

Burnout and Work Engagement: The JD–R Approach

Arnold B. Bakker,^{1,2} Evangelia Demerouti,³ and Ana Isabel Sanz-Vergel⁴

¹Department of Work and Organizational Psychology, Erasmus University Rotterdam, 3000 DR Rotterdam, The Netherlands; email: bakker@fsw.eur.nl

²Department of Applied Psychology, Lingnan University, Tuen Mun, New Territories, Hong Kong

³Department of Industrial Engineering and Innovation Sciences, Eindhoven University of Technology, 5600 MB Eindhoven, The Netherlands

⁴Biological and Health Psychology Department, Universidad Autónoma de Madrid, Madrid 28049, Spain

Annu. Rev. Organ. Psychol. Organ. Behav. 2014. 1:389–411

First published online as a Review in Advance on January 10, 2014

The *Annual Review of Organizational Psychology and Organizational Behavior* is online at orgpsych.annualreviews.org

This article's doi: 10.1146/annurev-orgpsych-031413-091235

Copyright © 2014 by Annual Reviews. All rights reserved

Keywords

employee engagement, job demands–resources model, job design

Abstract

Whereas burnout refers to a state of exhaustion and cynicism toward work, engagement is defined as a positive motivational state of vigor, dedication, and absorption. In this article, we discuss the main definitions and conceptualizations of both concepts used in the literature. In addition, we review the most important antecedents of burnout and work engagement by examining situational and individual predictors. We also review the possible consequences of burnout and engagement and integrate the research findings using job demands–resources theory. Although both burnout and work engagement are related to important job-related outcomes, burnout seems to be more strongly related to health outcomes, whereas work engagement is more strongly related to motivational outcomes. We discuss daily and momentary fluctuations in burnout and work engagement as possibilities for future research.

INTRODUCTION

The central aim of this article is to provide a critical review of two core concepts in the field of organizational psychology and organizational behavior: burnout and work engagement. First, we discuss the main definitions and conceptualizations of both concepts used in the literature. Second, we review the most important antecedents and consequences of burnout and work engagement. Third, we use job demands–resources theory to integrate the research findings. Finally, we discuss future research directions. Our intention is to reflect on the past, the present, and the future of burnout and work engagement.

THE CONCEPT OF BURNOUT

The term burnout was first coined in the 1970s by Freudenberger to describe the gradual emotional depletion and loss of motivation he observed among people who had volunteered to work for aid organizations in New York. The volunteers had worked with great dedication and enthusiasm for several months prior to the onset of these symptoms (Länge 2003). On the basis of his observations, Freudenberger (1974) defined burnout as “a state of mental and physical exhaustion caused by one’s professional life,” and he referred to “the extinction of motivation or incentive, especially where one’s devotion to a cause or relationship fails to produce the desired results.” Thus, individuals who burn out from their work deplete their energetic resources and lose their dedication to work.

During the same time period, Maslach and colleagues interviewed human-services workers in California to find out how they were coping with client-related stressors (Maslach & Jackson 1981). The human-services workers used the term burnout and indicated that they experienced feelings of exhaustion, had developed negative attitudes toward their clients, and often felt that they lacked the professional competence needed to help their clients (Schaufeli et al. 2009b). On the basis of the interviews, Maslach and Jackson defined burnout as a syndrome characterized by emotional exhaustion, depersonalization, and lack of personal accomplishment. Emotional exhaustion refers to feelings of being emotionally drained by one’s contact with other people, and it is the central strain dimension of burnout. Depersonalization refers to a negative or excessively detached response toward these people, who are the recipients of one’s service or care. Finally, reduced personal accomplishment refers to a decline in one’s feelings of competence and successful achievement at work (see also Maslach & Jackson 1984, Maslach & Leiter 2008).

Originally, scholars assumed that burnout was a response to chronic emotional and interpersonal stressors at work (Etzion 1984, Maslach et al. 2001). Although research has confirmed that burnout is a slow process of progressive loss of energy and enthusiasm (Kant et al. 2004, Leiter & Maslach 2006), the idea that burnout is exclusively found in the human-services sector was rejected, and researchers have adapted the first conceptualizations of burnout to make it applicable to workers in various occupations. For instance, in the Maslach Burnout Inventory–General Survey (MBI-GS), Schaufeli et al. (1996) replaced the depersonalization component with cynicism, which reflects a distant attitude toward work in general and not necessarily toward other people. Furthermore, the authors replaced the concept of reduced personal accomplishment with reduced professional efficacy, referring to social and nonsocial aspects of occupational accomplishments. Other scholars have developed alternative measures to assess burnout, most notably the Oldenburg Burnout Inventory (OLBI; Demerouti et al. 2003, Demerouti et al. 2010) and the Shirom-Melamed Burnout Measure (SMBM; Shirom & Melamed 2006). Whereas the OLBI assesses the dimensions of exhaustion and disengagement, the SMBM assesses the dimensions of physical fatigue and cognitive weariness.

THE CONCEPT OF ENGAGEMENT

Kahn (1990) introduced the concept of engagement, conceptualizing it as the “harnessing of organization members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (p. 694). Thus, engaged employees put a great deal of effort into their work because they identify with it. According to Kahn (1990, 1992), a dynamic, dialectical relationship exists between the person who drives personal energies (physical, cognitive, emotional, and mental) into his or her work role, on one hand, and the work role that allows this person to express him- or herself, on the other.

Interestingly, it is research on burnout that has stimulated most contemporary research on work engagement (Bakker et al. 2008a). Unlike those who suffer from burnout, engaged employees have a sense of energetic and effective connection with their work, and they look upon their work as challenging, as opposed to stressful and demanding. Two different but related schools of thought exist that consider work engagement as a positive, work-related state of well-being or fulfillment. According to Maslach & Leiter (1997), engagement is characterized by energy, involvement, and efficacy, the direct opposites of the three burnout dimensions. These authors argue that, in the case of burnout, energy turns into exhaustion, involvement into cynicism, and efficacy into ineffectiveness. By implication, engagement is assessed by the opposite pattern of scores on the three dimensions of the MBI-GS: low scores on exhaustion and cynicism and high scores on professional efficacy.

The alternative view considers work engagement to be an independent, distinct concept that is negatively related to burnout. Consequently, work engagement is defined and operationalized in its own right as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli et al. 2002, p. 74). That is, in engagement, fulfillment exists in contrast to the voids of life that leave people feeling empty as in burnout. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one’s work and experiencing a sense of significance, enthusiasm, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one’s work, whereby time passes quickly. Accordingly, vigor and dedication are considered direct opposites of exhaustion and cynicism, respectively, the two core symptoms of burnout. The continuum that is spanned by exhaustion and vigor has been labeled energy, whereas the continuum that is spanned by cynicism and dedication has been labeled identification (González-Romá et al. 2006).

Thus, work engagement is characterized by a high level of energy and strong identification with one’s work, whereas burnout is characterized by the opposite: a low level of energy and poor identification with one’s work (see also Demerouti et al. 2010). In addition, based on in-depth interviews (Schaufeli et al. 2001), absorption was included as the third constituting aspect of work engagement.

ANTECEDENTS

As burnout and work engagement may have important consequences for individual employees and organizations at large, many studies have focused on the antecedents of both concepts. Which working conditions should be targeted to prevent burnout and foster work engagement? Why are some individuals more prone to burnout or engagement than others? Which job resources buffer the impact of job demands on burnout, and which resources foster work engagement? Traditionally, scholars have classified the antecedents of burnout and work engagement in two general categories: situational factors (e.g., work overload, job autonomy) and individual factors (e.g., neuroticism, self-efficacy) (Bakker & Demerouti 2008, Maslach et al. 2001).

Antecedents of Burnout

Situational factors. Lee & Ashforth's (1996) meta-analysis showed that job demands were more important predictors of burnout than were (lack of) job resources. Job demands are aspects of the job that require sustained physical, emotional, or cognitive effort (Demerouti et al. 2001). It is therefore not surprising that job demands are associated with physiological (elevated blood pressure, increased hormonal activity, increased heart rate) and psychological costs (e.g., fatigue, psychological need thwarting). After prolonged exposure to high job demands, employees may become chronically exhausted and distance themselves psychologically from their work. In other words, they may start to experience burnout (Bakker et al. 2000).

Lee & Ashforth (1996) found that particular job demands were predictive of burnout (exhaustion and depersonalization). The most important job demands were role ambiguity, role conflict, role stress, stressful events, workload, and work pressure. Although their meta-analysis was restricted to human-services providers (e.g., teachers, nurses, counselors, police officers, and social workers), the data also included the supervisors and managers of the service providers. The authors argued that job demands are perceived as losses because "meeting such demands requires the investment of valued resources" (p. 129). A more recent meta-analysis by Alarcon (2011) confirmed the crucial role that job demands play in the prediction of burnout. Using between 37 and 86 different samples from all types of occupations (thus not limited to human services), he found that role conflict, workload, and role ambiguity were important predictors of burnout, particularly of exhaustion and cynicism.

