

150

Burnout Contagion Processes Among Teachers¹

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This study of 154 Dutch high school teachers examined processes by which occupational burnout may transfer from one person to another. Two conditions that may increase the probability of burnout contagion were investigated; namely, individual teachers' susceptibility to emotional contagion, and the frequency with which teachers are exposed to colleagues with student- and work-related problems. Consistent with hypotheses derived from theories about emotional contagion, the results suggest that burnout contagion was most pronounced under these 2 high-risk conditions. Specifically, the prevalence of perceived burnout among participants' colleagues was most strongly related to individual teachers' burnout (i.e., emotional exhaustion and depersonalization), when the teachers were highly susceptible to the emotions of others and when they frequently communicated with each other about work-related problems.

Several researchers have argued that burnout can be contagious (e.g., Cherniss, 1980; Edelwich & Brodsky, 1980), but evidence in support of the burnout contagion hypothesis is relatively scarce and is primarily anecdotal (e.g., Schwartz & Will, 1953). Consequently, the processes by which burnout may transfer from one person to another are largely unknown. The present study among Dutch high school teachers is one of the first to examine such burnout contagion processes empirically.

Occupational Burnout

Contemporary burnout theories describe the syndrome as a specific type of occupational stress reaction among human-service professionals as a result of the demanding and emotionally charged relationships between caregivers and their

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recipients (Maslach & Schaufeli, 1993). More specifically, *burnout* is defined as a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach, 1993). *Emotional exhaustion* refers to energy depletion or the draining of emotional resources. *Depersonalization* refers to the development of negative, cynical attitudes toward the recipients of one's services. *Lack of personal accomplishment* is the tendency to evaluate one's work with recipients negatively, an evaluation that is often accompanied by feelings of insufficiency and poor self-esteem (Maslach, 1993; Schaufeli & Buunk, 1996).

Burnout is a major problem among teachers (Burke & Greenglass, 1995; Burke, Greenglass, & Schwarzer, 1996; Maslach, Jackson, & Leiter, 1996). Based on a thorough review of the literature, Farber (1991) concluded that, depending on the type of school and the method of assessment, between 5% and 20% of all American teachers are burned out. In addition, another 30% to 35% are strongly dissatisfied with the teaching profession. Ample evidence suggests that burnout among teachers is related to psychosomatic complaints and illnesses, such as headaches, sleep disturbance, and gastroenteritis (Belcastro, Gold, & Grant, 1982); psychological symptoms, such as depression, anxiety, and somatization (Greenglass, Burke, & Ondrack, 1990); and behavioral stress reactions, such as increased consumption of alcohol and cigarettes (Siedman & Zager, 1991).

Is Burnout Contagious?

The first empirical indication for the contagious nature of burnout came from Rountree (1984), who studied over 180 task groups in over 20 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) concluded that, "Very high and very low scores on burnout tend to concentrate to a substantial degree" (p. 184). They added, "These findings suggest 'contagion' or 'resonance' effects" (p. 185).

Of course, this concentration of burnout in particular work groups may also be explained by higher workloads in these groups, which would contradict a burnout contagion explanation. However, recently, this alternative hypothesis was rejected in a study that included almost 2,000 nurses from 80 European intensive-care units (Bakker, LeBlanc, & Schaufeli, 2000). It appeared that, after controlling for job autonomy, subjective workload, and objectively assessed workload (i.e., the complexity of the nursing tasks), levels of experienced burnout as well as perceived burnout among colleagues differed systematically across units. Thus, independent from the nurses' workload, levels of burnout were higher in some units compared to others, and nurses from these units observed

more burnout complaints among their colleagues than did nurses in the other units. This intriguing result supports the contagion hypothesis.

How Can This Contagion Be Explained?

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, individuals under stress 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, p. 5). The emphasis in this definition is clearly on nonconscious emotional contagion. 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 experiences may be shaped by such facial feedback (Laird, 1984; Siegman & Reynolds, 1982).

There is, however, a second way in which people may "catch" the emotions of others. Contagion 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 that we have felt that way, and these memories may spark similar emotions (Hsee, Hatfield, Carlson, & Chemtob, 1990). The professional attitude of human-service workers, such as teachers, that is generally characterized by empathic concern is likely to foster such a process of consciously tuning in to the emotions of colleagues and students.

