

# 14 An organisational and social psychological perspective on burnout and work engagement

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Burnout is a metaphor that is commonly used to describe a state of mental weariness. In the pioneer phase of burnout research, researchers chose to study employees in healthcare professions, because of the chronically taxing emotional demands they experience in their jobs. However, gradually it became clear that burnout also exists outside the human services (Maslach, Schaufeli, & Leiter, 2001). Employees who are burned out by their work are characterised by feelings of exhaustion, negative attitudes (cynicism), and reduced professional efficacy.

Work engagement is assumed to be the positive antipode of burnout. Or, as Maslach and Leiter (1997, p. 34) put it: “Energy, involvement, and efficacy—these are the direct opposites of the three dimensions of burnout.” According to Maslach and Leiter, work engagement is assessed by the opposite pattern of scores on the three burnout dimensions. However, this way of operationalising burnout and engagement is questionable in view of the debate on the polarity of positive and negative affect (Diener, 1999). It could be argued that instead of being two opposite poles, burnout and engagement are independent yet negatively correlated states of mind. For instance, feeling emotionally drained from one’s work “once a week” by no means excludes that in the same week one may feel bustling with energy. Thus, instead of perfectly complementary and mutually exclusive states, burnout and engagement should be seen as conceptually different states that, because of their antithetical nature, are supposed to be negatively related.

We define engagement separate from burnout, as a positive, fulfilling, work-related state of mind in its own right that is characterised by vigour, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002; for an overview, see Schaufeli & Salanova, in press). *Vigour* is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence in the face of difficulties. *Dedication* is characterised by a sense of significance, enthusiasm, pride, inspiration, and challenge. The third dimension of engagement is called absorption, which was found to be a constituting element of engagement

in 30 in-depth interviews (Schaufeli, Taris, Le Blanc, Peeters, Bakker, & De Jonge, 2001; see also Rothbarth, 2001). *Absorption* is characterised by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work.

Since, in contrast to Maslach and Leiter (1997), burnout and work engagement are defined independently from each other, their relationship can be studied empirically. A recent study showed that burnout and engagement are indeed each other's opposite poles (González-Romá, Schaufeli, Bakker, & Lloret, 2006). More specifically, vigour and exhaustion span a continuum that is dubbed "energy", whereas dedication and cynicism similarly constitute the endpoints of a continuum that is labelled "identification". Hence, engagement is characterised by high levels of energy and identification, whilst burnout is characterised by low levels of energy and identification. This finding agrees with Demerouti, Bakker, Nachreiner, and Schaufeli's (2001) conceptualisation and measurement of burnout and engagement. Reduced professional efficacy and absorption both play a somewhat different role, and seem to be the *outcomes* of burnout and engagement, respectively.

### **An organisational psychological perspective**

Several scholars have pointed out the "laundry list" of burnout antecedents that have been found in empirical research (e.g., Halbesleben & Buckley, 2004; Lee & Ashforth, 1996). Moreover, it seems as if every occupation has its own specific risk factors regarding burnout. For example, whereas for employees in call centres burnout is mainly caused by the dissonance between their genuine feelings and those that can openly be shown towards clients (Zapf, Vogt, Seifert, Mertini & Isic, 1999), for production workers the combination of work overload and lack of autonomy seems the most important problem (De Jonge & Kompier, 1997). For teachers the interaction with their pupils appears the most important determinant of burnout (Van Horn, Schaufeli, & Enzmann, 1999).

At the heart of Demerouti et al.'s (2001) *job demands–resources (JD–R) model* lies the premise that, whereas each occupation may have its own specific risk factors associated with burnout, these factors can be classified in two general categories (i.e., job demands and job resources), thus constituting an overarching model that may be applied to various occupational settings, irrespective of the particular demands and resources involved. *Job demands* refer to those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills, and are therefore associated with certain physiological and/or psychological costs. Examples are a high work pressure, an unfavourable physical environment, and emotionally demanding interactions with clients.

*Job resources* refer to those physical, psychological, social, or organisational aspects of the job that are either/or: (1) functional in achieving work

goals; (2) reduce job demands and the associated physiological and psychological costs; (3) stimulate personal growth, learning, and development. Hence, not only are resources necessary to deal with job demands, they are also important in their own right. This agrees with Hackman and Oldham's (1980) *job characteristics theory* that emphasises the motivational potential of job resources at the task level, including autonomy, feedback, and task significance. In addition, this agrees on a more general level with *conservation of resources (COR) theory* (Hobfoll, 2001), which states that the prime human motivation is directed towards the maintenance and accumulation of resources. Accordingly, resources are valued in their own right or because they are means to the achievement or protection of other valued resources. Job resources may be located at the level of the organisation at large (e.g., pay, career opportunities, job security), interpersonal and social relations (e.g., supervisor and co-worker support, team climate), the organisation of work (e.g., role clarity, participation in decision making), and at the level of the task (e.g., skill variety, task identity, task significance, autonomy, performance feedback).

A second premise of the JD–R model is that two different underlying psychological processes play a role in the development of burnout and work engagement. In the first process, chronic job demands (e.g., work overload or conflicts) lead in the long term to exhaustion. According to Hockey (1993), individuals use performance-protection strategies under the influence of environmental demands. Performance protection is achieved through the mobilisation of sympathetic activation (autonomic and endocrine) and/or increased subjective effort (use of active control in information processing). Hence, the greater the activation and/or effort, the greater the physiological costs for the individual. Even though the use of this strategy makes it difficult to demonstrate overt decrements in primary task performance, according to Hockey's theory, several different patterns of *indirect* degradation may be identified. These are referred to as compensatory costs (increased activation and/or subjective effort), strategy adjustments (narrowing of attention, increased selectivity, redefinition of task requirements), and fatigue after-effects (risky choices, high levels of subjective fatigue). The long-term effect of such a compensatory strategy may be a draining of an individual's energy, eventually resulting in a breakdown.

The second process is motivational in nature, whereby it is assumed that job resources have motivational potential and lead to high work engagement, low cynicism, and excellent performance. As follows from our definition, job resources may either play an intrinsic motivational role because they foster employees' growth, learning, and development, or they may play an extrinsic motivational role because they are instrumental in achieving work goals. In the former case, job resources fulfil basic human needs, such as the needs for autonomy (DeCharms, 1968), competence (White, 1959), and relatedness (Baumeister & Leary, 1995). For instance, proper feedback fosters learning, thereby increasing job competence, whereas decision latitude and social

support satisfy the need for autonomy and the need to belong, respectively. Job resources may also play an extrinsic motivational role, because, according to the *effort-recovery model* (Meijman & Mulder, 1998), work environments that offer many resources foster the willingness to dedicate one's efforts and abilities to the work task. In that case it is likely that the task will be completed successfully and that the work goal will be attained. For instance, supportive colleagues and proper feedback from one's superior increase the likelihood of being successful in achieving one's work goals. In either case, be it through the satisfaction of basic needs or through the achievement of work goals, the presence of job resources leads to engagement, whereas their absence evokes a cynical attitude towards work.

