ten-item scale referring to support from colleagues. This scale is based on empirical work by Van Veldhoven and Meijman (1994), and was slightly adjusted for the present study. An example-item is: "If necessary, my colleagues help me with my work" (1=(almost) never, 4=(almost) always). Cronbach's alpha of the social support scale was .81.

Confirmatory factor analysis confirmed the dimensionality of the Job Content questionnaire. The model that includes the factors job demands, job control and social support fitted well to the data, $\chi^2=347.57$, $df=200$, $p=.001$, $GFI=.95$, $AGFI=.92$, $RMSEA=.04$, $NFI=.91$, $IFI=.96$, $CFI=.96$. An alternative two-factor structure ($\chi^2=602.45$, $df=202$, $p=.001$, $GFI=.90$, $AGFI=.85$, $RMSEA=.06$, $NFI=.85$, $IFI=.89$, $CFI=.89$) or one-factor structure ($\chi^2=818.11$, $df=203$, $p=.001$, $GFI=.87$, $AGFI=.81$, $RMSEA=.08$, $NFI=.79$, $IFI=.83$, $CFI=.83$) indicated a significantly worse fit.

Absenteeism

Absence frequency was measured using organizational records of the number of sickness absence days during the year before the survey. A period of one year was chosen to ensure stability in the absence measure (Hammer & Landau, 1981). Earlier studies have shown that absence frequency measures are more stable than time lost measures, and it is generally believed that the former best reflect voluntary sickness absence (Gellatly, 1995).

Analyses

All hypotheses were tested simultaneously with structural equation modelling (SEM) analyses (Jöreskog & Sörbom, 1993), using the AMOS computer program (Arbuckle, 1997). AMOS generates a chi-square goodness of fit statistic to test the extent to which the hypothesized model is consistent with the data. A small, non-significant chi-square value indicates that the model fits the data well, and that the model and the data are not significantly different from each other. Jöreskog and Sörbom (1993) suggests several other fit indices to investigate the overall fit of a postulated model, including the adjusted goodness of fit index

(AGFI) and the root mean square error of approximation (RMSEA; Steiger, 1990). For the AGFI, values of .90 or higher indicate a close fit between the model and the data. Browne and Cudeck (1993) have suggested that a RMSEA value of .05 indicates a close fit, and that values up to .08 represent reasonable errors of approximation in the population.

Three other fit indices provided by AMOS were utilized in the present series of analyses, namely the incremental fit index (IFI; Bollen, 1989), the normed fit index (NFI; Bentler & Bonnet, 1980), and the comparative fit index (CFI; Bentler, 1990). For each of these statistics, values larger than .90 are generally considered acceptable. In addition, AMOS provides maximum likelihood parameter estimates of the specified paths in the model, *t*-values indicating the significance of the specified relationships, and so-called modification indices. The latter provide information about the relationships in a model that should be added, altered or omitted to improve the fit between the hypothesized model and the empirical data (Hayduk, 1987).

The hypothetical model contains ten manifest variables and their inherent error variances. The correlation coefficients between the variables are displayed in Table 1. As can be seen, the intercorrelations between the burnout dimensions are relatively low, both for team burnout and for individual burnout, except of the correlation between exhaustion and cynicism. Since manifest variables have to correlate moderately in order to be structured in a latent factor (Bentler & Chou, 1987), we decided *not* to construct a latent factor of burnout with the three burnout sub-scales as manifest variables. An additional reason to use manifest variables was to investigate the *unique* pattern of relationships between the working characteristics and each of the three burnout dimensions. Previous studies have shown that each burnout dimension is differentially associated with work-related variables (e.g., Bakker, Demerouti, Taris, Schaufeli & Schreurs, in press; Demerouti et al., 2001; Lee & Ashforth, 1996). The analyses included a comparison of four competing models, which can be described as follows:

1. The direct model, that only includes *direct* paths from team burnout to individual burnout, and from the three working conditions (job demands, job control, and social support) to individual burnout.
2. The indirect model, in which team burnout influences individual burnout only *indirectly*, through the three working conditions.
3. The full model, in which team burnout is supposed to have both direct and indirect effects on individual burnout, through the three working conditions.
4. The final revised model, which only includes the significant paths between the variables included in this study. These paths will be based on the results of the previous three models. Additional paths may be proposed by the modification indices.