More (Indirect) Evidence for Burnout Contagion

It is important to note that negative emotions appear to be more contagious than are positive emotions (McIntosh, Druckman, & Zaionc, 1994), suggesting that burnout symptoms would be likely candidates for emotional contagion. Moreover, there exists clear evidence for contagious depression, and depression is a syndrome that is related to burnout (Glass, McKnight, & Valdimarsdottir, 1993; Leiter & Durup, 1994). Research on the discriminant validity of burnout and depression shows that particularly the emotional exhaustion component of burnout is related to depression. Specifically, based on 12 studies, Schaufeli and Enzmann (1998) calculated that emotional exhaustion (measured with the Maslach Burnout Inventory; Maslach et al., 1996) and depression (measured with

the Beck Depression Inventory; Beck, Steer, & Garbin, 1988) share, on average, 26% of their variance. The relationships between depression on the one hand and depersonalization and personal accomplishment on the other hand are much weaker, sharing 13% and 9% of their variance, respectively (Schaufeli & Enzmann, 1998). Note that it is unlikely that the overlap between emotional exhaustion and depression is a result of overlap in item content of the scales used, since factor-analytic studies show that different burnout and depression factors emerge when the items of the burnout and depression instruments are pooled (e.g., Bakker, Schaufeli, Demerouti, et al., 2000; Leiter & Durup, 1994).

In a classic study on contagious depression, Howes, Hokanson, and Lowenstein (1985) assessed freshmen twice on the Beck Depression Inventory (Beck et al., 1988); namely, at the start of the semester and 3 months later. The students were randomly assigned to a room with a mildly depressed roommate or with a nondepressed roommate. Results showed that those students who were assigned to a room with a depressed roommate became increasingly depressed over time. Joiner (1994) reported similar evidence for contagious depression in an independent roommate study. Importantly, this latter study showed that the contagion effect persisted when baseline levels of roommate depression and roommate negative life events were controlled.

A few studies have suggested that emotional contagion may play a role in the development of burnout. Westman and Etzion (1995) studied about 100 couples, consisting of military officers and their wives, and found that burnout transferred from husbands to wives and vice versa. Recently, Bakker, Schaufeli, Sixma, and Bosveld (in press) observed that general practitioners who collaborated with burned-out colleagues reported higher levels of emotional exhaustion and subsequent negative attitudes (depersonalization and reduced personal accomplishment) than did those who collaborated with more healthy colleagues. In addition, the doctors' individual susceptibility to emotional contagion was positively related to burnout, particularly in combination with the perception of burnout symptoms in colleagues. That is, practitioners who perceived burnout complaints among their colleagues and who were susceptible to the emotions expressed by their colleagues reported the highest emotional exhaustion scores.

A somewhat similar result was found in an earlier study among hospital nurses by Groenestijn, Buunk, and Schaufeli (1992), who included another individual-difference variable (instead of susceptibility to emotional contagion), namely, the need for social comparison (see also Buunk & Schaufeli, 1993). They found that nurses who perceived that many of their colleagues were burned out expressed higher levels of emotional exhaustion themselves, especially when they had a relatively strong need to learn more about others in a similar situation. Thus, social comparison with similar others moderated the burnout contagion effect. The results of these burnout contagion studies are consistent with Hatfield et al.'s (1994) theory of emotional contagion. Hatfield and her colleagues have

argued that there are several circumstances under which people should be especially likely to catch others' emotions. Emotional contagion is particularly likely, for example, if individuals pay close attention to others and if they are relatively often exposed to others' emotions. In addition, a number of studies have shown that there exist stable individual differences in people's susceptibility to emotional stimuli (Doherty, Orimoto, Singelis, Hatfield, & Hebb, 1995; Stiff, Dillard, Somera, Kim, & Sleight, 1988) and that these individual differences are good predictors of the extent to which people catch positive and negative emotions from others.

The Present Study

We examine two conditions that may increase the risk of burnout contagion among teachers. The first condition is the frequency of exposure to teachers who talk about the problematic behaviors of their students. When teachers socialize with one another on the job or in informal meetings, the attitudes and emotions of one teacher may be transmitted to another teacher. For example, teachers who are repeatedly confronted with cynical remarks about students made by their unmotivated colleagues may develop feelings of depersonalization when these remarks remind them of the times that their own students were uninterested in their classes.