In addition to the main effects of job demands and resources, the JD-R model proposes that the *interaction* between job demands and job resources is important for the development of burnout and work engagement as well. More specifically, it is proposed that job resources may *buffer* the impact of job demands on burnout (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003d). This assumption is consistent with the *demand-control model* (DCM; Karasek, 1979, 1998), but expands this model by claiming that several *different* job resources can play the role of buffer for several *different* job demands. Which job demands and resources play a role in a certain organisation depends on the specific job characteristics that prevail. Thus, whereas the DCM states that control over the execution of tasks (autonomy) may buffer the impact of work overload on job stress, the JD-R model expands this view and states that *different* types of job demands and job resources may interact in predicting job strain.

Social support is probably the most well-known situational variable that has been proposed as a potential buffer against job stress (e.g., Johnson & Hall, 1988; Stroebe & Stroebe, 1995; but see Deelstra, Peeters, Schaufeli, Stroebe, Zijlstra, & Van Doornen, 2003). Other characteristics of the work situation that may act as moderators are: (a) the extent to which the onset of a stressor is predictable (e.g., role ambiguity and performance feedback), (b) the extent to which the reasons for the presence of a stressor are understandable (e.g., through information provided by supervisors), (c) the extent to which aspects of the stressor are controllable by the person who must experience it (e.g., job autonomy) (Kahn & Byosiere, 1992).

The final proposition of the JD-R model is that job resources particularly influence work engagement when job demands are high. This is consistent with Hobfoll (2002), who has argued that resource gain has only a modest effect in itself, but instead acquires its saliency in the context of resource loss. Indeed, Riolli and Savicki (2003) showed that information service workers' personal resources (optimism and control coping) were particularly beneficial when their work resources were low. The full JD-R model is depicted graphically in Figure 14.1.

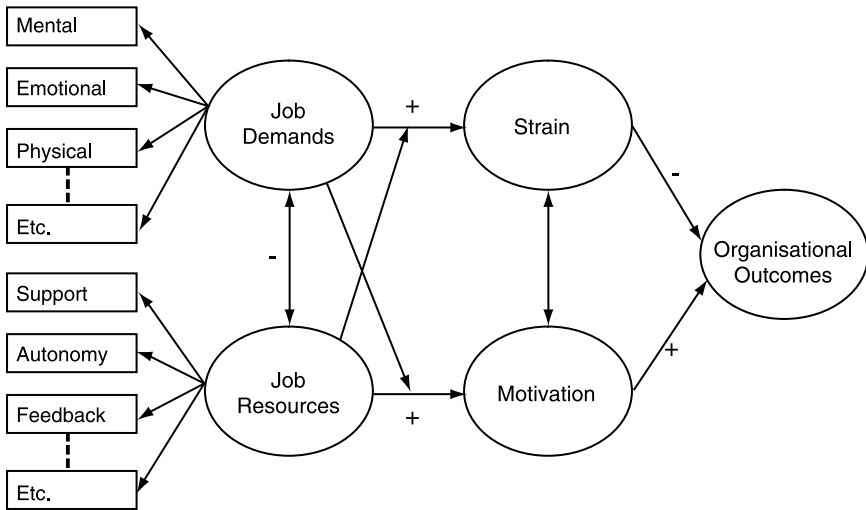


Figure 14.1 The job demands – resources model.

### ***Empirical evidence for the JD–R model***

#### EVIDENCE FOR THE DUAL PROCESS

Several studies have provided evidence for the hypotheses put forward by the JD–R model. Specifically, a number of studies supported the dual pathways to employee well-being proposed by the model, and showed that it can predict important organisational outcomes. Bakker, Demerouti, and Schaufeli (2003b) applied the model to call-centre employees of a Dutch telecom company, and investigated its predictive validity for self-reported absenteeism and turnover intentions. Results of a series of structural equation modelling analyses largely supported the dual processes. In the first energy-driven process, job demands (i.e., work pressure, computer problems, emotional demands, and changes in tasks) were the most important predictors of health problems, which, in turn, were related to illness absence (duration and long-term absence). In the second motivation-driven process, job resources (i.e., social support, supervisory coaching, performance feedback, and time control) were the only predictors of dedication and organisational commitment, which, in turn, was related to turnover intentions.

Hakanen, Bakker, and Schaufeli (2006) found comparable results in their study among Finnish teachers. More specifically, they found that burnout mediated the effect of job demands on ill-health, and that work engagement mediated the effect of job resources on organisational commitment. Furthermore, Bakker, Demerouti, De Boer, and Schaufeli (2003a) applied the JD–R model to nutrition production employees, and used the model to predict future company-registered absenteeism. Results of structural equation

modelling analyses showed that job demands were unique predictors of burnout, and indirectly of absence duration, whereas job resources were unique predictors of organisational commitment, and indirectly of absence spells. Finally, Bakker, Demerouti, and Verbeke (2004) used the JD–R model to examine the relationship between job characteristics, burnout, and other-ratings of performance. They hypothesised and found that job demands (e.g., work pressure and emotional demands) were the most important antecedents of the exhaustion component of burnout, which, in turn, predicted in-role performance. In contrast, job resources (e.g., autonomy and social support) were the most important predictors of extra-role performance, through their relationship with (dis)engagement. Taken together, these findings support the JD–R model's claim that job demands and job resources initiate two different psychological processes, which eventually affect important organisational outcomes.

Most studies providing evidence for the dual processes suggested by the JD–R model have been based on subjective evaluations of job demands and resources increasing the risk of common method variance. Two additional studies utilised an alternative methodology for the assessment of job demands and resources. The study of Demerouti et al. (2001) among employees working with people, next to the self-reports, also included observer ratings of job demands and resources. Results of a series of structural equation analyses, both with self-report data and with observer ratings of job characteristics, provide strong and consistent evidence for the validity of this model. Job demands were primarily and positively related to exhaustion, whereas job resources were primarily and negatively related to disengagement from work.

Bakker (2005, Study 1) approached employees from seven different organisations, who were asked to fill in the Utrecht Work Engagement Scale (the UWES). In the next step, 20 employees high in engagement and 20 employees low in engagement were visited at their workplace, and exposed to short video clips of about 30 seconds. In these video clips, professional actors role-played two aspects of work engagement (vigour, dedication), three job demands, and four job resources. The participants were asked to indicate how often they experienced each of the situations shown in the video clips. Results showed that the engaged group more often reported experiencing work engagement (vigour and dedication), as role-played by the actors. Importantly, the low- and high-engagement groups also differed significantly regarding the prevalence of several of the working conditions shown in the video clips. As predicted, job resources particularly (not job demands) were higher among the high (vs low) engagement group. The high-engagement group scored significantly higher on three of the four job resources (autonomy, feedback, and supervisory coaching; the effect was nonsignificant for social support). There were no differences between both groups regarding the job demands.