Job resources are those physical, psychological, social, or organizational aspects of the job that help to either achieve work goals, reduce job demands and the associated physiological and psychological costs, or stimulate personal growth, learning, and development (Bakker & Demerouti 2007). Research over the past decade has shown that job resources are less strongly related to burnout than job demands are. Nevertheless, job resources have a consistent negative relationship with burnout, particularly with the cynicism component. Thus, when workers have insufficient opportunities for development, do not receive regular feedback, and cannot work on a variety of tasks, they report higher levels of cynicism.

Furthermore, job resources qualify the relationship between job demands and burnout. Bakker et al. (2005a), in their study among 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 supervisors. Psychologically speaking, different processes may have been responsible for these interaction effects. For example, autonomy may have helped in coping with job demands because employees could decide for themselves when to respond to their demands, whereas high-quality relationships with supervisors may have buffered the impact of job demands because employees received instrumental help and emotional support (see also Xanthopoulou et al. 2007). Taken together, these findings indicate that job resources prevent the development of negative attitudes and play a buffering role in the relationship between job demands and burnout.

Individual factors. Individual factors refer to individual differences or personal characteristics that are relatively stable over situations and time. Although the current literature indicates the possibility that stressful aspects of the work environment are more important predictors of burnout than is personality, it is important for researchers to consider individual variation (Pick & Leiter 1991). Indeed, quite a few studies have indicated the possibility that personality plays an

important role in the development of burnout. Schaufeli & Enzmann (1998) counted more than 100 burnout studies in the literature that included one or two constructs from a long list of lower-level personality variables. Examples of these personality variables are hardiness, locus of control, type A behavior, self-esteem, and achievement motivation.

Alarcon et al. (2009) have argued that personality may influence burnout through the impact of both the perceived and the objective nature of one's work environment. First, personality may predispose employees to perceive their work environments favorably regardless of the objective nature of their work (Brunborg 2008). For example, whereas individuals with low emotional stability may view a high workload or a complex work assignment as threatening, individuals with high emotional stability may view the same job demands as challenges. In addition, personality may influence the objective nature of one's work environment (Judge et al. 2000). Because of their ability to easily adapt, those who are emotionally stable and extraverted may self-select into enriched job environments. By contrast, neurotic or introverted employees may feel stressed by challenging jobs and thus pursue routine work (Alarcon et al. 2009). A third possibility is that certain personalities are better able than others to cope with their job demands. For example, extraverts may be better able to cope with emotionally challenging situations, because they seek out social stimulation and opportunities to engage with others.

The meta-analysis of Alarcon and colleagues (2009) shows that personality is indeed reliably related to burnout. More specifically, the authors found that four of the Big Five factors—namely, emotional stability, extraversion, conscientiousness, and agreeableness—are consistently negatively related to each of the three dimensions of burnout. The exception is openness to experience, which was positively related only to personal accomplishment. Emotional stability was the most important predictor of exhaustion and depersonalization, whereas extraversion was the most important predictor of personal accomplishment.

Furthermore, Alarcon et al. (2009) found evidence for a relationship between lower-order personality factors and burnout. Specifically, they found that self-esteem, self-efficacy, locus of control, positive affectivity, negative affectivity, optimism, proactive personality, and hardiness each had a significant relationship with burnout. This indicates that more malleable individual differences also play a role in the development of burnout. People with favorable scores on these individual factors believe they have control over their (work) environment and can therefore deal better with their job demands.

Antecedents of Engagement

Situational factors. Whereas job demands are the most important predictors of burnout, job resources are the most important predictors of work engagement (Halbesleben 2010, Schaufeli & Bakker 2004). As elucidated before, job resources are those aspects of the job that help to achieve work goals, reduce job demands, or stimulate personal growth. Examples of job resources are social support from colleagues, supervisory coaching, and performance feedback (Schaufeli & Bakker 2004). Interestingly, although Schaufeli & Bakker (2004) also included job demands in their study, job resources were the exclusive predictors of work engagement. The effects of job resources on engagement have also been found in longitudinal research: Mauno et al. (2007) in a study among Finnish health care personnel found that those employees with a higher level of job control in 2003 reported higher levels of vigor, dedication, and absorption in 2005.

A recent meta-analysis by Christian et al. (2011) confirmed that job resources are the most important predictors of employee work engagement. The job resources found to predict work engagement were task variety, task significance, autonomy, feedback, social support from colleagues, a high-quality relationship with the supervisor, and transformational leadership. These

job resources correlated more strongly with engagement than did job demands such as physical demands, work conditions (health hazards, temperature, and noise), and job complexity. Moreover, for two job resources—autonomy and social support—the authors found meta-analytic evidence for a positive lagged effect and for daily within-person effects. These meta-analytic findings echo those of Halbesleben (2010), who also found that job resources were positively related to work engagement. Although job demands were significantly negatively related to engagement, the relationship of job resources with engagement was much stronger than the relationship of job demands with engagement. Thus, resources contribute to work engagement over time and also from day to day.

Hakanen et al. (2005) investigated how the combination of high job demands and high job resources impacted work engagement in a sample of Finnish dentists. It was hypothesized that job resources (e.g., variability in the required professional skills, peer contacts) would be most beneficial in maintaining work engagement under conditions of high job demands (e.g., heavy workload, unfavorable 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 example, that variability in professional skills boosted work engagement when qualitative workload was high, and mitigated the negative effect of qualitative workload on work engagement.

Bakker et al. (2007) reported conceptually similar findings in their study among Finnish teachers working in elementary, secondary, and vocational schools. They found that job resources acted as buffers and diminished the negative relationship between pupil misbehavior and work engagement. In addition, they found that job resources influenced work engagement especially when teachers were confronted with high levels of pupil misconduct. Supervisor support, innovativeness, appreciation, and organizational climate were particularly important job resources that helped teachers cope with demanding interactions with students. Thus, resources contribute to work engagement in interaction with high job demands as well. These effects have been found within time, over time, and also from day to day.

Individual factors. Personality may play an important role in work engagement (Albrecht 2010, Macey & Schneider 2008), because individuals with a specific personality profile may be better able to mobilize their job resources than individuals with a different profile are. For example, extraverts show positive emotions, a high frequency and intensity of personal interactions, and a high need for stimulation. In addition, extraversion is generally associated with a tendency to be optimistic (Costa & McCrae 1992). These characteristics may be particularly helpful for mobilizing social support from colleagues and the supervisor and for asking for performance feedback. In addition, extraverts' tendency to reappraise problems positively may help them to perceive job demands as challenges.

In their recent review of the literature regarding the link between individual factors and work engagement, Mäkikangas et al. (2013) showed that of the Big Five factors, emotional stability, extraversion, and conscientiousness were consistently related to higher work engagement. In addition, several studies found a positive relationship between the lower-order individual factors (also called personal resources; Xanthopoulou et al. 2007, 2009a) of self-efficacy, optimism, and self-esteem, on one hand, and work engagement, on the other. Moreover, other studies found evidence for a positive relationship between (a) core self-evaluations, positive affect, and sense of coherence and (b) engagement.

Mäkikangas and colleagues (2013) argue that individuals with high self-efficacy, optimism, and high emotional stability have a particular way of dealing with reality: "Such people tend to interpret their environment basically as benign. For example, they expect things to go well, they

accept setbacks and failures as normal, and not as indicative of their own lack of worthiness, and they tend to see life as something that can be influenced and acted upon” (p. 134) (see also Semmer & Meier 2009, p. 108). This suggests that individual differences determine whether the objective work situation will have an impact on work engagement.

In general, the findings of Mäkikangas et al. (2013) are consistent with and expand two previous meta-analyses that included only a few individual factors. The meta-analysis of Halbesleben (2010) indicated that in addition to job resources, optimism and self-efficacy were positively related to work engagement. Christian et al. (2011) showed that conscientiousness, positive affect, and proactive personality were all positively related to engagement. Proactive personality refers to the dispositional tendency to engage in proactive behavior in a variety of situations (Bateman & Crant 1993). Individuals with a proactive personality are inclined to intentionally change their circumstances, including their physical environment (Buss 1987). They identify opportunities, take action, and persevere until they bring about meaningful change (Crant 1995).

Bakker et al. (2012b) investigated the mechanism explaining the relationship between proactive personality and work engagement. They argued and showed that employees with a proactive personality were most likely to craft their jobs—such employees increased their job resources (asked for feedback and support, increased their opportunities for development) and their job challenges (looked for new tasks, volunteered for projects). This job crafting, in turn, led to higher levels of engagement. Thus, people who tend to change their environment are able to adjust their work demands and mobilize their job resources; these resources facilitate employees’ engagement in their jobs. Taken together, the empirical evidence suggests that both higher-order individual factors (i.e., emotional stability, extraversion, conscientiousness, and proactive personality) and lower-order individual factors (i.e., self-efficacy, optimism, and self-esteem) are positively related to work engagement.

CONSEQUENCES

When we think of burnout, what usually causes alarm is the wide range of associated negative consequences. As burnout is a syndrome of chronic exhaustion and negative attitudes toward work, it can be expected that burnout influences people’s functioning in the workplace in an unfavorable way. As noted by Maslach et al. (2001), the significance of burnout lies in its link to important outcomes. By contrast, we expect engagement to be positively related with job performance and organizational outcomes. What are the most important consequences of burnout and engagement? Is engagement a better predictor of performance than burnout? We answer these questions in the next sections.