Hypothesis 1. We predict that the prevalence of burnout among colleagues will have a particularly positive impact on emotional exhaustion, depersonalization, and reduced personal accomplishment for those teachers who frequently talk with each other about work-related problems.

The reason to test this hypothesis (and the following hypotheses) for the three burnout dimensions separately is that previous research has consistently shown that burnout consists of three related but empirically distinct components (e.g., Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendonck, 2000; Cordes & Dougherty, 1993). Moreover, it has been demonstrated repeatedly that each specific component is differentially related to outcome variables, such as absenteeism, commitment, and turnover (see Lee & Ashforth, 1996, for a meta-analysis).

The second condition that may increase the risk of burnout contagion is a teacher's personal susceptibility to emotional contagion. Theoretically, one may expect that teachers who are most vulnerable to the emotions and negative attitudes expressed by their colleagues are most likely to become burned out (cf. Doherty et al., 1995; Hatfield et al., 1994; Stiff et al., 1988). For example, in trying to understand the problems that colleagues are facing, teachers must tune in

to the emotions expressed by them. In such a situation, those teachers who are particularly chronically susceptible to emotions are likely to catch, for example, the uncaring attitudes, frustration, and depressed mood expressed by their colleagues.

Hypothesis 2. We predict that the prevalence of burnout among colleagues will have a particularly positive impact on emotional exhaustion, depersonalization, and reduced personal accomplishment for those teachers who are highly susceptible to the emotions of others.

The primary aim of the present study is to test the three-way interaction hypothesis that represents a combination of the two proposed conditions that increase the risk of burnout contagion. Our central hypothesis is as follows:

Hypothesis 3. Teachers who frequently talk with their colleagues about problematic students and who are susceptible to the emotions of others have the highest probability of catching the burnout symptoms expressed by their colleagues.

It is important to note that this hypothesis qualifies Hypothesis 1 and 2. That is, it is predicted that the prevalence of burnout among colleagues will have a particularly positive relationship with feelings of burnout (i.e., emotional exhaustion, depersonalization, and reduced personal accomplishment) for those teachers who frequently talk with each other about work-related problems, but this relationship will be strongest for those teachers who are also highly susceptible to the emotions of others.

Method

Procedure

Participants were recruited in one of two ways. One third (35%) of the sample was recruited by means of an advertisement in two teacher-oriented magazines with circulation rates of 4,000 and 60,000 copies, respectively. In the ads, teachers were kindly invited to participate in a study on "teachers' health." The majority (65%) of the participants were visitors to a computer fair where educational software for school and home use was displayed and sold. Visitors were approached by two research assistants who asked them whether they were teachers and, if so, whether they were willing to participate in a study on teachers' health. Unfortunately, it was not systematically recorded how many teachers refused to participate, although the research assistants noticed that most teachers who were approached agreed to do so. In total, 186 teachers received a

questionnaire by mail and were requested to fill it out in private. A large majority ($N = 154$) filled out and returned the questionnaire (response rate = 83%).

Participants

The participants in this study were 154 Dutch high school teachers from a large number of different schools. This sample included 86 (56%) male, and 68 (44%) female teachers, with a mean age of 44 years ($SD = 9.0$). The average number of years of work experience in teaching was 19 years ($SD = 9.5$), of which an average of 13.5 years ($SD = 9.0$) was acquired at the present school. The mean number of students assigned to the teachers was 23 ($SD = 6.0$). It is not known how many different schools are represented in our study because the questionnaire did not include a question asking for the name of the school.

Measures

Prevalence of burnout among colleagues (BC). BC was assessed with a four-item scale, including, "According to you, how many of your colleagues are 'burned out'?", and "According to you, how many of your colleagues feel mentally exhausted by their work?" (1 = *none of my colleagues*, 5 = *all of them*). The items were summed and formed a reliable index of prevalence of burnout among colleagues with a Cronbach's alpha of .81.

Frequency of interactions with colleagues. Frequency of interactions with colleagues was measured with four items, all referring to the frequency with which teachers talked with their colleagues about the problems they encounter in their work. Sample items include "How often do you talk with your colleagues about the problems you have with particular students?", and "How often do you talk with your colleagues about the problems you encounter when you are teaching?" Participants responded to each of the items using a 5-point response format ranging from 1 (*never*) to 5 (*very often*). The items were summed to form a reliable index with a Cronbach's alpha of .79.