## EVIDENCE FOR THE BUFFER EFFECT OF JOB RESOURCES

Two recent studies explicitly focused on the buffer function of job resources, and found clear evidence for the proposed interaction. Bakker, Demerouti, and Euwema (2005a), in their study among 1000 employees of a large institute for higher education, found that the combination of high demands and low job resources significantly added to the prediction of burnout (exhaustion and cynicism). Specifically, they found that work overload, emotional demands, physical demands, and work-home interference did not result in high levels of burnout if employees experienced autonomy, received feedback, had social support, or had a high-quality relationship with their supervisor. Psychologically speaking, different processes may have been responsible for these interaction effects. Thus, autonomy may have helped in coping with job demands because employees could decide for themselves when and how to respond to their demands, whereas social support and a high-quality relationship with the supervisor may have buffered the impact of job demands on levels of burnout because employees received instrumental help and emotional support. In contrast, feedback may have helped because it provided employees with the information necessary to maintain their performance and to stay healthy (see Kahn & Byosiere, 1992, for a further discussion).

Similar findings were reported by Xanthopoulou, Bakker, Demerouti, and Schaufeli (2005), who tested the JD-R interaction hypothesis among employees from Dutch home-care organisations. The findings revealed, for instance, that patient harassment interacted with autonomy and support in predicting exhaustion; and with autonomy, support, and professional development in predicting cynicism. In cases where the levels of job resources were high, the effect of job demands on the core dimensions of burnout was significantly reduced.

## EVIDENCE FOR THE SALIENCE OF JOB RESOURCES IN THE CONTEXT OF HIGH JOB DEMANDS

Two studies have shown that job resources particularly have an impact on work engagement when job demands are high. Hakanen, Bakker, and Demerouti (2005) tested this interaction hypothesis in a sample of Finnish dentists employed in the public sector. It was hypothesised that job resources (e.g., variability in the required professional skills, peer contacts) are most beneficial in maintaining work engagement under conditions of high job demands (e.g., workload, unfavourable physical environment). The dentists were split into two random groups in order to cross-validate the findings. A set of hierarchical regression analyses resulted in 17 out of 40 significant interactions (40%), showing, for instance, that variability in professional skills mitigated the negative effect of qualitative workload on work engagement, and boosted work engagement when qualitative workload was high.

Conceptually similar findings have been reported by Bakker, Hakanen, and Demerouti (2005c). In their study among Finnish teachers working in elementary, secondary, and vocational schools, they found that job resources particularly influence work engagement when teachers are confronted with high levels of pupil misconduct. A series of hierarchical regression analyses resulted in 13 out of 18 possible two-way interaction effects. Particularly supervisor support, innovativeness, appreciation, and organisational climate were important job resources for teachers that helped them cope with demanding interactions with students.

### ***Conclusion***

The JD–R model, which represents an organisational psychological perspective, proposes that burnout and work engagement may be caused by a wide variety of different aspects of the work environment that can be integrated into a relatively simple model (see Figure 14.1). Exposure to job demands is predictive of exhaustion, whereas job resources are the most important predictors of work engagement and reduced cynicism. Furthermore, job demands and resources interact such that the influence of job demands on burnout can be buffered by job resources. In addition, job resources particularly gain their salience in the context of high job demands.

### **A social psychological perspective**

While the organisational psychological perspective explains how burnout and engagement originate in the work environment, the social psychological perspective emphasises the social nature of this environment and explains how both states may transfer<sup>1</sup> among individuals. The notion that *burnout* may transfer from one employee to another is not new. Several authors have used anecdotal evidence to argue that job-induced strain and burnout may cross over between colleagues (e.g., Cherniss, 1980; Edelwich & Brodsky, 1980; Schwartz & Will, 1953). We will describe recent more systematic studies that have provided empirical evidence for this phenomenon. Moreover, the central aim of the second part of this chapter is to give an overview of theories that can explain the transference of burnout *and* work engagement.

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 towards clients and work (for an overview see Burisch, 1989). Such negative attitudes may take the form of reduced empathy, cynicism, black humour, and stereotyping. Burnout symptoms expressed by colleagues may therefore transfer to individual employees when they socialise with one another on the job or in informal meetings.



### ***Emotional contagion***

Emotional contagion has been defined as “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 on non-conscious emotional contagion. Research has indeed shown that, in conversations, people “automatically” mimic the facial expressions, voices, postures, and behaviours of others (Bavelas, Black, Lemery, & Mullett, 1987; Bernieri, Reznick, & Rosenthal, 1988), and that people’s conscious experience may be shaped by such facial feedback (e.g., Laird, 1984).

There is, however, a second way in which people may “catch” another person’s emotions. 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 they would feel in the position of another, and, as a consequence, experiences the same feelings. Thus, the realisation 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 (Hsee, Hatfield, Carlson, & Chemtob, 1990). Particularly the attitude of helping professionals of showing empathic concern is likely to foster such a process of consciously “tuning in” to others’ emotions.

Regardless of why such contagion might occur, researchers from a wide range of disciplines have described phenomena suggesting that emotional contagion does exist (for overviews see Hatfield et al., 1994; McIntosh, Druckman, & Zajonc, 1994). Hsee and his colleagues (Hsee et al., 1990; Uchino, Hsee, Hatfield, Carlson, & Chemtob, 1991) documented convincing evidence for emotional contagion using controlled laboratory studies. In these experiments, college students were asked to observe video tapes of another (fictitious) participant relating an emotional experience. They were then asked what emotions they felt as they watched the person describe the happiest and saddest event in his life. The results of these experiments showed that participants “caught” the emotions of the stimulus person. In each of the experiments, both participants’ self-reports, and judges’ ratings of participants’ facial expressions of emotions showed that they were happier when they were watching a stimulus person expressing happy emotions than when they were watching him expressing sad feelings.

### ***Contagious depression***

One may assume that the mechanisms involved in burnout contagion processes are comparable to those involved in emotional contagion processes. Moreover, there is also evidence for contagious depression, and depression is a syndrome that is related to burnout, most notably the emotional exhaustion dimension (Glass, McKnight, & Valdimarsdottir, 1993). More specifically,

depression accounts for approximately 20% of the variance in emotional exhaustion, the core symptom of burnout. In a classic study of contagious depression, Howes, Hokanson, and Lowenstein (1985) assessed first-year college students twice using the Beck Depression Inventory, 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 non-depressed roommate. Those 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 for (see also Westman & Vinokur, 1998).