RESULTS

Table 1 shows the mean values, standard deviations, and intercorrelations of the variables included in this study. Each of the burnout dimensions separately shows significant correlations between scores measured at the team level and at the individual level. Interestingly, team exhaustion and team cynicism also show small, but significant correlations with individual cynicism and individual exhaustion, respectively. Finally, note that, at the

individual level, exhaustion correlates positively and professional efficacy correlates negatively with absenteeism.

Table 1. Means, Standard Deviations, and Intercorrelations for all Variables Included in the Study, $N=490$

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Team Exhaustion	10.00	3.13									
2. Team Cynicism	9.26	2.04	.68 [†]								
3. Team Professional Efficacy	23.06	2.85	.03	.10 [*]							
4. Job Demands	13.56	2.88	.18 [†]	.21 [†]	.06						
5. Job Control	24.75	3.98	-.09	-.03	.15 [†]	-.03					
6. Social Support	30.60	4.98	-.15 [†]	-.10 [*]	-.06	-.25 [†]	.29 [†]				
7. Individual Exhaustion	9.84	6.52	.25 [†]	.18 [†]	.02	.44 [†]	-.19 [†]	-.25 [†]			
8. Individual Cynicism	9.03	5.20	.19 [†]	.13 [†]	.05	.29 [†]	-.29 [†]	-.35 [†]	.58 [†]		
9. Individual Professional Efficacy	23.25	6.53	.04	.08	.20 [†]	.06	.36 [†]	.21 [†]	.00	-.07	
10. Absenteeism	17.77	40.95	.08	.10 [*]	-.05	.00	-.14 [†]	-.02	.14 [†]	.05	-.13 [†]

$p < .05$

[†] $p < .01$

Table 2 summarizes the results of the SEM-analyses for the four competing models. As can be seen, the chi-square values of the first and second model achieve the significance level, indicating a poor fit. Remember that the first model exclusively includes *direct* paths from the three burnout dimensions at the team level and the three working conditions to the three burnout dimensions at the individual level, and from individual burnout to absenteeism. The second model exclusively allows *indirect* paths from team burnout to individual burnout (through the working conditions), and paths from individual burnout to absenteeism. Taken together, the results of Model 1 and 2 suggest that direct and indirect effects both have to be included in the model, in order to find an acceptable fit between the model and the data. Indeed, the chi-square difference test shows that the fit of both models is significantly worse compared to the fit of the third model that includes both *direct* and *indirect* paths from team burnout to individual burnout. The comparison between Model 1 and 3 yielded the following statistics: Delta $\chi^2(9)=48.51$, $p < .001$. The comparison between Model 2 and 3 resulted in Delta $\chi^2(3)=26.77$, $p < .001$.

Table 2. Goodness-of-Fit Indices of Competing Structural Models of Socially Induced Burnout, $N=490$

Model	χ^2	Df	p	AGFI	RMSEA	NFI	CFI	IFI
Direct Effects Model	70.33	24	.00	.94	.06	.93	.95	.95
Indirect Effects Model	48.59	18	.00	.94	.06	.95	.97	.97
Direct and Indirect Effects Model	21.82	15	.11	.97	.03	.98	.99	.99
Revised Model	23.55	22	.37	.98	.01	.98	.99	.99
Null Model	948.52	45	—	.63	.20	—	—	—

Note: χ^2 = chi-square; df = degrees of freedom; AGFI = adjusted goodness of fit index; RMSEA = root mean square error of approximation; NFI = normed fit index; CFI = comparative fit index; IFI = incremental fit index.

Closer examination of the AMOS-output revealed that, regarding the direct effects of team burnout to individual burnout, the relationships were significant for exhaustion and professional efficacy, but *not* for cynicism. In addition, all coefficients of the paths from the three working conditions to the three burnout components measured at the individual level were significant. However, only four of the nine paths from the three team burnout components to the three working conditions were significant. Specifically, team exhaustion correlated negatively with job control and with social support, team cynicism correlated positively with job demands, and team professional efficacy correlated positively with job control. Finally, individual exhaustion and individual professional efficacy (but not individual cynicism) showed significant relationships with absenteeism. All relationships are in the expected direction.