Susceptibility to emotional contagion (SEC). SEC was measured with a Dutch translation of a seven-item emotional contagion scale developed by Stiff et al. (1988). Sample items are "I cannot continue to feel okay if people around me are depressed," and "I tend to remain calm even though those around me worry" (reverse coded). For each of the items, answers were expressed on a 5-point scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). The items were summed to form an index of susceptibility to emotional contagion with a Cronbach's alpha of .82. Thus, the higher the score, the more susceptible to the emotions of others the person is said to be.

Burnout. Burnout was measured using the Dutch version of the Maslach Burnout Inventory (MBI; Maslach et al., 1996), which was slightly adjusted to

make it suitable for the teaching profession. The reliability and validity of the subscales of this adjusted MBI have been confirmed in an earlier study (Schaufeli, Daamen, & Van Mierlo, 1994). The scale includes the three original subscales; namely, emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion was measured with nine items, for example, "I feel emotionally drained from my work." Cronbach's alpha for this scale was .92. The second burnout dimension, depersonalization, was measured with five items, including "I don't really care what happens to my students" (Cronbach's $\alpha = .75$). Finally, personal accomplishment was measured with eight items, such as "I think I accomplish many valuable things through my work" (Cronbach's $\alpha = .87$). All items were scored on a 7-point rating scale, ranging from 0 (*never*) to 6 (*every day*). High levels of emotional exhaustion and depersonalization and a low level of personal accomplishment are indicative of burnout.

Analyses

The hypotheses were tested using the ANOVA method. This technique is basically similar to that of regression analysis. The main difference is that each of the predictor variables is dichotomized using a median-split procedure. A major advantage of ANOVA is that it provides a straightforward way of examining the direction of the effects (mean scores for each of the conditions).

Results

Descriptive Statistics

Table 1 shows the mean values, standard deviations, and intercorrelations of the variables included in this study. As can be seen from this table, the teachers talked regularly with their colleagues about the problems that they encountered in their work ($M = 12.79$ on a scale ranging from 4 to 20). In addition, they thought that several of their colleagues were burned out ($M = 9.85$ on a scale with the same range). Note that the intercorrelations between the three predictor variables are rather low. In addition, both perceived prevalence of burnout among colleagues and susceptibility to emotional contagion correlate significantly with individual teachers' levels of burnout. Another interesting observation is the correlation pattern between frequency of interaction on the one hand and the three burnout dimensions on the other. The correlation coefficients indicate that the teachers' level of burnout was lower the more often they talked with their colleagues about problematic students. This finding seems counterintuitive in light of our hypotheses but, as will be discussed in more detail later, may reflect a social-support function of teachers' interactions. Each of the relationships presented in Table 1 was analyzed in more detail using ANOVA.

Table 1
Descriptive Statistics and Intercorrelations of the Three Burnout Dimensions and the Presumed Risk Conditions for Burnout Contagion

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Emotional exhaustion	17.84	11.24	—					
2. Depersonalization	5.97	4.74	.47***	—				
3. Personal accomplishment	27.37	7.06	-.42***	-.57***	—			
4. Prevalence of burnout	9.85	2.48	.28***	.21**	-.16*	—		
5. Susceptibility to emotional contagion	19.71	4.61	.37***	.16*	-.21**	.24**	.04	—
6. Frequency interactions	12.79	2.65	-.19**	-.21**	.25**	-.15*	-.04	—

Note. $N = 154$. * $p < .05$, ** $p < .01$, *** $p < .001$.