### ***Burnout contagion***

The first empirical indication for a socially induced burnout effect came from Rountree (1984), who investigated 186 task groups in 23 local settings of organisations. He found that 87.5% of employees with the highest scores on burnout worked in task groups in which at least 50% of the staff was in a similar advanced burnout phase. Low-scoring, less burned-out employees showed a similar but less marked tendency to cluster. Rountree concluded that “. . . the affinity of work groups for extreme scores seems substantial” (p. 245). Thus, individuals with very high or very low burnout scores can often be found within one task group, suggesting the possibility that task group members “infect” each other with the burnout “virus”. After reviewing similar additional studies, Golembiewski, Munzenrider, and Stevenson (1986, p. 184) concluded that “Very high and very low scores on burnout tend to concentrate to a substantial degree.” They added that “these findings suggest ‘contagion’ or ‘resonance’ effects” (p. 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 behaviours. 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., 2003a; Kahill, 1988). In a team, each of these behaviours may increase the workload of the other team members, as they will have to compensate for the inefficient or disruptive behaviours of their burned-out colleagues.

To rule out the third variable explanation, Bakker and his colleagues set up a series of studies including measures of working conditions, burnout, and/or work engagement. Evidence for direct *and* indirect routes of socially induced burnout was found in a study that included nurses from 80 European intensive care units (Bakker, Le Blanc, & Schaufeli, 1997; see also Bakker, Le Blanc, & Schaufeli, 2005d). In addition to a *direct* effect from unit burnout to

individual nurses' burnout, unit burnout had an *indirect* effect through its influence on individual nurses' workload and job autonomy. More specifically, structural equation modelling 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 a negative, influence on individual nurses' feelings of exhaustion, depersonalisation (a specific form of cynicism), and reduced personal accomplishment (i.e., professional efficacy). This indirect influence of unit burnout on individual burnout can 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 Bakker, Demerouti, and Schaufeli (2003b) among a sample of employees of a large banking and insurance company, working in one of 47 teams. They showed that burnout at the team level is related to individual team members' burnout scores, both directly and indirectly, through its relationship with individual members' job demands, job control and perceived social support.

Bakker, Van Emmerik, and Euwema (in press) investigated the crossover of burnout and *work engagement* among Dutch constabulary officers, working in one of 85 teams. On the basis of theories on crossover and emotional contagion, it was hypothesised that both types of work-related feelings and attitudes may transfer from teams to individual team members. The results of multilevel analyses confirmed this crossover phenomenon by showing that team-level burnout and work engagement were related to individual team members' burnout (i.e., exhaustion, cynicism, and reduced professional efficacy) and work engagement (vigour, dedication, and absorption), after controlling for individual members' job demands and resources.

Transference of burnout and work engagement has also been observed in studies among working *couples*. For example, Westman and Etzion (1995) examined burnout contagion among couples of male military officers and their wives. They found that wives' burnout had a direct impact on husbands' burnout, after controlling for the husbands' own job stress and coping resources. In addition, husbands' burnout likewise affected their wives' burnout.

Furthermore, Bakker, Demerouti, and Schaufeli (2005b) tested the hypothesis that burnout and *work engagement* may cross over from husbands to wives and vice versa. Data were collected among couples working in a variety of occupations. The job demands–resources model was used to simultaneously examine possible correlates of burnout and engagement for each partner separately. The results of a series of hierarchical regression analyses provided evidence for the crossover of burnout (exhaustion and cynicism) and work engagement (vigour and dedication) among partners. The crossover relationships were significant and about equally strong for both partners, after controlling for important characteristics of the work and home environment.

### *Moderators of the contagion effect*

Hatfield et al. (1994) 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 construe themselves as interrelated to others rather than as independent and unique. Given the increased models of teamwork in modern organisations, it is likely that employees indeed experience higher levels of interdependence, and therefore are more sensitive to the emotional states of their colleagues. Furthermore, a number of studies have shown that stable individual differences exist 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. What are the conditions under which contagion of burnout and work engagement is most likely?

#### EMPATHY

Westman and Vinokur (1998) have argued that empathy can be a moderator of the crossover process. Literally, the root meaning of the word empathy is "feeling into". Starcevic and Piontek (1997) define empathy as interpersonal communication that is predominantly emotional in nature. It involves the ability to be affected by the other's affective state, as well as to be able to read in oneself what that affect has been. Similarly, Lazarus (1991) defined empathy as "sharing another's feelings by placing oneself psychologically in that person's circumstances" (p. 287). The core relational theme for empathy would have to involve a sharing of another person's emotional state, distressed or otherwise. Accordingly, strain in one partner produces an empathic reaction in the other that increases his or her own strain, by way of what may be called *empathic identification*. Social learning theorists (e.g., Bandura, 1969; Stotland, 1969) support this view, and have explained the transmission of emotions as a conscious processing of information. They suggest that individuals imagine how they would feel in the position of another (i.e., empathic identification), and thus come to experience and share the other's feelings. Eckenrode and Gore (1981) suggested that the effect of one's strain on the spouse's distress might be the result of empathy as expressed in reports such as "We feel their pain is our own" (p. 771).

#### SUSCEPTIBILITY

Bakker, Schaufeli, Sixma, and Bosveld (2001) observed that general practitioners' individual susceptibility to emotional contagion was positively related to burnout. That is, they were most vulnerable to catching the negative emotions expressed by their patients, such as fear, anxiety, depressed mood,

and worry. Interestingly, and in line with Hatfield et al.'s (1994) predictions, susceptibility to the emotions of others particularly showed a relationship with burnout when doctors reported many colleagues with burnout symptoms. 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 similar finding was reported by Bakker and Schaufeli (2000), who found that teachers who were most vulnerable to the emotions and negative attitudes expressed by their colleagues were most likely to become burned out.

#### FREQUENCY OF EXCHANGING VIEWS

In their study among teachers, Bakker and Schaufeli (2000) also 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 as well as about students). This creates a condition under which central or systematic processing of information is likely to occur (Petty & Cacioppo, 1986; Stroebe, 1999). The result is negative attitude change, particularly when the burned-out colleague (the "source") has evidence or strong arguments to bolster their frustration and uncaring attitudes.

#### SIMILARITY WITH THE SOURCE

Classic social comparison theory regards uncertainty as the main motive for social comparison activity (Festinger, 1954; Schachter, 1959). Festinger stated that people have a drive to evaluate their motives and opinions. He argued that when objective sources of information for self-evaluation are lacking, people would turn to others in their environment. Schachter (1959) stated that when individuals feel uncertain about the appropriateness of their emotions, they tend to reduce this uncertainty by socially comparing and by adjusting their emotional reactions to those of others. Indeed, Groenestijn, Buunk, and Schaufeli (1992) found that nurses who perceived burnout complaints among their colleagues and who felt a strong need for social comparison were more susceptible to burnout compared to those who had a low need for social comparison.