Consequences of Burnout

Health-related outcomes. Research has shown that employees who are chronically fatigued and cynical about their work report more psychological and physical health problems (Schaufeli & Enzmann 1998, Shirom et al. 2005). Concerning psychological health problems, Ahola (2007) used a nationally representative sample of the Finnish working population including more than 3,000 employees. Burnout was related to an increased prevalence of depressive and anxiety disorders and alcohol dependence among male and female employees. Similarly, in their study among medical residents, Hillhouse et al. (2000) found that patient-related exhaustion predicted mood disturbance over a period of one year.

More recent research has provided additional evidence for a link between burnout and psychological health problems. In their three-wave, seven-year prospective study of almost 2,000

Finnish dentists, Hakanen & Schaufeli (2012) found that burnout predicted depressive symptoms and life dissatisfaction from Time 1 to Time 2 and from Time 2 to Time 3. Similarly, Toker & Biron (2012) conducted a three-wave longitudinal study among more than 1,500 employees. Latent difference score modeling indicated that an increase in burnout from Time 1 to Time 2 predicted an increase in depression from Time 2 to Time 3, and vice versa. In addition, physical activity attenuated these effects in a dose–response manner, so that the increase in burnout and depression was strongest among employees who did not engage in physical activity and weakest among those engaging in high levels of physical activity.

Furthermore, in a large study among more than 3,500 Swedish health-care workers, Peterson and colleagues (2008) found that burned-out employees could be discriminated from non-burned-out employees (exhausted, disengaged, and healthy groups of employees) using a range of health indicators—namely, self-perceived health, depression, anxiety, sleep disturbance, memory impairment, and neck pain. Overall, there was an increase in severity over the four groups in self-rated health, anxiety, and depression, in the following order (from lowest to highest): non–burned out, disengaged, exhausted, and burned out. This pattern of findings suggests that health impairment may be most strongly related to the exhaustion component of burnout.

Research has also demonstrated that burnout leads to poor physical health and increased sickness absence. Kim et al. (2011) conducted a study among social workers who were surveyed annually over a three-year period. Social workers with higher initial levels of burnout later reported more physical health complaints, including sleep disturbances, headaches, respiratory infections, and gastrointestinal infections. Higher levels of burnout led to a faster rate of deterioration in physical health over a one-year period. In addition, burnout increases the risk of musculoskeletal problems among apparently healthy employees (Armon et al. 2010). The burnout syndrome has also been found to be an independent risk factor for infections (e.g., common cold; Mohren et al. 2003) and type 2 diabetes (Melamed et al. 2003).

Moreover, in a longitudinal study among Dutch male employees who took part in a medical examination, self-reported exhaustion predicted physician-diagnosed myocardial infarctions in a four-year follow-up (Appels & Schouten 1991). Consistent with these findings, in her population-based study of Finnish employees, Ahola (2007) found that burnout was related to musculoskeletal disorders among women and to cardiovascular diseases among men—after controlling for sociodemographic factors, physical strenuousness of work, health behavior, and depressive symptoms. Finally, Ahola et al. (2010) followed a population of more than 7,000 employees during 10 years. During these years, a total of 199 employees younger than 45 died. A one-unit increase in the standardized burnout sum score (measured with MBI-GS) was related to a 35% increase in the risk of all-cause mortality.

Job-related outcomes. One crucial outcome of burnout is job performance. Wright & Bonett (1997), who tested the relationship between the three dimensions of burnout and work performance over a three-year period, were among the first authors who found empirical support for the relationship between burnout and performance. They found that emotional exhaustion predicted subsequent work performance, whereas depersonalization and personal accomplishment showed nonsignificant relationships. Bakker & Heuven (2006) analyzed the relationship between burnout (composed of exhaustion and cynicism) and in-role performance. They conducted two studies with samples of nurses and police officers and found that the relationship between burnout and in-role performance was negative and significant in both samples. An important issue when analyzing job outcomes is that most studies are based on self-reports. This increases the risk of common-method variance bias.

In order to avoid inflated associations between concepts, Taris (2006) examined whether burnout was related to objective performance (as reported by the supervisor, colleague, or client/customer). To that end, he reviewed data from 16 studies, including meta-analytic correlations when the number of studies allowed it. The clearest pattern was found for the dimension of exhaustion, showing high correlations with in-role performance in most of the studies. However, results concerning depersonalization and personal accomplishment were more complex, showing inconsistent patterns across the studies. Bakker et al. (2008b) examined the relationship between burnout and objective team performance, in terms of objective sales, and found that those employees who received support from their colleagues were less cynical, which in turn led to better financial results.

There is also evidence for the relationship between burnout and absenteeism, as demonstrated by Schaufeli et al. (2009a) in a longitudinal survey. Specifically, burnout predicted future absence duration but not absence frequency. Further, an increase of burnout is positively related to an increase in sickness absence days per year (Borritz et al. 2006). It is therefore not surprising that burnout increases the risk of medically certified absences episodes (more than three days) (Toppinen-Tanner et al. 2005). The exhaustion dimension was found to predict long-term sickness (90 days or more) at any occasion during the 44 months of follow-up in a study among more than 6,000 employees working in a county council area in Sweden (Peterson et al. 2011).

Consequences of Engagement

Motivational outcomes. Some studies have linked work engagement to better health, including healthy cardiac autonomic activity (Seppälä et al. 2012). One possible reason for a positive link between engagement and health is that engaged workers are more inclined to engage in leisure-time activities that foster relaxation and psychological detachment from work, including sports and exercise, social activities, and hobbies (Sonnentag et al. 2012, Ten Brummelhuis & Bakker 2012). However, most studies have focused on motivational outcomes of engagement (see also Albrecht 2010).

The research evidence suggests that engaged employees experience more active, positive emotions than do nonengaged employees. For example, Schaufeli & Van Rhenen (2006) found that engaged managers felt more inspired, energetic, cheerful, and enthusiastic than nonengaged managers did. Using a daily-diary design, Rodríguez-Muñoz et al. (2014) found that employees and their intimate partners at home were happier on the days the employees experienced high work engagement. Consistent with broaden-and-build theory (Fredrickson 2001), engaged workers seem to be more open to new experiences. As a result, they tend to explore their environments, becoming more creative. Indeed, Bakker & Xanthopoulou (2013) found that female school principals with higher levels of work engagement were rated by their teachers as more creative.

Engaged workers are also receptive to discovering novel lines of thought or action, which may result in higher active learning behavior and proactive behavior. As demonstrated by Bakker et al. (2012a), work engagement is positively related to active learning, particularly for employees high in conscientiousness. Thus, engaged employees are most willing to learn new things when they are also well organized, careful, and hardworking. Further, employees who are dedicated and enthusiastic about their jobs are more likely to engage in proactive behaviors to keep those positive work situations and further improve them (Sonnentag 2003). Specifically, in her diary study, Sonnentag (2003) found that daily work engagement was a significant predictor of daily personal initiative and daily pursuit of learning. Hakanen et al. (2008) went one step further by demonstrating a reciprocal, positive relationship between work engagement and personal initiative over time. More recently, Parker and colleagues have proposed that engagement, and the

component of vigor in particular, broadens individuals' cognitive processes, stimulating several proactive behaviors such as job crafting (Parker et al. 2010, Parker & Griffin 2011).

Job-related outcomes. On the basis of previous literature, Bakker (2009) proposed that engaged employees perform better because (a) they experience positive emotions, which help them to look for new ideas and build resources; (b) they have better health, so they can devote all energy to their jobs; (c) they look for feedback and support in order to create new resources; and (d) they have the ability to transmit their engagement to colleagues, increasing team performance.

Evidence for the relationship between work engagement and performance was found in a study by Halbesleben & Wheeler (2008). The authors, working with a sample of 587 employees, found that work engagement at Time 1 predicted not only higher self-reported in-role performance two months later, but also higher supervisor-rated and coworker-rated in-role performance. Similar results have been found for extrarole performance. Seventeen supervisors rated nurses' extrarole performance ($N = 280$) working in different services in a Portuguese hospital (Salanova et al. 2011). Nurses were asked about their supervisors' transformational leadership as well. Results revealed that supervisors' transformational leadership was positively related to nurses' work engagement. Consequently, the supervisors provided higher ratings of extrarole performance. As proposed by Fredrickson, positive emotions are vehicles for social connection, making it more likely for an employee to approach people. This explains some differences between engaged and disengaged employees regarding extrarole behaviors. For instance, Bakker et al. (2004) demonstrated that engaged employees were more likely to show organizational citizenship behaviors (as reported by their colleagues).

As noted by Demerouti & Cropanzano (2010), work engagement (and particularly vigor) enables the employee to move on from thought to action, so that engaged employees achieve better performance. Moreover, in addition to searching for individual growth, engaged employees show higher levels of extrarole performance, that is, actions that go beyond their own job tasks and are beneficial for the organization as a whole. In-role behaviors seem to be more adequately predicted by well-being indicators, such as exhaustion, that have to do with whether individuals can perform (Demerouti & Bakker 2006). By contrast, extrarole performance seems to be better predicted by whether an individual is willing to perform (i.e., work engagement).