Test of the Burnout Contagion Hypotheses

Table 2

Our central hypothesis is that the risk of burnout contagion will be highest among teachers who report a relatively high number of burned-out colleagues, who frequently interact with these colleagues to talk about work- and student-related problems, and who are susceptible to the emotions of others (three-way interaction). To test this hypothesis, we first dichotomized each of the predictor variables following a median-split procedure. Then, three ANOVAs were carried out, with prevalence of burnout among colleagues (low vs. high), frequency of interactions (few vs. many), and susceptibility to emotional contagion (low vs. high) as the predictor variables, and emotional exhaustion, depersonalization, and personal accomplishment as the criteria.³

Emotional exhaustion. The $2 \times 2 \times 2$ (Prevalence of Burnout Among Colleagues \times Frequency of Interactions \times Susceptibility to Emotional Contagion) ANOVA on emotional exhaustion showed a main effect of prevalence of burnout among colleagues, $F(1, 146) = 4.36, p < .05$; and of susceptibility to emotional contagion, $F(1, 146) = 17.23, p < .001$; but not of frequency of interactions, $F < 1, ns$. The teachers who reported a relatively high (vs. low) number of burned-out colleagues were more emotionally exhausted ($M = 19.30$ vs. 16.23). In addition, the teachers who were susceptible to the emotions of others showed much higher levels of emotional exhaustion ($M = 21.16$) than did their counterparts ($M = 14.53$). Of the two-way interactions, only the Prevalence of Burnout Among Colleagues \times Frequency of Interactions interaction term was significant, $F(1, 146) = 6.86, p < .01$. Two additional simple contrast analyses showed that when the participants hardly talked with their colleagues about work- and student-related problems, the prevalence of burnout among colleagues had no impact on their own level of emotional exhaustion (low, $M = 18.59$; high, $M = 18.70$), $F < 1, ns$. In contrast, and consistent with Hypothesis 1, burnout among colleagues had an

³Three separate hierarchical regression analyses, using prevalence of burnout among colleagues, frequency of interactions, and susceptibility to emotional contagion as the predictor variables (continuous variables) and the three burnout dimensions as the criteria yielded results that were highly similar to the ANOVA results. For the sake of brevity, we will only present the regression results for emotional exhaustion. In this analysis, the three predictor variables were entered in the first step of building the regression equation. Prevalence of burnout among colleagues ($\beta = 0.23, p < .01$), frequency of interactions ($\beta = -0.15, p < .05$), and susceptibility to emotional contagion ($\beta = 0.39, p < .001$) all had a significant impact on emotional exhaustion, $F(3, 150) = 14.60, p < .001$ ($R^2 = .23$). In the second step, the three 2-way interaction terms were included in the regression equation. Before computing the interaction terms, the scores on each of the predictor variables were centered around their means (cf. Aiken & West, 1991). Together, they explained an additional 4% of the variance in exhaustion scores, but the overall effect was marginal, $F(6, 147) = 2.40, p < .07$. Inspection of the regression weights revealed that only the Prevalence of Burnout Among Colleagues \times Frequency of Interaction effect was significant ($\beta = -0.14, p < .05$). In the third step, the three-way interaction term was included in the equation. This interaction term ($\beta = 0.19, p < .05$) explained an additional 3% of the variance, $F(7, 146) = 5.94, p < .05$.

Burnout as a Function of the Prevalence of Burnout Among Colleagues, Frequency of Interactions, and Susceptibility

		Frequency of interactions			
		Low		High	
		Low SEC	High SEC	Low SEC	High SEC
Low prevalence of burnout among colleagues					
Emotional exhaustion		11.00	28.20	11.87	15.63
Depersonalization		5.21	9.00	4.27	4.13
Personal accomplishment		28.05	23.00	33.00	29.00
High prevalence of burnout among colleagues					
Emotional exhaustion		17.89	19.27	16.40	27.50
Depersonalization		5.89	6.38	5.92	8.58
Personal accomplishment		26.83	25.96	28.52	22.92

Note. $N = 154$. SEC = susceptibility to emotional contagion.

important impact on emotional exhaustion when the participants frequently talked with each other about the problems they encounter in their work (low, $M = 14.18$; high, $M = 20.00$), $F(1, 146) = 6.38, p < .01$. Thus, Hypothesis 1 was accepted and Hypothesis 2 was rejected, as far as emotional exhaustion is concerned.