In addition, an important assumption in Festinger's (1954) theory is that others who are similar will be preferred for comparison, because information about similar others is most informative for self-evaluation (see also Tesser, 1988; Tesser, Millar, & Moore, 1988). Levy, Freitas, and Salovey (2002) maintain that perceiving similarity between oneself and others can lead one to take the others' perspectives, thus prompting experience of empathic emotions (empathic identification). Keinan, Sadeh, and Rosen (2003) investigated

the attitudes and reactions to media coverage of terrorist acts. They suggest that the experience of stress responses in reaction to media coverage stems from identification with the victims of violence, and this identification is related to the degree of similarity between the media consumer and the victim: The greater the number of shared characteristics, the greater the probability of identifying with the victim.

Bakker, Westman, and Schaufeli (2005e) tested this hypothesis in the context of burnout and work engagement crossover among a sample of soldiers. The participants were randomly exposed to a videotape of a burned-out or an engaged colleague who was either similar in profession and status (soldier), or who had a considerably higher status (squadron leader). The results confirmed the crossover of burnout (cynicism and reduced professional efficacy). In addition, consistent with the hypothesis, a significant interaction effect for cynicism revealed that the crossover of burnout was moderated by similarity with the stimulus person. Figure 14.2 shows the pattern of the interaction, and shows that soldiers were particularly susceptible to the negative attitudes endorsed by those who were similar in rank.

### Conclusion

The notion of emotional contagion, which represents a social psychological perspective, proposes that burnout and work engagement are, at least to some extent, socially induced. That means that employees are likely to “catch” burnout symptoms that are displayed by others in their work team, irrespective of the experienced workload. Also, it has been observed that in couples burnout crosses over from one spouse to the other. In a similar vein, employees and couples seem to be “infected” with work engagement. Several moderators have been identified that may increase the “risk of infection”,

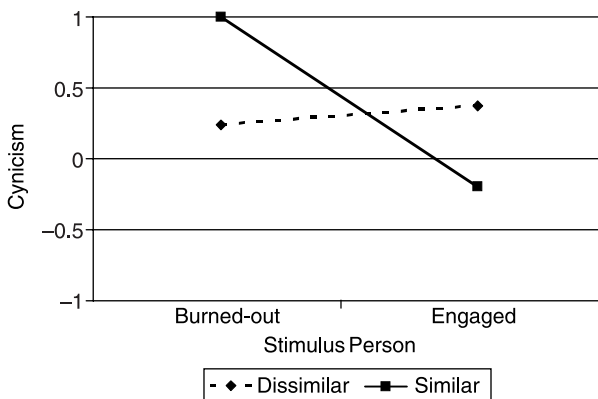


Figure 14.2 Interaction effect of stimulus person's well-being and similarity on cynicism.

such as empathy, susceptibility to emotional contagion, frequency of exposure, and similarity with the source.

### **Avenues for future research**

Based on the overview presented above, three main avenues for future research may be distinguished. These pertain to the extension and refinement of the organisational JD–R model, the extension and refinement of the social psychological notion of “emotional contagion”, and the integration of the JD–R model and the emotional contagion approach, respectively. It is important to note that work in all three areas is currently in progress, which is illustrated by the fact that in this section we often refer to papers that have recently been submitted for publication.

#### ***Extension and refinement of the JD–R model***

Most studies on the JD–R model have relied exclusively on self-report measures. Some exceptions to this rule are reported by Demerouti et al. (2001), who employed expert ratings to assess job demands and job resources, Bakker et al. (2004) and Salanova, Agut, and Peiró (2005), who used other-ratings of performance, and Bakker (2005), who used video clips of job demands and resources. As argued by Schaufeli (2005), it is crucial for the development of the field of occupational health psychology to include in research models objective measures that play a role in business. For instance, Harter, Schmidt, and Hayes (2002) showed that levels of employee engagement were positively related to business-unit performance (i.e., customer satisfaction and loyalty, profitability, productivity, turnover, and safety) across almost 8000 business units of 36 companies. The authors conclude that engagement is “. . . related to meaningful business outcomes at a magnitude that is important to many organizations” (p. 276). In addition, using the JD–R model among employees of a temporary agency, Van Riet and Bakker (2004) showed that cynicism mediated the relationship between job resources and objective financial performance. Future research should further illuminate to what extent objective business indicators (e.g., work performance, customer satisfaction, sickness absenteeism, sales) are predicted by the JD–R model.

An important extension of the JD–R model is the inclusion of personal resources in the model. Recently, Xanthopoulou et al. (2005) examined the role of three personal resources (self-efficacy, organisational-based self-esteem, and optimism) in predicting exhaustion and work engagement. Results of structural equation modelling analyses showed that personal resources did *not* manage to offset the relationship between job demands and exhaustion. However, as predicted, personal resources partly mediated the relationship between job resources and work engagement, suggesting that job resources foster the development of personal resources. The inclusion of

self-efficacy has opened the window for the “dynamisation” of the JD–R model, in the sense that it seems that self-efficacy may precede, as well as follow, employee well-being (Llorens, Salanova, Schaufeli, & Bakker, in press; Salanova, Bakker, & Llorens, in press). This suggests the existence of an upward spiral: self-efficacy that results from the availability of job resources and optimal job demands fuels engagement, which in turn increases efficacy beliefs, and so on. This is in line with *social cognitive theory* (Bandura, 2001) that predicts reciprocal relationships between self-efficacy and positive affective–cognitive outcomes, such as work engagement. In addition, these reciprocal relationships are compatible with the notion of so-called “gain spirals” as described by COR theory (Hobfoll & Shirom, 2000). Simultaneously, the existence of a downward “loss spiral” has been confirmed in which high job demands lead to exhaustion, which in turn leads to higher job demands over time (Demerouti, Bakker, & Bulters, 2004; Demerouti, Le Blanc, Bakker, & Schaufeli, 2005). Future research should investigate the dynamics of the JD–R model using the concepts of loss and gain spirals.

### ***Extension and refinement of the notion of “emotional contagion”***

So far, emotional contagion of employee well-being has been studied exclusively in field studies or in the laboratory, using between-subjects designs. An innovation would be to study emotional contagion using a within-subjects design in which respondents are followed closely during their working day, for instance by asking them to keep an electronic diary (Van Eerde, Holman, & Totterdell, 2005). In doing so, emotional contagion might be studied from a slightly broader perspective of emotional labour (Hochschild, 1983). Traditionally, emotional labour has been studied in relation to customers or clients (Heuven & Bakker, 2003), but linking it to our notion of emotional contagion would open the possibility of studying how employees manage the emotions of other employees they are working with.

Another interesting avenue for research would be to investigate the relative impact of negative and positive emotional contagion. So far, the contagious nature of burnout and work engagement has been studied separately. Only two exceptions exist in which both are studied simultaneously; one of these studies was on working couples (Bakker et al., 2005b; Bakker et al., in press). So it remains to be seen if the effect of negative emotions on burnout levels of team members is equally as strong as the effect of positive emotions on engagement. Based on arguments from evolutionary psychology, one could argue that negative contagion effects might be stronger than positive effects because the former have greater survival value compared to the latter (Fredrickson, 1998). That is, negative emotions signal danger, damage, or threat, and thus a potential assault on one’s mental and physical integrity. Hence, they have greater immediate relevance for survival than positive emotions that broaden one’s scope and initiate learning and development (Frederickson, 2001).