In a similar vein, Christian et al. (2011) suggest that engaged employees are likely to perform behaviors that help the social context of the organization (i.e., organizational citizenship behaviors) because they are able to free up resources by performing their tasks efficiently, enabling them to pursue activities that are not part of their job descriptions. Specifically, these authors found that work engagement predicted both task (in-role) and contextual (extrarole) performance. The impact of work engagement on job performance has also been demonstrated using a weekly-diary study design (Bakker & Bal 2010). As suggested by Bakker & Bal (2010), this approach may explain why even engaged employees have weeks during which they perform poorly.

Work engagement is an important predictor of client satisfaction and organizational performance. Xanthopoulou et al. (2009b), in their study of a fast-food company, found a positive relationship between daily work engagement and daily financial returns. Customer loyalty has also been considered as an objective outcome potentially related to work engagement. Findings support a positive relationship between work engagement and service climate, which in turn predicts customer loyalty (Salanova et al. 2005). Moreover, the literature suggests a positive relationship between employee work engagement and organizational performance. The meta-analysis conducted by Harter et al. (2002) showed that work engagement relates to higher profitability and customer satisfaction/loyalty. Given the substantial evidence linking engagement and positive organizational outcomes, Gruman & Saks (2011) have suggested that in

order to produce performance increments, management systems should foster employee work engagement.

JOB DEMANDS–RESOURCES THEORY

The studies reviewed so far provide evidence for a distinctive pattern of antecedents and consequences of burnout and work engagement. On one hand, job demands have been identified as the main causes of burnout, which in turn leads to poor health and negative organizational outcomes. On the other hand, job resources have been identified as the main drivers of work engagement, which in turn leads to increased well-being and positive organizational outcomes. These patterns form the basis for an articulated model of occupational well-being, known as the job demands–resources (JD–R) model (Bakker & Demerouti 2007, 2014; Demerouti et al. 2001). With the JD–R model, we can understand, explain, and make predictions about employee burnout, work engagement, and outcomes. In this section, we discuss the most important building blocks of JD–R theory.

Flexibility

One important reason for the popularity of the JD–R theory is its flexibility. A first proposition of the theory is that all job characteristics can be modeled using two different categories, namely, job demands and job resources. Thus, the theory can be applied to all work environments and can be tailored to the specific occupation under consideration. Whereas (meaningful variations in levels of) certain specific job demands and resources (such as work pressure, autonomy) can be found in almost every occupational group, other job demands and resources are unique. For example, whereas physical demands are still very important job demands for construction workers and nurses today, cognitive demands are much more relevant for scientists and engineers.

Two Processes

A second proposition of JD–R theory is that job demands and resources are the triggers of two fairly independent processes, namely, a health impairment process and a motivational process (see **Figure 1**). Thus, whereas job demands are generally the most important predictors of such outcomes as exhaustion, psychosomatic health complaints, and repetitive strain injury (e.g., Bakker et al. 2003b, Hakanen et al. 2006), job resources are generally the most important predictors of work enjoyment, motivation, and work engagement (Bakker et al. 2007, 2010). The reasons for these unique effects are that job demands cost effort and consume energetic resources, whereas job resources fulfill basic psychological needs, such as the needs for autonomy, relatedness, and competence (Bakker 2011, Deci & Ryan 2000, Nahrgang et al. 2011).

Many studies have supported the dual pathways to employee well-being proposed by JD–R theory and have shown that the model can predict important organizational outcomes (for an overview, see Bakker & Demerouti 2014). For example, Bakker et al. (2003a) applied the JD–R model to call center employees of a Dutch telecom company and investigated its predictive validity for self-reported absenteeism and turnover intentions. The results of a series of structural equation modeling (SEM) 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 sickness 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

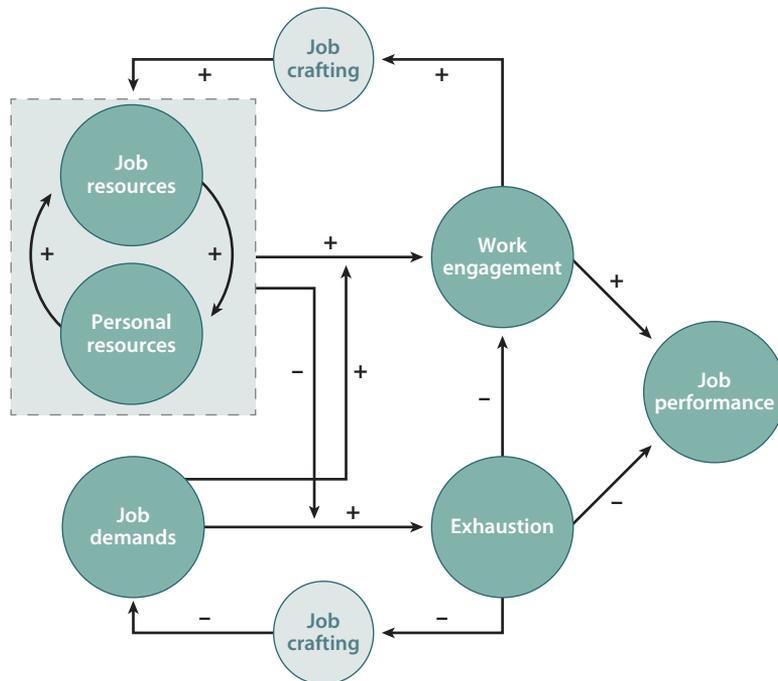


Figure 1

The job demands–resources model of occupational well-being.

predictors of dedication and organizational commitment, which, in turn, were related to turnover intentions.

Recently, Nahrgang et al. (2011) conducted a meta-analytic study based on 203 independent samples ($N = 186,440$). Using the JD–R model, the authors related job demands and resources to safety outcomes through the mediating effect of burnout and work engagement. They found support for the JD–R model in the context of safety at work, with (a) job demands (risks and hazards) leading to burnout and, in turn, to high adverse events such as errors at work and (b) job resources (safety climate) leading to work engagement (in terms of compliance with safety and preventive measures), which in turn, predicted lower accidents and injuries.

Job Demands \times Resources Interactions

Job demands and resources initiate different processes, but they also have joint effects (see Figure 1). The third proposition put forward by JD–R theory is that job demands and resources interact in predicting occupational well-being. There are two possible ways in which demands and resources may have a combined effect on well-being and indirectly influence performance. The first interaction is one in which job resources buffer the impact of job demands on strain. Thus, several studies have shown that job resources such as social support, performance feedback, and opportunities for development can mitigate the impact of job demands (work pressure, emotional demands, etc.) on strain, including burnout (e.g., Bakker et al. 2005a, Xanthopoulou et al. 2007). Employees who have many job resources available can cope better with their daily job demands. The second interaction is one in which job demands amplify the impact of job resources on

motivation/engagement. Thus, research has shown that job resources become salient and have the strongest positive impact on work engagement when job demands are high. Particularly when an employee is confronted with challenging job demands, job resources become valuable and foster dedication to the tasks at hand (Bakker et al. 2007, Hakanen et al. 2005).

Personal Resources

An important extension of the original JD–R model (Bakker et al. 2004, Demerouti et al. 2001) is the inclusion of personal resources in the model and theory. Personal resources are positive self-evaluations that are linked to resiliency and refer to individuals' sense of their ability to control and impact their environments successfully (Hobfoll et al. 2003). Such positive self-evaluations predict goal setting, motivation, performance, job and life satisfaction, and other desirable outcomes (for a review, see Judge et al. 2004). The reason for this is that the higher an individual's personal resources, the more positive the person's self-regard and the more goal self-concordance is expected to be experienced (Judge et al. 2005). Individuals with goal self-concordance are intrinsically motivated to pursue their goals, and as a result, goals trigger higher performance and satisfaction (see also Luthans & Youssef 2007).

Xanthopoulou et al. (2007) examined the role of three personal resources (self-efficacy, organizational-based self-esteem, and optimism) in predicting work engagement and exhaustion. The results of SEM analyses showed that personal resources did not manage to offset the relationship between job demands and exhaustion. By contrast, personal resources were found to partly mediate the relationship between job resources and work engagement, suggesting that job resources foster the development of personal resources. The longitudinal study by Xanthopoulou et al. (2009a) also suggested that personal resources were reciprocal with job resources and work engagement over time. Thus, job resources predicted personal resources and work engagement; personal resources and work engagement, in turn, predicted job resources (see also **Figure 1**).

Job Crafting

It is clear that the availability of well-designed jobs and working conditions facilitates employee motivation and reduces stress, but what if these favorable working conditions are not available? Employees may actively change the design of their jobs by choosing tasks, negotiating different job content, and assigning meaning to their tasks or jobs (Parker & Ohly 2008). This process of employees shaping their jobs has been referred to as job crafting (Wrzesniewski & Dutton 2001). Job crafting is defined as the physical and cognitive changes individuals make in their task or relational boundaries. Physical changes refer to changes in the form, scope, or number of job tasks, whereas cognitive changes refer to changing how one sees the job. Wrzesniewski & Dutton (2001) note that job crafting is not inherently good or bad for an organization. Its effect depends on the situation.