More importantly, the $2 \times 2 \times 2$ ANOVA on emotional exhaustion produced a highly significant three-way interaction effect, $F(1, 146) = 11.78, p < .001$. The mean scores on the measure of emotional exhaustion for each of the eight conditions are shown in Table 2. As predicted (Hypothesis 3), the draining of emotional resources was most pronounced among teachers who worked at schools with a relatively high number of burned-out colleagues, who frequently talked with these colleagues about work- and student-related problems, and who were susceptible to the emotions of these colleagues. The simple contrast effect of prevalence of burnout among colleagues "nested" within the condition of high frequency of interactions, and within the condition of high susceptibility to emotional contagion is highly significant, $F(1, 146) = 8.22, p < .01$. So far, these findings are consistent with our central hypothesis. However, an unexpected finding is that the level of emotional exhaustion was also high when teachers' susceptibility to emotional contagion was high, prevalence of burnout among colleagues was low, and frequency of interactions was low. It seems evident that this result also contributed to the three-way interaction effect. We will address this latter finding in the Discussion section.

Depersonalization. The $2 \times 2 \times 2$ (Prevalence of Burnout Among Colleagues \times Frequency of Interactions \times Susceptibility to Emotional Contagion) ANOVA on depersonalization showed no main effects, all F s < 1 , ns, but the interaction effects were consistent with Hypotheses 1 and 3, and with the results for emotional exhaustion. Again, the two-way interaction between prevalence of burnout among colleagues and frequency of interactions was significant, $F(1, 146) = 6.57, p < .01$. In line with our predictions, prevalence of burnout among colleagues (low vs. high) only had a differential impact on teachers' own level of depersonalization when they talked relatively often with these colleagues about work-related problems. More specifically, two simple contrast analyses showed that when the participants hardly talked with their colleagues about such problems, the perceived number of burned-out colleagues had no impact on depersonalization (low, $M = 6.88$; high, $M = 6.18$), $F < 1$, ns. In contrast, the number of burned-out colleagues had an important impact on depersonalization when the participants frequently talked with each other about work- and student-related problems (low, $M = 4.18$; high, $M = 6.78$), $F(1, 146) = 6.25, p < .05$. These findings are consistent with Hypothesis 1. Again, however, Hypothesis 2 was rejected.

The $2 \times 2 \times 2$ ANOVA on depersonalization produced a significant three-way interaction effect, $F(1, 146) = 3.97, p < .05$. The mean scores on the measure of depersonalization for each of the eight conditions are shown in Table 2. As predicted, the attitudes of the teachers toward their students were most cynical among teachers who perceived a high prevalence of burnout among their colleagues, who frequently talked with these colleagues, and who were susceptible to the emotions of these colleagues. The simple contrast effect of prevalence of burnout nested within the condition of high frequency of interactions, and within the condition of high susceptibility to emotional contagion was highly significant, $F(1, 146) = 7.92, p < .01$. These findings are again consistent with Hypothesis 3. The contrast effect of prevalence of burnout among colleagues within the low level of frequency of interactions, and within the high level of susceptibility was not significant, $F(1, 146) = 1.58$, but seems to contribute to the three-way interaction effect. Moreover, the pattern of results is highly similar to that found for emotional exhaustion. This finding will be addressed in some detail in the Discussion section.

Personal accomplishment. The $2 \times 2 \times 2$ (Prevalence of Burnout Among Colleagues \times Frequency of Interactions \times Susceptibility to Emotional Contagion) ANOVA on personal accomplishment showed a main effect of susceptibility to emotional contagion, $F(1, 146) = 7.91, p < .01$, and of frequency of interactions, $F(1, 146) = 4.42, p < .05$. The main effect of prevalence of burnout among colleagues was not significant, $F(1, 146) = 3.00, p < .09$. As could be expected, the teachers who were highly susceptible to the emotions of others showed lower levels of personal accomplishment ($M = 25.86$) than did their counterparts

($M = 28.88$). In addition, the results show that teachers who frequently exchanged their problems with colleagues reported a stronger sense of efficacy ($M = 28.67$) than those who did not ($M = 26.10$). We will address this latter finding in the Discussion section.

Of the two-way interaction effects, only the Prevalence of Burnout Among Colleagues \times Frequency of Interactions effect was significant, $F(1, 146) = 7.45, p < .01$. As predicted in Hypothesis 1, prevalence of burnout among colleagues now has an effect that is opposite to that found for the two other burnout dimensions. More specifically, two simple contrast analyses show that when the participants hardly talked with their colleagues about problems, prevalence of burnout among colleagues had no impact on feelings of personal accomplishment (low, $M = 25.82$; high, $M = 26.32$), $F < 1$, ns. In contrast, prevalence of burnout had an important impact on personal accomplishment when the participants frequently talked with each other about work- and student-related problems (low, $M = 30.54$; high, $M = 26.70$), $F(1, 146) = 6.53, p < .05$. Thus, in this situation, the tendency to believe that one is no longer effective in teaching and in fulfilling one's job responsibilities was significantly influenced by the number of burned-out colleagues.