***Integration of the JD–R model and the emotional contagion approach***

The most challenging avenue for future research is the integration of the organisational and social psychological approaches to employee well-being. Although stemming from different backgrounds, both approaches may be integrated using the JD–R model as a general framework. This means that perceptions of positive or negative emotions of other colleagues at work could be considered as “job demands” and “job resources”, respectively. More specifically, negative emotions of other colleagues are likely to foster interpersonal conflicts and a poor team spirit (De Dreu, 2005); in short, they are demanding. Contrarily, team members’ positive emotions are associated with mutual support and a good team spirit (West, 2004); in short, they are motivating. In addition to including other colleagues’ negative and positive emotions as job demands and job resources, respectively, a specific kind of self-efficacy, namely the belief that one can deal effectively with other colleagues’ emotions (Heuven, Bakker, Schaufeli, & Huisman, 2005), could be included as well. This would offer the possibility to study “loss” and “gain” spirals related to the management of emotions of the workplace.

**Practical implications**

We have argued that burnout and work engagement are not only characteristics of the individual employee, but can also be meaningfully interpreted at the group level. Moreover, burnout and engagement are socially induced, and should be seen as processes that are contagious. This approach both illustrates risks, as burnout can be transferred as an “infectious disease”, and offers opportunities, as social relations can be used to foster engagement as an antidote for burnout in organisations. Human resource policies and practices should be aimed at reducing those risks, and creating opportunities, through the use of team structures in organisations (Baron & Krepps, 1999; Cummings & Worley, 2001).

The rise of team-based work structures is perhaps one of the most salient characteristics of contemporary workplaces and the shift from individualised work structures to teamwork has spread all over the organisation (Committee on Techniques for the Enhancement of Human Performance: Occupational Analysis, 1999). Moreover, the use of teams in the workplace can only be expected to grow in the future (Stout, Salas, & Fowlkes, 1997). Teams bring together diverse groups of employees, who incorporate a variety of backgrounds, ideas, and personalities (Jehn, Northcraft, & Neale, 1999). This diversity also relates to the work attitude in terms of burnout or work engagement of team members. Recently, the effects and management of diversity in teams has received a great deal of attention (Van der Vegt & Bunderson, 2005; West, Tjosvold, & Smith, 2005). These insights should be combined with the knowledge on stress management in organisations,

to minimise risks of burnout contagion and foster the development of engagement in work teams. We describe two types of interventions, in addition to the more traditional individual interventions.

Firstly, burnout assessment should be done not only at the individual level, but also at team or unit levels (Bakker et al., in press). When teams demonstrate relatively high levels of burnout, interventions should be aimed primarily at the team. Interventions may include introduction of communication norms (e.g., limitations to cynical communications, encouragement of positive communication, and working norms and attitudes). The literature on team development suggests that this can be done effectively (West et al., 2005). A more rigorous intervention at the team level is the replacement of team members. Introduction of new team members, with an enthusiastic attitude and positive energy, can change mood at the team level, particularly when at the same time some members with high burnout are distributed over other teams. This is old wisdom, applied by many schoolteachers, who place problematic kids at the back benches, over the classroom, and couple them with those who have a positive learning attitude. At the organisational level, the assessment of team-level burnout and related team processes (e.g., lowered innovation and cohesion, increased interpersonal conflicts, and reduced productivity) should be a key element in team management. Whereas leadership is still too often focused on the management of individuals, team leadership really should be focused on creating stimulating social work environments, by promoting positive social influence in teams. Training managers to do this is applied social psychology by definition.

### **Overall conclusion**

The present chapter aimed to integrate an organisational with a social psychological perspective on the experience of burnout and work engagement. As was shown, aspects of work (the organisational psychological perspective) and of individuals within groups (the social psychological perspective) were both able to predict the development and sustenance of occupational well-being or unwell-being. While we saw that some studies have aimed to integrate both perspectives in the study of employee well-being, more systematic work should be conducted in this direction. Each of these perspectives can be enriched by the insights gained in the other perspective, and their simultaneous consideration may promote a more systemic view on occupational health and well-being. This will help research and practice to find more workable solutions, which are beneficial for well-being and for all involved parties.

### **Note**

- 1 The terms transference, contagion, and crossover are used interchangeably in order to use the same terminology as the studies that we are referring to. While there

might be some differences between these terms, for instance in their underlying mechanisms, they all describe the situation that the well-being of two persons covaries.

## References

- Bakker, A. B. (2005). *Job resources as predictors of work engagement and employee retention*. Manuscript submitted for publication.
- Bakker, A. B., Demerouti, E., De Boer, E., & Schaufeli, W. B. (2003a). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior*, *62*, 341–356.
- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005a). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, *10*, 170–180.
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2003b). Dual processes at work in a call centre: An application of the Job Demands – Resources model. *European Journal of Work and Organizational Psychology*, *12*, 393–417.
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2003c). The socially induced burnout model. In S. P. Shohov (Ed.), *Advances in psychology research* (Vol. 25, pp. 13–30). New York: Nova Science Publishers.
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2005b). Crossover of burnout and work engagement among working couples. *Human Relations*, *58*, 661–689.
- Bakker, A. B., Demerouti, E., Taris, T., Schaufeli, W. B., & Schreurs, P. (2003d). A multi-group analysis of the Job Demands – Resources model in four home care organizations. *International Journal of Stress Management*, *10*, 16–38.
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the Job Demands – Resources model to predict burnout and performance. *Human Resource Management*, *43*, 83–104.
- Bakker, A. B., Hakanen, J. J., & Demerouti, E. (2005c). *Job resources boost work engagement, particularly when job demands are high*. Manuscript submitted for publication.
- Bakker, A. B., Le Blanc, P. M., & Schaufeli, W. B. (1997). *Burnout contagion among nurses who work at intensive care units*. Paper presented at the fifth European Conference on Organizational Psychology and Health Care, Utrecht, The Netherlands.
- Bakker, A. B., Le Blanc, P. M., & Schaufeli, W. B. (2005d). Burnout contagion among nurses who work at intensive care units. *Journal of Advanced Nursing*, *51*, 276–287.
- Bakker, A. B., & Schaufeli, W. B. (2000). Burnout contagion processes among teachers. *Journal of Applied Social Psychology*, *30*, 2289–2308.
- Bakker, A. B., Schaufeli, W. B., Sixma, H., & Bosveld, W. (2001). Burnout contagion among general practitioners. *Journal of Social and Clinical Psychology*, *20*, 82–98.
- Bakker, A. B., Van Emmerik, IJ. H., & Euwema, M. C. (in press). Crossover of burnout and engagement in work teams. *Work & Occupations*.
- Bakker, A. B., Westman, M., & Schaufeli, W. B. (2005e). *Crossover of burnout: An experimental design*. Internal report; Utrecht University, Department of Social and Organizational Psychology, The Netherlands.
- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart, & Winston.

- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26.
- Baron, J. N., & Kreps, D. M. (1999). *Strategic human resources: Frameworks for general managers* (Vol. 41). New York: Wiley.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497–529.
- Bavelas, J. B., Black, A., Lemery, C. R., & Mullett, J. (1987). Motor mimicry as primitive empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 317–338). New York: Cambridge University Press.
- Bernieri, F. J., Reznick, J. S., & Rosenthal, R. (1988). Synchrony, pseudosynchrony, and dissynchrony: Measuring the entrainment process in mother–infant interactions. *Journal of Personality and Social Psychology*, 54, 1242–1253.
- Burisch, M. (1989). *Das burnout-syndrom: Theorie der inneren Erschöpfung* [The burnout syndrome: A theory of inner exhaustion]. Berlin: Springer.
- Cherniss, C. (1980). *Professional burnout in human service organizations*. New York: Praeger.
- Committee on Techniques for the Enhancement of Human Performance: Occupational Analysis. (1999). *The changing nature of work: Implications for occupational analysis*. Washington, DC: National Academy Press.
- Cummings, T. G., & Worley, C. G. (2001). *Organizational development and change*. Cincinnati, OH: South-Western College Publishing.
- DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.
- De Dreu, C. K. W. (2005). *Bang voor conflict* [Afraid of conflict]? Assen: Van Gorcum.
- Deelstra, J. T., Peeters, M. C. W., Schaufeli, W. B., Stroebe, W., Zijlstra, F. R. H., & Van Doornen, L. P. (2003). Receiving instrumental support at work: When help is not welcome. *Journal of Applied Psychology*, 88, 324–331.
- De Jonge, J., & Kompier, M. A. J. (1997). A critical examination of the Demand-Control-Support Model from a work psychological perspective. *International Journal of Stress Management*, 4, 235–258.
- Demerouti, E., Bakker, A. B., & Bulters, A. J. (2004). The loss spiral of work pressure, work–home interference and exhaustion: Reciprocal relations in a three-wave study. *Journal of Vocational Behavior*, 64, 131–149.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology*, 86, 499–512.
- Demerouti, E., Le Blanc, P., Bakker, A. B., & Schaufeli, W. B. (2005). The costs of “working through” sickness: A three-wave study on presenteeism. *Manuscript submitted for publication*.
- Diener, E. (1999). Introduction to special section: The structure of emotion. *Journal of Personality and Social Psychology*, 76, 803–804.
- Doherty, R. W., Orimoto, L., Singelis, T. M., Hatfield, E., & Hebb, J. (1995). Emotional contagion: Gender and occupational differences. *Psychology of Women Quarterly*, 19, 355–371.
- Eckenrode, J., & Gore, S. (1981). Stressful events and social support: The significance of context. In B. Gottlieb (Ed.), *Social networks and social support* (pp. 43–68). Beverly Hills, CA: Sage.
- Edelwich, J., & Brodsky, A. (1980). *Burnout: Stages of disillusionment in the helping professions*. New York: Human Sciences Press.

- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140.
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology*, 2, 300–319.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218–226.
- Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, 30, 159–166.
- Glass, D. C., McKnight, D., & Valdimarsdottir, H. (1993). Depression, burnout, and perceptions of control in hospital nurses. *Journal of Consulting and Clinical Psychology*, 61, 147–155.
- Golembiewski, R. T., Munzenrider, R. F., & Stevenson, J. G. (1986). *Stress in organizations: Towards a phase model of burnout*. New York: Praeger.
- González-Romá, V., Schaufeli, W. B., Bakker, A. B., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, 62, 165–174.
- Groenestijn, E., Buunk, B. P., & Schaufeli, W. B. (1992). Het besmettingsgevaar bij burnout: De rol van sociale vergelijkingsprocessen [The danger of burnout contagion: The role of social comparison processes]. In R. W. Meertens, A. P. Buunk, P. A. M. van Lange, & B. Verplanken (Eds.), *Sociale psychologie en beïnvloeding van intermenselijke en gezondheidsproblemen* (pp. 88–103). The Hague, The Netherlands: VUGA.
- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Hakanen, J. J., Bakker, A. B., & Demerouti, E. (2005). How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences*, 113, 479–487.
- Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, 43, 495–513.
- Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management*, 30, 859–879.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87, 268–279.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). *Emotional contagion*. New York: Cambridge University Press.
- Heuven, E., & Bakker, A. B. (2003). Emotional dissonance and burnout among cabin attendants. *European Journal of Work and Organizational Psychology*, 12, 81–100.
- Heuven, E., Bakker, A. B., Schaufeli, W. B., & Huisman, N. (2005). *The role of self-efficacy in performing emotion work*. Manuscript submitted for publication.
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology: An International Review*, 50, 337–370.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6, 307–324.
- Hobfoll, S. E., & Shirom, A. (2000). Conservation of resources theory: Applications to stress and management in the workplace. In R. T. Golembiewski (Ed.), *Handbook of organization behavior* (2nd ed., pp. 57–81). New York: Dekker.
- Hochschild, A. R. (1983). *The managed heart. Commercialization of human feeling*. Berkeley, CA: University of California Press.

- Hockey, G. R. J. (1993). Cognitive-energetical control mechanisms in the management of work demands and psychological health. In A. Baddeley & L. Weiskrantz (Eds.), *Attention: Selection, awareness, and control* (pp. 328–345). Oxford, UK: Clarendon Press.
- Howes, M. J., Hokanson, J. E., & Lowenstein, D. A. (1985). Induction of depressive affect after prolonged exposure to a mildly depressed individual. *Journal of Personality and Social Psychology, 49*, 1110–1113.
- Hsee, C. K., Hatfield, E., Carlson, J. G., & Chemtob, C. (1990). The effect of power on susceptibility to emotional contagion. *Cognition and Emotion, 4*, 327–340.
- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly, 44*, 741–763.
- Johnson, J. V., & Hall, E. M. (1988). Job strain, work place social support and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health, 78*, 1336–1342.
- Joiner, T. F. Jr. (1994). Contagious depression: Existence, specificity to depressive symptoms, and the role of reassurance seeking. *Journal of Personality and Social Psychology, 67*, 287–296.
- Kahill, S. (1988). Symptoms of professional burnout: A review of the empirical evidence. *Canadian Psychology, 29*, 284–297.
- Kahn, R. L., & Byosiere, P. (1992). Stress in organizations. In M. D. Dunette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 3, pp. 571–650). Palo Alto, CA: Consulting Psychologists Press.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job design. *Administrative Science Quarterly, 24*, 285–308.
- Karasek, R. A. (1998). Demand/Control Model: A social, emotional, and physiological approach to stress risk and active behaviour development. In J. M. Stellman (Ed.), *Encyclopaedia of occupational health and safety* (pp. 34.6–34.14). Geneva: ILO.
- Keinan, G., & Sadeh, A., & Rosen, S. (2003). Attitudes and reaction to media coverage on terrorist acts. *Journal of Community Psychology, 31*, 149–168.
- Laird, J. D. (1984). The real role of facial response in the experience of emotion: A reply to Tourangeau and Ellsworth, and others. *Journal of Personality and Social Psychology, 47*, 909–917.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81*, 123–133.
- Levy, S., Freitas, A., & Salovey, P. (2002). Construing actions abstractly and blurring social distinctions: Implications for perceiving homogeneity among, but also empathizing with helping others. *Journal of Personality and Social Psychology, 83*, 1224–1238.
- Llorens, S., Salanova, M., Schaufeli, W. B., & Bakker, A. B. (in press). Does a positive gain spiral of resources, efficacy beliefs and engagement exist? *Computers in Human Behavior*.
- Maslach, C., & Leiter, M. P. (1997). *The truth about burnout: How organizations cause personal stress and what to do about it*. San Francisco: Jossey-Bass.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397–422.
- McIntosh, D. N., Druckman, D., & Zajonc, R. B. (1994). Socially induced affect. In