Tims et al. (2012) recently defined job crafting as the changes employees may make regarding their job demands and job resources. This conceptualization takes JD–R theory as a starting point. According to Tims and colleagues, job crafting can take the form of four different types of behaviors: (a) increasing structural job resources, (b) increasing social job resources, (c) increasing (challenging) job demands, and (d) decreasing (hindrance) job demands. Tims et al. found evidence for the reliability and validity of the four proposed job crafting dimensions. In an attempt to integrate job crafting into JD–R theory, Tims et al. (2013) hypothesized that job crafting would predict future job demands and job resources and indirectly have a positive impact on work engagement and job satisfaction. Data were collected among employees working in a chemical

plant at three time points, with one month in between the measurement waves. The results of SEM analyses showed that employees who crafted their job resources in the first month of the study showed an increase in their structural and social resources over the course of the study (two months). This increase in job resources was related to increased work engagement and job satisfaction. Crafting job demands did not result in a change in job demands, but results revealed direct effects of crafting challenging demands on increases in well-being. In a similar vein, Petrou et al. (2012) found in their diary study that on days that employees sought job resources and challenges, they were more engaged in their jobs. By contrast, the more employees simplified their work on a specific day, the less engagement they experienced on that day. Thus, job crafting, or the bottom-up adjustments of demands and resources, seems to play a substantial role in the mechanisms suggested by JD–R theory.

INTERVENTIONS

Our review of the literature has shown that burnout and work engagement are definitely not redundant concepts (cf. Cole et al. 2012). Whereas job demands are the most important antecedents of burnout, job resources are the most important antecedents of work engagement. In addition, whereas burnout has a negative impact on employee well-being and organizational performance, work engagement is a desirable state with positive consequences. Thus, interventions should aim to prevent burnout and foster work engagement. The most effective interventions are those that combine specific measures at the organizational and individual levels (Kompier et al. 2000). Using JD–R theory, we propose two types of interventions to prevent burnout and foster work engagement—namely, organizational-level interventions and individual-level interventions.

Organizational-Level Interventions

Interventions at the organizational level focus on groups of employees. These interventions include job redesign and training programs. Consistent with JD–R theory, we propose three possible interventions:

1. **Optimizing job demands:** As high job demands cost considerable effort, it is important to examine possible ways to reduce demands such as role ambiguity, job insecurity, and conflict. Such hindrance demands are stressful and viewed by workers as unnecessarily thwarting personal growth and goal attainment (Cavanaugh et al. 2000). By contrast, challenge job demands are viewed by workers as obstacles to be overcome. Challenge demands such as work pressure and complex tasks are positively related to work engagement (Crawford et al. 2010). Possible interventions to reduce hindrance demands include (a) the implementation of fair procedures in times of organizational change and (b) teaching teams and departments to combine challenge demands with sufficient job resources (see below).
2. **Increasing job resources:** Job resources such as social support and performance feedback can be optimized by redesigning the work environment or through training. For example, if the work environment is designed such that employees regularly meet with each other, they will have opportunities to exchange information and provide feedback to each other. Additionally, employees may learn how to distill feedback from their own work results, and managers may be taught how to provide feedback in an appropriate way. As is the case with job demands, it is crucial to start the intervention with the assessment of the most important job resources that need attention (see Bakker & Demerouti 2014, Bakker et al. 2013).

3. **Fostering personal resources:** Research has shown that personal resources such as optimism, resilience, and self-efficacy can be taught (Demerouti et al. 2011, Luthans et al. 2006). Thus, when an organizational assessment indicates that large groups of employees lack important personal resources, organizations may decide to arrange on-the-job training. In this training, employees receive examples of how to develop their personal resources in their daily work routines, and they acquire new competencies that help them execute their daily job tasks (Luthans et al. 2006).

Individual-Level Interventions

Through individual approaches, organizations can attend to the specific needs and problems employees may have. Individual employees may face hindrance demands because of certain life events. Similarly, individual employees may lack certain job or personal resources because of changes in the organization or in their personal lives. Organizations could use internet versions of JD–R questionnaires with tailored feedback to inform employees about their most important job demands and resources (Bakker & Demerouti 2007, Bakker et al. 2013). This information could be the starting point of a change process that is guided by a personal coach. Other possible interventions are (a) job crafting training, in which employees learn how to proactively change their own work environment (Tims et al. 2012, Wrzesniewski & Dutton 2001); (b) strengths use training, in which employees learn to set personal goals and use their strengths at work in new ways (Linley & Harrington 2006); and (c) recovery training, in which employees learn which activities best help them to recover from their work-related efforts (Hahn et al. 2011). Recovery training might also include relaxation techniques or mindfulness.

FUTURE RESEARCH

This review shows that we know quite a bit about the concepts of burnout and work engagement. However, up until now, the literature has largely ignored possible daily fluctuations in burnout and work engagement, as well as momentary peaks and lows. In addition, most research has used a job-design approach to burnout and work engagement, thereby ignoring the possibility that employees may design their own jobs and prevent burnout and sustain engagement. Finally, we believe that burnout and engagement researchers should aim to link both concepts to observable behaviors. We discuss each of these topics in more detail below.

Daily Fluctuations in Burnout and Work Engagement

Although burnout and work engagement are usually conceived as chronic, trait-like experiences (the between-person view), recent research shows that burnout and work engagement can also be conceived as state-like experiences (the within-person view). The latter approach answers questions such as why one person feels more burned out or more engaged at work on certain days and not on others. The state-like approach enables us to examine—in addition to general predictors such as enduring resources as specified in job demands–resources theory—the more proximal, situational predictors of burnout and work engagement (Sonnentag et al. 2010).

Diary studies have indeed demonstrated that burnout and work engagement fluctuate substantially within individuals, thus supporting the state-like view (e.g., Bakker & Xanthopoulou 2009, Simbula 2010, Sonnentag 2003, Van Gelderen et al. 2011). We agree with Sonnentag (2005), who argued that burnout scholars should examine questions such as which situational

features of a specific day elicit increased burnout symptoms, how people with high general levels of burnout react to and cope with daily stressful situations or a lack of resources, and whether there is an accumulation of burnout symptoms during the week. Such research questions deserve attention in future research, as they would enhance our insight into burnout and work engagement.

Momentary Burnout and Engagement

Sonnentag (2011) has argued that examining engagement from day to day might even be too rough of an assessment, and she proposes that engagement may fluctuate from hour to hour, similar to the within-day fluctuations of job performance (Beal et al. 2005). The nature of the task at hand may be an important determinant of whether we experience work engagement. For example, whereas most doctors are highly engaged when treating patients, they may feel less engaged during night shifts or when filling out medical records. Likewise, salespersons may feel highly vigorous and dedicated during a sales pitch when trying to sell a product or service, but they may feel low on engagement when dealing with customer complaints. Momentary burnout and engagement experiences could be investigated using the experience sampling method (ESM; Dimotakis & Ilies 2013). The ESM represents a research procedure that requires study participants to respond to multiple daily questionnaires during several days. This procedure enables an investigation of changes in momentary burnout and work engagement as a function either of the task at hand or of the people with whom one works.

Burnout, Work Engagement, and Job Crafting

The JD–R model acknowledges the importance of job crafting for preventing burnout and sustaining work engagement (Bakker & Demerouti 2014). Although most of the available evidence suggests that job crafting leads to increased levels of engagement and lower levels of burnout (Bakker et al. 2012b, Petrou et al. 2012, Tims et al. 2013), the JD–R model proposes that engagement and burnout can also predict job crafting. Are enthusiastic and vigorous employees more likely to craft their jobs? Do employees with burnout experiences craft their jobs such that their work becomes less demanding? Demerouti et al. (2009) found that job demands were positively related to burnout but that burnout was also positively related to job demands over time. These findings suggest that employees with higher levels of burnout are less likely to craft their jobs. It can be hypothesized that job crafting represents the missing link in the reversed causal path from burnout and work engagement to future job demands and job resources (Bakker & Demerouti 2014). Future research is necessary to test this hypothesis.

Observable Behavioral Outcomes

Burnout and work engagement seem to influence observable behaviors of individuals. However, this relationship is far from understood. There is some indication that burnout increases aggressive behavior (Rafii et al. 2004) and counterproductive work behavior (Cropanzano et al. 1997). Work engagement has been found to increase extrarole or citizenship behavior (Xanthopoulou et al. 2008) and proactive behavior (Sonnentag 2003). Gaining insight into the ways through which burnout and work engagement influence observable behavior is important not only because behavior may explain one's performance at work. Such a link is also important for another reason: One's behavior is observable by other people, and it may therefore influence other people's

behavior as well. In line with this idea, work engagement and burnout may cross over and influence colleagues and marital partners (e.g., Bakker & Xanthopoulou 2009, Bakker et al. 2005b). This suggests that burnout and work engagement may be transmitted to or imitated by other individuals in the surrounding environment through a contagion process. In this way, their effects are multiplied. Therefore, it is necessary to enhance our insight into the behavioral outcomes of burnout and work engagement and the mechanism through which they influence others.

CONCLUSION

This review shows that burnout and work engagement are important concepts because they predict significant outcomes for individual employees and for organizations at large. Whereas burnout seems to be caused by high job demands and to a lesser extent by low job resources, work engagement seems to be caused by job resources. Individual characteristics, such as personality and personal resources, are also related to both burnout and work engagement but in an opposite fashion. Although both burnout and work engagement are related to job-related outcomes, burnout seems to be more strongly related to health outcomes, whereas work engagement is more strongly related to motivational outcomes. Therefore, burnout and work engagement represent substantially different experiences and deserve their own attention from both researchers and practitioners. In this review, we also suggest that although we have extensive knowledge on both phenomena, several unanswered questions remain. Research and practice should continue to uncover processes related to burnout and work engagement, as they explain a great deal of the variance in organizational behavior.