On the basis of the results of the three competing models, we revised the model as follows: all non-significant paths were excluded and a direct path from team exhaustion to individual cynicism was included, as suggested by the modification indices. This model shows a very satisfactory fit to the data (cf. Jöreskog & Sörbom, 1993) (see Table 2). Moreover, the revised model fits significantly better than the direct effects model, Delta $\chi^2(2)=46.78$, $p<.001$, and better than the direct + indirect effects model, Delta $\chi^2(4)=25.04$, $p<.001$. In addition, each of the included relationships was significant and in the expected direction. Although the revised model did *not* fit significantly better to the data than the third model, which includes all direct and indirect effects, Delta $\chi^2(7)=1.73$, *n.s.*, the revised model was preferred because it is more parsimonious. Eight of the 24 paths of the third model were not significant and therefore did not contribute to explaining variance in the criterion variables.

The final model explains 25%, 22% and 18% of the variance in individual exhaustion scores, individual cynicism scores, and individual professional efficacy scores, respectively, and 4% of the variance in objectively recorded sickness absence days. As can be seen from Figure 2, Hypothesis 1 is partly confirmed: Team exhaustion and team professional efficacy (but not team cynicism) show unique, positive relationships with individual exhaustion and professional efficacy respectively. Team exhaustion also shows a positive relationship with individual cynicism. Note that individual and team burnout dimensions were computed on the basis of data from two different sources, namely the individual employee and his or her team members. This means that the partial correlations are not contaminated by methodological artifacts (e.g., common method variance).

Hypothesis 2 stated that team burnout has a positive relationship with job demands, and a negative relationship with job control and social support. In turn, job demands was expected to have a positive relationship with individual burnout, whereas job control and social support were expected to have negative relationships with individual burnout. This hypothesis was also partly confirmed. Figure 2 shows that the three working conditions play a mediating role between team burnout and individual burnout, although only four of the nine possible relationships between the three dimensions of team burnout and the three working conditions are significant.

As shown in Figure 2, two of the three dimensions of burnout measured at the individual level, namely exhaustion and professional efficacy, show a significant relationship with absenteeism. Exhaustion is positively, and professional efficacy is negatively related to absenteeism. These findings support Hypothesis 3. Finally, Hypothesis 4 is also confirmed: team burnout and the working conditions influence individual absenteeism *through* their

influence on individual burnout. The modification indices of the revised model did not suggest additional paths from the team burnout dimensions or the working conditions to absenteeism.