Finally, although the pattern of means for personal accomplishment is similar to that found for emotional exhaustion and for depersonalization (Table 2), the ANOVA showed that the three-way interaction effect was not significant, $F(1, 146) = 1.70, ns$. Thus, Hypothesis 3 was rejected for the personal accomplishment dimension of burnout.

Discussion

Research on the etiology of burnout has shown that the syndrome can 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 problematic attitudes toward clients (see Burisch, 1989, for an overview). Such problematic attitudes may take the form of reduced empathy, cynicism, black humor, and stereotyping. Taken together, these findings illustrate that burnout is "visible" and that individuals suffering from burnout clearly communicate their symptoms.

The central aim of the present study among Dutch teachers was to examine a particular process by which burnout may transfer from one person to another. On the basis of theoretical and empirical work on emotional contagion (Hatfield et al., 1994), we argued that teachers are particularly likely to "catch" the feelings of exhaustion, the uncaring and cynical attitudes toward students, or the impaired job behaviors of their colleagues when they frequently talk with each other about

work- and student-related problems and when they are susceptible to the emotions expressed by others.

First, as hypothesized, we found a significant two-way interaction between prevalence of burnout among colleagues and frequency of interactions for each of the three burnout dimensions. Consistent with our hypothesis, the prevalence of burnout among colleagues only had a differential impact on individual teachers' burnout when the teachers talked relatively often with their colleagues about work- and student-related problems. Additional contrast analyses showed that when the participants hardly talked with their colleagues about such problems, the number of burned-out colleagues had no impact on teachers' own levels of burnout. These findings confirm Hypothesis 1.

Our second hypothesis stated that susceptibility to emotional contagion would also moderate the relationship between prevalence of burnout among colleagues and individual burnout. This hypothesis was rejected for each of the three burnout dimensions. One plausible explanation for a lack of evidence for this interaction effect is the relatively strong main effect of susceptibility to the emotions of others. For both emotional exhaustion and personal accomplishment, levels of burnout were much higher when the teachers were highly susceptible to the emotions of their colleagues.

Probably more interesting is the evidence found in this study for Hypothesis 3. The significant three-way interaction effect found for two of the three burnout dimensions qualifies the aforementioned findings by suggesting that burnout contagion is most likely when teachers are highly susceptible to the emotions of others and when they frequently interact with burned-out colleagues to talk about work- and student-related problems. Specifically, the results show that, under these conditions, the prevalence of burnout among colleagues had the largest impact on feelings of emotional exhaustion and on the tendency to develop negative, cynical attitudes toward students (depersonalization). Note, however, that the tendency to believe that one is no longer effective in teaching (reduced personal accomplishment) was not significantly influenced by the proposed combination of burnout contagion risk conditions. This unexpected finding once more underscores that diminished personal accomplishment is the most atypical burnout dimension (for a review, see Schaufeli & Enzmann, 1998). Unlike emotional exhaustion and depersonalisation, which are considered stress reactions, personal accomplishment is more closely related to personality characteristics such as self-efficacy (Cordes & Dougherty, 1993). Nevertheless, taken together, the results of this study are highly consistent with previous studies on the contagious nature of emotions, depression, and burnout.

One intriguing result in the present study is the finding that frequency of interactions correlated negatively with emotional exhaustion and with depersonalization (main effects), thus suggesting that talking with colleagues about work-related problems does not necessarily result in burnout. Discussions with others,

and especially with colleagues who face the same difficulties in school, may well serve social-support functions. Pines and Aronson (1981) hypothesized that social support encompasses six functions; namely, listening, professional support, professional challenge, emotional support, emotional challenge, and the sharing of social reality. Indeed, Pines (1983) found that in a heterogeneous group of professional workers, scores on the MBI correlated negatively with the availability of each of these functions, suggesting that people who have social support readily available are less likely to experience burnout. Note, however, that in the present study, this positive or healthy effect of the interactions with colleagues turned into a negative or unhealthy effect when teachers talked frequently with burned-out colleagues (interaction effect). This is consistent with our burnout contagion hypothesis.