FUTURE ISSUES

1. Daily fluctuations in burnout and work engagement: What are the situational features of a specific day that elicit increased burnout symptoms? Can these be determined through diary research?
2. Momentary burnout and engagement: Do levels of burnout and work engagement change as a function of the task at hand or as a function of the people with whom one works?
3. Burnout, work engagement, and job crafting: Are employees with higher levels of burnout less likely to craft their jobs?
4. Observable behavioral outcomes: What are the observable consequences of burnout and work engagement?

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

LITERATURE CITED

- Ahola K. 2007. *Occupational Burnout and Health*. Helsinki, Finl.: Finn. Inst. Occup. Health
- Ahola K, Väänänen A, Koskinen A, Kouvonen A, Shirom A. 2010. Burnout as a predictor of all-cause mortality among industrial employees: a 10-year prospective register-linkage study. *J. Psychosom. Res.* 69:51–57

- Alarcon G. 2011. A meta-analysis of burnout with job demands, resources, and attitudes. *J. Vocat. Behav.* 79:549–62
- Alarcon G, Eschleman KJ, Bowling NA. 2009. Relationships between personality variables and burnout: a meta-analysis. *Work Stress* 23:244–63
- Albrecht SL, ed. 2010. *Handbook of Employee Engagement: Perspectives, Issues, Research and Practice*. Glos, UK: Elgar
- Appels A, Schouten E. 1991. Waking up exhausted as risk indicator of myocardial infarction. *Am. J. Cardiol.* 68:395–98
- Armon G, Melamed S, Shirom A, Shapira I. 2010. Elevated burnout predicts the onset of musculoskeletal pain among apparently healthy employees. *J. Occup. Health Psychol.* 15:399–408
- Bakker AB. 2009. Building engagement in the workplace. In *The Peak Performing Organization*, ed. RJ Burke, CL Cooper, pp. 50–72. Abingdon, UK: Routledge
- Bakker AB. 2011. An evidence-based model of work engagement. *Curr. Dir. Psychol. Sci.* 20:265–69
- Bakker AB, Bal PM. 2010. Weekly work engagement and performance: a study among starting teachers. *J. Occup. Organ. Psychol.* 83:189–206
- Bakker AB, Demerouti E. 2007. The job demands–resources model: state of the art. *J. Manag. Psychol.* 22:309–28
- Bakker AB, Demerouti E. 2008. Towards a model of work engagement. *Career Dev. Int.* 13:209–23
- Bakker AB, Demerouti E. 2014. Job demands–resources theory. In *Wellbeing: A Complete Reference Guide*, ed. C Cooper, P Chen, pp. 37–64. Chichester, UK: Wiley-Blackwell
- Bakker AB, Demerouti E, Euwema MC. 2005a. Job resources buffer the impact of job demands on burnout. *J. Occup. Health Psychol.* 10:170–80
- Bakker AB, Demerouti E, Schaufeli WB. 2003a. Dual processes at work in a call centre: an application of the job demands–resources model. *Eur. J. Work Organ. Psychol.* 12:393–417
- Bakker AB, Demerouti E, Schaufeli WB. 2003b. The socially induced burnout model. In *Advances in Psychology Research*, Vol. 25, ed. SP Shohov, pp. 13–30. New York: Nova Sci.
- Bakker AB, Demerouti E, Schaufeli WB. 2005b. Crossover of burnout and work engagement among working couples. *Hum. Relat.* 58:661–89
- Bakker AB, Demerouti E, Ten Brummelhuis LL. 2012a. Work engagement, performance, and active learning: the role of conscientiousness. *J. Vocat. Behav.* 80:555–64
- Bakker AB, Demerouti E, Verbeke W. 2004. Using the job demands–resources model to predict burnout and performance. *Hum. Resour. Manag.* 43:83–104
- Bakker AB, Hakanen JJ, Demerouti E, Xanthopoulou D. 2007. Job resources boost work engagement particularly when job demands are high. *J. Educ. Psychol.* 99:274–84
- Bakker AB, Heuven E. 2006. Emotional dissonance, burnout, and in-role performance among nurses and police officers. *Int. J. Stress Manag.* 13:423–40
- Bakker AB, Leiter MP, eds. 2010. *Work Engagement: A Handbook of Essential Theory and Research*. New York: Psychol. Press
- Bakker AB, Oerlemans WGM, Ten Brummelhuis LL. 2013. Becoming fully engaged in the workplace: What individuals and organizations can do to foster work engagement. In *The Fulfilling Workplace: The Organization's Role in Achieving Individual and Organizational Health*, ed. RJ Burke, CL Cooper, pp. 55–69. Farnham, UK: Gower
- Bakker AB, Schaufeli WB, Leiter MP, Taris TW. 2008a. Work engagement: an emerging concept in occupational health psychology. *Work Stress* 22:187–200
- Bakker AB, Schaufeli WB, Sixma H, Bosveld W, Van Dierendonck D. 2000. Patient demands, lack of reciprocity, and burnout: a five-year longitudinal study among general practitioners. *J. Organ. Behav.* 21:425–41
- Bakker AB, Tims M, Derks D. 2012b. Proactive personality and job performance: the role of job crafting and work engagement. *Hum. Relat.* 65:1359–78
- Bakker AB, Van Emmerik H, Van Riet P. 2008b. How job demands, resources, and burnout predict objective performance: a constructive replication. *Anxiety Stress Coping* 21:309–24
- Bakker AB, Van Veldhoven MJPM, Xanthopoulou D. 2010. Beyond the demand-control model: thriving on high job demands and resources. *J. Pers. Psychol.* 9:3–16

- Bakker AB, Xanthopoulou D. 2009. The crossover of daily work engagement: test of an actor-partner interdependence model. *J. Appl. Psychol.* 94:1562-71
- Bakker AB, Xanthopoulou D. 2013. Creativity and charisma among female leaders: the role of resources and work engagement. *Int. J. Hum. Resour. Manag.* 24:2760-79
- Bateman TS, Crant JM. 1993. The proactive component of organizational behavior: a measure and correlates. *J. Organ. Behav.* 14:103-18
- Beal DJ, Weiss HM, Barros E, MacDermid SM. 2005. An episodic process model of affective influences on performance. *J. Appl. Psychol.* 90:1054-68
- Borritz M, Rugulies R, Christensen KB, Villadsen E, Kristensen T. 2006. Burnout as a predictor of self-reported sickness absence among human service workers: prospective findings from three year follow-up of the PUMA study. *J. Occup. Environ. Med.* 63:98-106
- Brunborg GS. 2008. Core self-evaluations: a predictor variable for job stress. *Eur. Psychol.* 13:96-102
- Buss DM. 1987. Selection, evocation, and manipulation. *J. Personal. Soc. Psychol.* 53:1214-21
- Cavanaugh MA, Boswell WR, Roehling MV, Boudreau JW. 2000. An empirical examination of self-reported work stress among U.S. managers. *J. Appl. Psychol.* 85:65-74
- Christian MS, Garza AS, Slaughter JE. 2011. Work engagement: a quantitative review and test of its relations with task and contextual performance. *Pers. Psychol.* 64:89-136
- Cole MS, Walter F, Bedeian AG, O'Boyle EH. 2012. Job burnout and employee engagement: a meta-analytic examination of construct proliferation. *J. Manag.* 38:1550-81
- Costa PT Jr, McCrae RR. 1992. *NEO PI-R Professional Manual*. Odessa, FL: Psychol. Assess. Resourc.
- Crant JM. 1995. The proactive personality scale and objective job performance among real estate agents. *J. Appl. Psychol.* 80:532-37
- Crawford ER, LePine JA, Rich BL. 2010. Linking job demands and resources to employee engagement and burnout: a theoretical extension and meta-analytic test. *J. Appl. Psychol.* 95:834-48
- Cropanzano R, Howes JC, Grandey AA, Toth P. 1997. The relationship of organizational politics and support to work behaviors, attitudes, and stress. *J. Organ. Behav.* 18:159-80
- Deci EL, Ryan RM. 2000. The "what" and "why" of goal pursuits: human needs and the self-determination of behaviour. *Psychol. Inq.* 11:227-68
- Demerouti E, Bakker AB. 2006. Employee well-being and job performance: where we stand and where we should go. In *Occupational Health Psychology: European Perspectives on Research, Education, and Practice*, Vol. 1, ed. S McIntyre, J Houdmont, pp. 83-111. Castelo da Maia, Port.: ISMAI
- Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. 2001. The job demands-resources model of burnout. *J. Appl. Psychol.* 86:499-512
- Demerouti E, Bakker AB, Vardakou I, Kantas A. 2003. The convergent validity of two burnout instruments: a multitrait-multimethod analysis. *Eur. J. Psychol. Assess.* 19:12-23
- Demerouti E, Cropanzano R. 2010. From thought to action: employee work engagement and job performance. See Bakker & Leiter 2010, pp. 147-63
- Demerouti E, Le Blanc PM, Bakker AB, Schaufeli WB, Hox J. 2009. Present but sick: a three-wave study on job demands, presenteeism and burnout. *Career Dev. Int.* 14:50-68
- Demerouti E, Mostert K, Bakker AB. 2010. Burnout and work engagement: a thorough investigation of the interdependency of both constructs. *J. Occup. Health Psychol.* 15:209-22
- Demerouti E, Van Eeuwijk E, Snelder M, Wild U. 2011. Assessing the effects of a "personal effectiveness" training on psychological capital, assertiveness and self-awareness using self-other agreement. *Career Dev. Int.* 16:60-81
- Dimotakis N, Ilies R. 2013. Experience-sampling and event-sampling research. In *A Day in the Life of a Happy Worker*, ed. AB Bakker, K Daniels, pp. 85-99. Hove, UK: Psychol. Press
- Etzion D. 1984. The moderating effect of social support on the relationship of stress and burnout. *J. Appl. Psychol.* 69:615-22
- Fredrickson B. 2001. The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions. *Am. Psychol.* 56:218-26
- Freudenberger HJ. 1974. Staff burnout. *J. Soc. Issues* 30:159-65