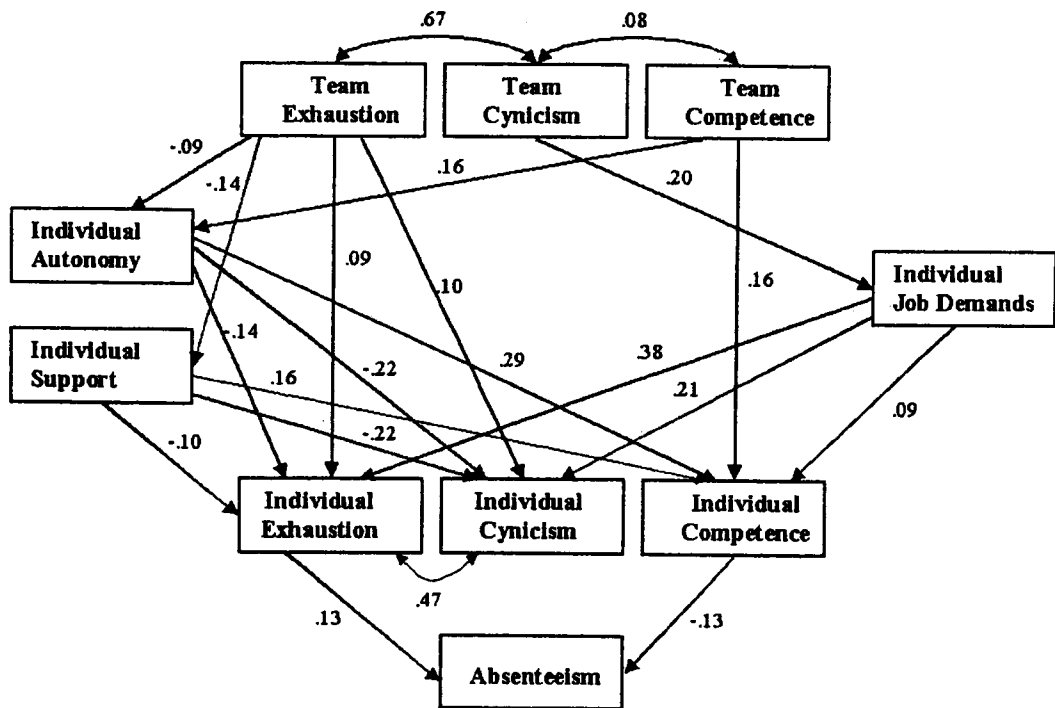


Figure 2: Final, Standardized Solution of the Socially Induced Burnout Model, Maximum Likelihood Estimates, N = 490.

DISCUSSION

The goal of the study described in this chapter was to introduce a model – the socially induced burnout model – to explain the transference of burnout within working teams. This model predicts that burnout may transfer from the team to its individual members in a direct or indirect way. Indirect transference of burnout was hypothesized to take place, because team burnout would change the working conditions for individual team members in an unfavorable way. Support for these effects was found in a study among 490 employees of a large banking and insurance company, working in one of 47 teams.

An important theoretical contribution made by the present study is that it provides evidence for socially induced burnout, even after controlling for (perceived) working characteristics that are usually strongly related to burnout (see Lee & Ashforth, 1996). Specifically, SEM-analyses revealed that team exhaustion and team efficacy explained a unique proportion of the variance in individual employees’ exhaustion and efficacy, even after controlling for the impact of job demands, job control, and social support. These findings expand the results of previous research (Golembiewski et al., 1986; Rountree, 1984) showing that burnout “concentrates” in certain groups. The problem with these earlier studies

was that they did not rule out the alternative hypothesis that burnout levels in some groups can be relatively high because of unfavorable working conditions in these groups.

Why did the socially induced burnout effect not hold for the cynicism dimension of burnout? The answer may be that cynical team members do not only keep distance from their work, but also from their colleagues. Indeed, Bakker and Schaufeli (2000) found that teachers who scored relatively high on depersonalization – a specific form of cynicism – interacted less often with their colleagues to talk about their work than those who scored low on depersonalization. Such distancing behavior presumably prevents the transmission of cynical attitudes to colleagues. However, it is also possible that team cynicism did not correlate with individual cynicism in the current study, because of the fact that it shared considerable variance with exhaustion at both levels. Interestingly, team exhaustion did not only have a direct, positive relationship with individual exhaustion, but also with individual cynicism. This effect was not predicted, but it suggests that individual team members became more cynical when confronted with exhausted colleagues.

Our findings also demonstrated that team burnout can have an indirect influence on individual employees' burnout, through its influence on working conditions. Specifically, team exhaustion correlated negatively with job control and with social support, team cynicism correlated positively with job demands, and team professional efficacy correlated positively with job control. Each of the three job characteristics was, in turn, significantly related to *each* of the three burnout dimensions measured at the individual level. Job demands had a positive relationship with individual exhaustion and cynicism, and a negative relationship with professional efficacy, whereas opposite relationships were found for job control and social support. These intriguing findings may be explained by the presumed behaviors of burned-out colleagues in a team. For example, exhausted and cynical team members may work less efficiently, which increases the job demands and reduces the job control for the other team members. Note, however, that five of the nine possible relationships between the three team burnout components and the three working conditions were *not* significant. Nevertheless, the tentative conclusion is that team burnout may influence individual burnout indirectly, through its impact on working conditions. Future studies are needed to investigate the generalizability of these findings.