- D. Druckman & R. A. Bjork (Eds.), *Learning, remembering, believing: Enhancing human performance* (pp. 251–276). Washington, DC: National Academy Press.
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P. J. Drenth, H. Thierry, & C. J. de Wolff (Eds.), *Handbook of work and organizational psychology* (2nd ed., pp. 5–33). Hove, UK: Lawrence Erlbaum Associates Inc.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 124–205). Orlando, FL: Academic Press.
- Riulli, L., & Savicki, V. (2003). Optimism and coping as moderators of the relation between work resources and burnout in information service workers. *International Journal of Stress Management*, 10, 235–252.
- Rothbarth, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly*, 46, 655–684.
- Rountree, B. H. (1984). Psychological burnout in task groups. *Journal of Health and Human Resources Administration*, 7, 235–248.
- Salanova, M., Agut, S., & Pieró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90, 1217–1227.
- Salanova, M., Bakker, A. B., & Llorens, S. (in press). Flow at work: Evidence for a gain spiral of personal and job resources. *Journal of Happiness Studies*.
- Schachter, S. (1959). *The psychology of affiliation*. Palo Alto, CA: Stanford University Press.
- Schaufeli, W. B. (2005). The future of occupational health psychology. *Applied Psychology: An International Review*, 53, 502–517.
- Schaufeli, W. B., & Enzmann, D. (1998). *The burnout companion to research and practice: A critical analysis*. London: Taylor & Francis.
- Schaufeli, W. B., & Salanova, M. (in press). Work engagement: An emerging psychological concept and its implications for organizations. In S. W. Gilliland, D. D. Steiner, & D. P. Skarlicki (Eds.), *Research in social issues in management: Managing social and ethical issues in organizations* (Volume 5). Greenwich, CT: Information Age Publishers.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies*, 3, 71–92.
- Schaufeli, W. B., Taris, T., Le Blanc, P., Peeters, M., Bakker, A. B., & De Jonge, J. (2001). Maakt arbeid gezond? Op zoek naar de bevlogen werknemer. *De Psycholoog*, 36, 422–428.
- Schwartz, M. S., & Will, G. T. (1953). Low morale and mutual withdrawal on a hospital ward. *Psychiatry*, 16, 337–353.
- Starcevic, V., & Piontek, C. M. (1997). Empathic understanding revisited: Conceptualization, controversies, and limitations. *American Journal of Psychotherapy*, 51, 317–328.
- Stiff, J. B., Dillard, J. P., Somera, L., Kim, H., & Sleight, C. (1988). Empathy, communication, and prosocial behavior. *Communication Monographs*, 55, 198–213.
- Stotland, E. (1969). Exploratory investigations of empathy. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 271–314). New York: Academic Press.
- Stout, R. J., Salas, E., & Fowlkes, J. E. (1997). Enhancing teamwork in complex

- environment through team training. *Journal of Group Psychotherapy, Psychodrama and Sociometry*, 49, 163–187.
- Stroebe, W. (1999). The return of the one-track mind. *Psychological Inquiry*, 10, 173–176.
- Stroebe, W., & Stroebe, M. S. (1995). *Social psychology and health*. Buckingham, UK: Open University Press.
- Tesser, A. (1988). Towards a self-evaluation maintenance model of social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 181–227). San Diego, CA: Academic Press.
- Tesser, A., Millar, M., & Moore, J. (1988). Some affective consequences of social comparison and reflection processes: The pain and pleasure of being close. *Journal of Personality and Social Psychology*, 54, 49–61.
- Uchino, B., Hsee, C. K., Hatfield, E., Carlson, J. G., & Chemtob, C. (1991). *The effect of expectations on susceptibility to emotional contagion*. Unpublished manuscript, University of Hawaii.
- Van der Vegt, G., & Bunderson, J. S. (2005). Learning and performance in multidisciplinary teams: The importance of collective team identification. *Academy of Management Journal*, 48, 532–547.
- Van Eerde, W., Holman, D., & Totterdell, P. (2005). Editorial: Diary studies in work psychology. *Journal of Occupational and Organizational Psychology*, 78, 151–154.
- Van Horn, J. E., Schaufeli, W. B., & Enzmann, D. (1999). Teacher burnout and lack of reciprocity. *Journal of Applied Social Psychology*, 29, 91–108.
- Van Riet, P., & Bakker, A. B. (2004). Financiële omzet als een functie van werkstressoren en energiebronnen [Financial performance as a function of job demands and resources]. *Gedrag en Organisatie*, 6, 487–504.
- West, M. A. (2004). *Effective teamwork* (2nd ed.). Oxford, UK: Blackwell.
- West, M. A., Tjosvold, D., & Smith, K. G. (Eds.). (2005). *The essentials of teamworking: International perspectives*. Chichester, UK: Wiley.
- Westman, M., & Etzion, D. (1995). Crossover of stress, strain and resources from one spouse to another. *Journal of Organizational Behavior*, 16, 169–181.
- Westman, M., & Vinokur, A. (1998). Unraveling the relationship of distress levels within couples: Common stressors, emphatic reactions, or crossover via social interactions? *Human Relations*, 51, 137–156.
- White, R. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 297–333.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2005). *The role of personal resources in the Job Demands–Resources model*. Manuscript submitted for publication.
- Zapf, D., Vogt, C., Seifert, C., Mertini, H., & Isic, A. (1999). Emotion work as a source of stress: The concept and development of an instrument. *European Journal of Work and Organizational Psychology*, 8, 371–400.