An unexpected finding was that levels of burnout were also high among highly susceptible teachers, who reported relatively few burned-out colleagues (low prevalence of burnout among colleagues), and who reported that they did not talk frequently with their colleagues about work-related problems. This finding cannot be considered a causal effect because it was consistent for both emotional exhaustion and depersonalization. We can only speculate as to the reason for this finding. Since burnout is characterized by withdrawal, it may be speculated that the highly burned-out and susceptible teachers in our sample refrained from social contacts with their colleagues. This is in line with Leiter (1991), who observed among mental-health workers that their levels of burnout were positively related with what he called *escapist coping* (i.e., withdrawal and avoidance). Furthermore, because of the social isolation resulting from this particular manner of coping, the teachers in our sample may not be aware of the true (high) level of burnout among their colleagues.

Most previous burnout studies have focused on organizational stressors influencing burnout, such as excessive workload, emotionally demanding interactions with patients or clients, time pressure, and low job control. Thus, an important theoretical contribution made by the present study is that it suggests that one's colleagues' uninterested and uncaring attitudes toward teaching are important facilitators of the maintenance of the burnout syndrome. This agrees with the social psychological perspective of Buunk and Schaufeli (1993, pp. 53-54), who argued that "burnout develops primarily in a social context, and that to understand the development and persistence of burnout, attention has to be paid to the way individuals perceive, interpret, and construct the behaviors of others at work." Moreover, our findings supplement the traditional view that the root cause of burnout lies in the demanding and emotionally charged relationships with recipients. Our study suggests that coworkers also play an important role in the development and maintenance of burnout.

Because of the correlational nature of our data, it is important to look at alternative explanations for the relationship between the prevalence of burnout among

colleagues and individual teachers' burnout. Is it possible, for example, that feelings of emotional exhaustion cause an overestimation of the prevalence of burnout among colleagues? Research on the false-consensus phenomenon has indeed shown that people are inclined to overestimate the prevalence of their own attitudes, emotions, and behaviors (Ross, Greene, & House, 1977). In addition, cognitive-dissonance theory would predict that teachers who experience feelings of burnout will be motivated to reduce the difference between their own cognitions and emotions and those of their colleagues ("If I am burned out, all the other teachers must be burned out as well").

Although these alternative explanations cannot be ruled out completely with the present data, the significant and independent impact of the interaction terms on emotional exhaustion and depersonalization suggests that the perceived prevalence of burnout among colleagues caused feelings of exhaustion and uncaring attitudes toward students, instead of the other way around. More specifically, the impact of the prevalence of burnout among colleagues was most pronounced among teachers who were highly susceptible to the emotions of others and who frequently talked with their colleagues about work-related problems. There is no reason to expect that teachers who are particularly highly susceptible to the emotions expressed by others and who frequently interact with their colleagues would overestimate the prevalence of burnout among their colleagues to a larger extent than would their counterparts.

Limitations of our study clearly must be noted as well. First, the study was conducted with a specific group of human-service professionals, namely teachers. Although earlier research has provided evidence of burnout contagion among nurses (Groenestijn et al., 1992), among military officers and their wives (Westman & Etzion, 1995), and among general practitioners (Bakker et al., in press), the results of the present study still must be replicated in a more generalizable group to establish external validity of the conclusions. Second, although the present study has shown that the probability of burnout contagion increases with increased communication about work-related problems and with increased susceptibility to emotional contagion, there is still a great deal to discover about the processes involved in burnout contagion. Is it primarily a conscious process, as may be suggested by the present findings, or is it also an unconscious process? Is repeated exposure to a stimulus person suffering from burnout necessary for burnout contagion to occur? Quasi-experimental and longitudinal studies seem best suited to answer these more fundamental questions in future research. Finally, the analyses in the current study are correlational and thus do not confirm causality.

From an applied perspective, the present results can be useful in preventing or reducing burnout among teachers. The finding that burnout can be contagious 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. Thus,

the current results emphasize the potential benefits of social psychological interventions at the organizational level. Such burnout interventions may focus, for example, on leadership style, team atmosphere, and interpersonal dynamics in working teams (LeBlanc, 1994).

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