- González-Romá V, Schaufeli WB, Bakker AB, Lloret S. 2006. Burnout and work engagement: independent factors or opposite poles? *J. Vocat. Behav.* 68:165–74
- Gruman JA, Saks AM. 2011. Performance management and employee engagement. *Hum. Resour. Manag. Rev.* 21:123–36
- Hahn VC, Binnewies C, Sonnentag S, Mojza EJ. 2011. Learning how to recover from job stress: effects of a recovery training program on recovery, recovery-related self-efficacy, and well-being. *J. Occup. Health Psychol.* 16:202–16
- Hakanen JJ, Bakker AB, Demerouti E. 2005. How dentists cope with their job demands and stay engaged: the moderating role of job resources. *Eur. J. Oral Sci.* 113:479–87
- Hakanen J, Bakker AB, Schaufeli WB. 2006. Burnout and work engagement among teachers. *J. Sch. Psychol.* 43:495–513
- Hakanen JJ, Perhoniemi R, Toppinen-Tanner S. 2008. Positive gain spirals at work: from job resources to work engagement, personal initiative and work-unit innovativeness. *J. Vocat. Behav.* 73:78–91
- Hakanen JJ, Schaufeli WB. 2012. Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *J. Affect. Disord.* 141:415–24
- Halbesleben JRB. 2010. A meta-analysis of work engagement: relationships with burnout, demands, resources, and consequences. See Bakker & Leiter 2010, pp. 102–11
- Halbesleben JRB, Wheeler AR. 2008. The relative role of engagement and embeddedness in predicting job performance and turnover intention. *Work Stress* 22:242–56
- Harter JK, Schmidt FL, Hayes TL. 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *J. Appl. Psychol.* 87:268–79
- Hillhouse JJ, Adler CM, Walters DN. 2000. A simple model of stress, burnout and symptomatology in medical residents: a longitudinal study. *Psychol. Health Med.* 5:63–73
- Hobfoll SE, Johnson RJ, Ennis N, Jackson AP. 2003. Resource loss, resource gain, and emotional outcomes among inner city women. *J. Personal. Soc. Psychol.* 84:632–43
- Judge TA, Bono JE, Erez A, Locke EA. 2005. Core self-evaluations and job and life satisfaction: the role of self-concordance and goal attainment. *J. Appl. Psychol.* 90:257–68
- Judge TA, Bono JE, Locke EA. 2000. Personality and job satisfaction: the mediating role of job characteristics. *J. Appl. Psychol.* 85:237–49
- Judge TA, Van Vianen AEM, De Pater IE. 2004. Emotional stability, core self-evaluations, and job outcomes: a review of the evidence and an agenda for future research. *Hum. Perform.* 17:325–46
- Kahn WA. 1990. Psychological conditions of personal engagement and disengagement at work. *Acad. Manag. J.* 33:692–724
- Kahn WA. 1992. To be fully there: psychological presence at work. *Hum. Relat.* 45:321–49
- Kant I, Jansen NWH, Van Amelsvoort LGPM, Mohren DCL, Swaen GMH. 2004. Burnout in de werkende bevolking. Resultaten van de Maastrichtse Cohort Studie [Burnout in the working population. Results of the Maastricht Cohort Study]. *Gedrag Organ.* 17:5–17
- Kim HJ, Ji J, Kao D. 2011. Burnout and physical health among social workers: a three-year longitudinal study. *Soc. Work* 56:258–68
- Kompier MAJ, Cooper CL, Geurts SAE. 2000. A multiple case study approach to work stress prevention in Europe. *Eur. J. Work Organ. Psychol.* 9:371–400
- Längle A. 2003. Burnout: existential meaning and possibilities of prevention. *Eur. Psychother.* 4:107–21
- Lee RT, Ashforth BE. 1996. A meta-analytic examination of the correlates of the three dimensions of job burnout. *J. Appl. Psychol.* 81:123–33
- Leiter MP, Maslach C. 2006. Burnout. In *Encyclopedia of Mental Health*, Vol. 1, ed. H Friedman, pp. 358–62. Toronto: Academic
- Linley PA, Harrington S. 2006. Playing to your strengths. *Psychologist* 19:86–89
- Luthans F, Avey JB, Avolio BJ, Norman SM, Combs GJ. 2006. Psychological capital development: toward a micro-intervention. *J. Organ. Behav.* 27:387–93
- Luthans F, Youssef CM. 2007. Emerging positive organizational behavior. *J. Manag.* 33:321–49
- Macey WH, Schneider B. 2008. The meaning of employee engagement. *Ind. Organ. Psychol.* 1:3–30

- Mäkikangas A, Feldt T, Kinnunen U, Mauno S. 2013. Does personality matter? Research on individual differences in occupational well-being. In *Advances in Positive Organizational Psychology*, Vol. 1, ed. AB Bakker, pp. 107–43. Bingley, UK: Emerald
- Maslach C, Jackson SE. 1981. The measurement of experienced burnout. *J. Occup. Behav.* 2:99–113
- Maslach C, Jackson SE. 1984. Patterns of burnout among a national sample of public contact workers. *J. Health Hum. Resour. Adm.* 7:189–212
- Maslach C, Leiter MP. 1997. *The Truth About Burnout: How Organizations Cause Personal Stress and What to Do About It*. San Francisco, CA: Jossey-Bass
- Maslach C, Leiter MP. 2008. Early predictors of burnout and work engagement. *J. Appl. Psychol.* 93:498–512
- Maslach C, Schaufeli WB, Leiter MP. 2001. Job burnout. *Annu. Rev. Psychol.* 52:397–422
- Mauno S, Kinnunen U, Ruokolainen M. 2007. Job demands and resources as antecedents of work engagement: a longitudinal study. *J. Vocat. Behav.* 70:149–71
- Melamed S, Shirom A, Froom P. 2003. *Burnout and risk of type 2 diabetes mellitus (DM) in Israeli workers*. Presented at the Work, Stress & Health Conf., Toronto
- Mohren DC, Swaen GM, Kant IJ, Van Amelsvoort LG, Borm PJ, Galama JM. 2003. Common infections and the role of burnout in a Dutch working population. *J. Psychosom. Res.* 55:201–8
- Nahrgang JD, Morgeson FP, Hofmann DA. 2011. Safety at work: a meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *J. Appl. Psychol.* 96:71–94
- Parker SK, Bindl U, Strauss K. 2010. Making things happen: a model of proactive motivation. *J. Manag.* 36:827–56
- Parker SK, Griffin MA. 2011. Understanding active psychological states: embedding engagement in a wider nomological net and closer attention to performance. *Eur. J. Work Organ. Psychol.* 20:60–67
- Parker SK, Ohly S. 2008. Designing motivating work. In *Work Motivation: Past, Present, and Future*, ed. R Kanfer, G Chen, RD Pritchard, pp. 233–384. New York: Routledge
- Peterson U, Bergström G, Demerouti E, Gustavsson P, Åsberg M, Nygren A. 2011. Burnout levels and self-rated health prospectively predict future long-term sickness absence: a study among female health professionals. *J. Occup. Environ. Med.* 53:788–93
- Peterson U, Demerouti E, Bergström G, Samuelsson M, Åsberg M, Nygren Å. 2008. Burnout and physical and mental health among Swedish healthcare workers. *J. Adv. Nurs.* 62:84–95
- Petrou P, Demerouti E, Peeters MCW, Schaufeli WB, Hetland J. 2012. Crafting a job on a daily basis: contextual correlates and the link to work engagement. *J. Organ. Behav.* 33:1120–41
- Pick D, Leiter MP. 1991. Nurses' perceptions of the nature and causes of burnout: a comparison of self-reports and standardized measures. *Can. J. Nurs. Res.* 23:33–48
- Rafii F, Oskouie F, Nikravesh M. 2004. Factors involved in nurses' responses to burnout: a grounded theory study. *BMC Nurs.* 3:6
- Rodríguez-Muñoz A, Sanz-Vergel AI, Demerouti E, Bakker AB. 2014. Engaged at work and happy at home: a spillover-crossover model. *J. Happiness Stud.* In press. doi: 10.1007/s10902-013-9421-3
- Salanova M, Agut S, Peiró JM. 2005. Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *J. Appl. Psychol.* 90:1217–27
- Salanova M, Lorente L, Chambel MJ, Martínez IM. 2011. Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. *J. Adv. Nurs.* 67:2256–66
- Schaufeli WB, Bakker AB. 2004. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *J. Organ. Behav.* 25:293–315
- Schaufeli WB, Bakker AB, Van Rhenen W. 2009a. How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *J. Organ. Behav.* 30:893–917
- Schaufeli WB, Enzmann D. 1998. *The Burnout Companion to Study and Practice: A Critical Analysis*. London: Taylor & Francis
- Schaufeli WB, Leiter MP, Maslach C. 2009b. Burnout: thirty-five years of research and practice. *Career Dev. Int.* 14:204–20