To validate our results and to further examine the behavioral manifestations of burnout, we related employees' self-reported burnout scores to independently collected absenteeism data that were retrieved from the company's computerized registration system. Consistent with our hypothesis and earlier research (e.g., Firth & Britton, 1989; see also Schaufeli & Enzmann, 1998), we found that, at the individual level, exhaustion was positively related to absenteeism, and professional efficacy was negatively related to absenteeism. Such an effect was not found for cynicism. Interestingly, SEM-analyses also showed that team burnout and the three working conditions only had an *indirect* influence on absenteeism, through individual employees' experience of burnout (cf. Hypothesis 4). This suggests that burnout plays a mediating role in the prediction of sickness absence.

On the basis of emotional contagion theory (Hatfield et al., 1994) and social comparison theory (Festinger, 1954), one may argue that the transmission of burnout is most likely in relatively small teams. In such teams, members may work more closely together, and consequently, have a higher probability of being exposed to their team members' burnout reactions. Closer inspection of the data revealed that there was a small, but significant bivariate relationship between *team size* and exhaustion (at the individual and team level).

However, such a relationship with team size was not found for the two other burnout dimensions, and the inclusion of team size in the structural model did not modify the results. This suggests that the socially induced burnout effects found in the current study can be generalized over small and large teams.

As the study employed a cross-sectional design, the results should be considered tentative until confirmed by more rigorous designs such as the ones used in longitudinal and quasi-experimental studies. However, a strong point of the present study is that it relied on several sources of information. Team burnout scores were, in fact, "consensus" scores, as they were based upon the ratings of all team members (except one, i.e. the target team member). This procedure avoided common method variance problems most cross-sectional studies suffer from. In addition, self-reported burnout scores were related to independently collected absenteeism data that were retrieved from the company's computerized registration system. Nevertheless, the analyses in the current study are correlational and thus do not confirm causality.

The current study is further limited in that it does not give insight in the processes that are responsible for direct socially induced burnout. Is it primarily a conscious process, or rather an unconscious process? Is repeated exposure to burned-out team members necessary for socially induced burnout to occur? Quasi-experimental and longitudinal studies seem best suited to answer these more fundamental questions in future research.

There is also another issue at stake here. The model of socially induced burnout does not attempt to explain the conditions that cause burnout in the team members. The applied methodology does not allow us to make such inferences, since longitudinal data and objective indicators of the working conditions are missing. The reader may look in the extended burnout literature (for an overview see Schaufeli & Enzmann, 1998), and examine recently proposed burnout models, such as the Job Demands – Resources model (Bakker et al., in press; Demerouti et al., 2001). Our message is not that burnout is originally socially induced but that once working conditions have initiated burnout, they may indirectly be responsible for a circular process of burnout-transmission from one colleague to the other (at a later point of time).

Despite these limitations, the study clearly shows the importance of social relationships at work. The finding that burnout can be socially induced is the more impressive given the analysis strategy that we followed. We aggregated answers from all team members whose interactions with each other will differ from person to person. A burned-out employee may interact very frequently with one colleague and hardly with another. By the utilization of average scores we lose information. Westman and Etzion (1999) have suggested that the possible solution to this problem is to concentrate on dyads. However, in many cases, it may be extremely difficult to obtain detailed information about who interacts with whom, because such information may threaten the confidentiality and anonymity of the data.

In conclusion, the results of this study are consistent with Edelwich and Brodsky's (1980) claim that burnout does not affect individuals in isolation. We agree with Westman and Etzion (1999) that: "organization-wide stress may lead to a diffuse experience and it can cause a workplace 'strain climate.'" The finding that burnout can be socially induced has important implications for management practice. It implies that interventions aimed at preventing or reducing burnout should focus not only at the individual level, but also at the team or organizational level. Ideally, such an intervention should start with a 'burnout audit' to take the 'burnout temperature' of the organization by comparing employees' scores across

units and locations. Simultaneously, risk factors for burnout can be identified at a unit or location level. Findings may assist management in developing action strategies that may improve organizational effectiveness and employee well-being. Interventions may focus, for example, upon leadership style, team atmosphere, and interpersonal dynamics in working teams (Sonnentag, 1996).

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