- Schaufeli WB, Leiter MP, Maslach C, Jackson SE. 1996. The Maslach Burnout Inventory–General Survey. In *MBI Manual*, ed. C Maslach, SE Jackson, MP Leiter, pp. 19–26. Palo Alto, CA: Consult. Psychol. 3rd ed.
- Schaufeli WB, Salanova M, González-Romá V, Bakker AB. 2002. The measurement of burnout and engagement: a confirmatory factor analytic approach. *J Happiness Stud.* 3:71–92
- Schaufeli WB, Taris TW, Le Blanc P, Peeters M, Bakker AB, De Jonge J. 2001. Maakt arbeid gezond? Op zoek naar de bevlogen werknemer [Does work make people happy? In search of the engaged worker]. *Psycholoog* 36:422–28
- Schaufeli WB, Van Rhenen W. 2006. Over de rol van positieve en negatieve emoties bij het welbevinden van managers: een studie met de Job-related Affective Well-being Scale (JAWS) [About the role of positive and negative emotions in managers' well-being: a study using the Job-related Affective Well-being Scale (JAWS)]. *Gedrag Organ.* 19:323–44
- Semmer N, Meier L. 2009. Individual differences, work stress and health. In *International Handbook of Work and Health Psychology*, ed. CL Cooper, JC Quick, MJ Schabracq, pp. 99–122. Chichester, UK: Wiley. 3rd ed.
- Seppälä P, Mauno S, Kinnunen ML, Feldt T, Juuti T, et al. 2012. Is work engagement related to healthy cardiac autonomic activity? Evidence from a field study among Finnish women workers. *J. Posit. Psychol.* 7:95–106
- Shirom A, Melamed S. 2006. A comparison of the construct validity of two burnout measures among two groups of professionals. *Int. J. Stress Manag.* 13:176–200
- Shirom A, Melamed S, Toker S, Berliner S, Shapira I. 2005. Burnout and health review: current knowledge and future research directions. *Int. Rev. Ind. Organ. Psychol.* 20:269–307
- Simbula S. 2010. Daily fluctuations in teachers' well-being: a diary study using the job demands–resources model. *Anxiety Stress Coping* 23:563–84
- Sonnentag S. 2003. Recovery, work engagement, and proactive behavior: a new look at the interface between nonwork and work. *J. Appl. Psychol.* 88:518–28
- Sonnentag S. 2005. Burnout research: adding an off-work and day-level perspective. *Work Stress* 19:271–75
- Sonnentag S. 2011. Research on work engagement is well and alive. *Eur. J. Work Organ. Psychol.* 20:29–38
- Sonnentag S, Dormann C, Demerouti E. 2010. Not all days are created equal: the concept of state work engagement. See Bakker & Leiter 2010, pp. 25–38
- Sonnentag S, Mojza EJ, Demerouti E, Bakker AB. 2012. Reciprocal relations between recovery and work engagement: the moderating role of job stressors. *J. Appl. Psychol.* 97:842–53
- Taris TW. 2006. Is there a relationship between burnout and objective performance? A critical review of 16 studies. *Work Stress* 20:316–34
- Ten Brummelhuis LL, Bakker AB. 2012. Staying engaged during the week: the effect of off-job activities on next day work engagement. *J. Occup. Health Psychol.* 17:445–55
- Tims M, Bakker AB, Derks D. 2012. The development and validation of the job crafting scale. *J. Vocat. Behav.* 80:173–86
- Tims M, Bakker AB, Derks D. 2013. The impact of job crafting on job demands, job resources, and well-being. *J. Occup. Health Psychol.* 18:230–40
- Toker S, Biron M. 2012. Job burnout and depression: unraveling their temporal relationship and considering the role of physical activity. *J. Appl. Psychol.* 97:699–710
- Toppinen-Tanner S, Ojajarvi A, Väänänen A, Kalimo R, Jäppinen P. 2005. Burnout as a predictor of medically certified sick-leave absences and their diagnosed causes. *Behav. Med.* 31:18–27
- Van Gelderen BR, Bakker AB, Konijn EA, Demerouti E. 2011. Daily suppression of discrete emotions during the work of police service workers and criminal investigation officers. *Anxiety Stress Coping* 24:515–37
- Wright TA, Bonett DG. 1997. The contribution of burnout to work performance. *J. Organ. Behav.* 18:491–99
- Wrzesniewski A, Dutton JE. 2001. Crafting a job: revisioning employees as active crafters of their work. *Acad. Manag. Rev.* 26:179–201

- Xanthopoulou D, Bakker AB, Demerouti E, Schaufeli WB. 2007. The role of personal resources in the job demands-resources model. *Int. J. Stress Manag.* 14:121–41
- Xanthopoulou D, Bakker AB, Demerouti E, Schaufeli WB. 2009a. Reciprocal relationships between job resources, personal resources, and work engagement. *J. Vocat. Behav.* 74:235–44
- Xanthopoulou D, Bakker AB, Demerouti E, Schaufeli WB. 2009b. Work engagement and financial returns: a diary study on the role of job and personal resources. *J. Occup. Organ. Psychol.* 82:183–200
- Xanthopoulou D, Bakker AB, Heuven E, Demerouti E, Schaufeli WB. 2008. Working in the sky: a diary study on work engagement among flight attendants. *J. Occup. Health Psychol.* 13:345–56



Contents

What Was, What Is, and What May Be in OP/OB <i>Lyman W. Porter and Benjamin Schneider</i>	1
Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct <i>Amy C. Edmondson and Zhike Lei</i>	23
Personality and Cognitive Ability as Predictors of Effective Performance at Work <i>Neal Schmitt</i>	45
Perspectives on Power in Organizations <i>Cameron Anderson and Sebastien Brion</i>	67
Work–Family Boundary Dynamics <i>Tammy D. Allen, Eunae Cho, and Laurenz L. Meier</i>	99
Coworkers Behaving Badly: The Impact of Coworker Deviant Behavior upon Individual Employees <i>Sandra L. Robinson, Wei Wang, and Christian Kiewitz</i>	123
The Fascinating Psychological Microfoundations of Strategy and Competitive Advantage <i>Robert E. Ployhart and Donald Hale, Jr.</i>	145
Employee Voice and Silence <i>Elizabeth W. Morrison</i>	173
The Story of Why We Stay: A Review of Job Embeddedness <i>Thomas William Lee, Tyler C. Burch, and Terence R. Mitchell</i>	199
Where Global and Virtual Meet: The Value of Examining the Intersection of These Elements in Twenty-First-Century Teams <i>Cristina B. Gibson, Laura Huang, Bradley L. Kirkman, and Debra L. Shapiro</i>	217

Learning in the Twenty-First-Century Workplace <i>Raymond A. Noe, Alena D.M. Clarke, and Howard J. Klein</i>	245
Compassion at Work <i>Jane E. Dutton, Kristina M. Workman, and Ashley E. Hardin</i>	277
Talent Management: Conceptual Approaches and Practical Challenges <i>Peter Cappelli and JR Keller</i>	305
Research on Workplace Creativity: A Review and Redirection <i>Jing Zhou and Inga J. Hoever</i>	333
The Contemporary Career: A Work–Home Perspective <i>Jeffrey H. Greenhaus and Ellen Ernst Kossek</i>	361
Burnout and Work Engagement: The JD–R Approach <i>Arnold B. Bakker, Evangelia Demerouti, and Ana Isabel Sanz-Vergel</i> . . .	389
The Psychology of Entrepreneurship <i>Michael Frese and Michael M. Gielnik</i>	413
Delineating and Reviewing the Role of Newcomer Capital in Organizational Socialization <i>Talya N. Bauer and Berrin Erdogan</i>	439
Emotional Intelligence in Organizations <i>Stéphane Côté</i>	459
Intercultural Competence <i>Kwok Leung, Soon Ang, and Mei Ling Tan</i>	489
Pay Dispersion <i>Jason D. Shaw</i>	521
Constructively Managing Conflicts in Organizations <i>Dean Tjosvold, Alfred S.H. Wong, and Nancy Yi Feng Chen</i>	545
An Ounce of Prevention Is Worth a Pound of Cure: Improving Research Quality Before Data Collection <i>Herman Aguinis and Robert J. Vandenberg</i>	569

Errata

An online log of corrections to *Annual Review of Organizational Psychology and Organizational Behavior* articles may be found at <http://www.annualreviews.org/errata/orgpsych>.