Different Types of Employee Well-Being Across Time and Their Relationships With Job Crafting

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We used and integrated the circumplex model of affect (Russell, 1980) and the conservation of resources theory (Hobfoll, 1998) to hypothesize how various types of employee well-being, which can be differentiated on theoretical grounds (i.e., work engagement, job satisfaction, burnout, and workaholism), may differently predict various job crafting behaviors (i.e., increasing structural and social resources and challenging demands, and decreasing hindering demands) and each other over time. At Time 1, we measured employee well-being, and 4 years later at Time 2, job crafting and well-being, using a large sample of Finnish dentists (N = 1,877). The results of structural equation modeling showed that (a) work engagement positively predicted both types of increasing resources and challenging demands and negatively predicted decreasing hindering demands; (b) workaholism positively predicted increasing structural resources and challenging demands; (c) burnout positively predicted decreasing hindering demands and negatively predicted increasing structural resources, whereas (d) job satisfaction did not relate to job crafting over time; and (e) work engagement positively influenced job satisfaction and negatively influenced burnout, whereas (f) workaholism predicted burnout after controlling for baseline levels. Thus, work engagement was a stronger predictor of future job crafting and other types of employee well-being than job satisfaction. Although workaholism was positively associated with job crafting, it also predicted burnout. We conclude that the relationship between job crafting and employee well-being may be more complex than assumed, because the way in which employees will craft their jobs in the future seems to depend on how they currently feel.

Keywords: job crafting, work engagement, job satisfaction, burnout, workaholism

Despite a vast amount of research on individual types of employee well-being, such as burnout, work engagement, job satisfaction, and workaholism, very little is known about how they may impact *each other* over time. Moreover, the unique contributions to outcomes of these different types of employee well-being, such as job crafting, are also rarely investigated in the same study. How employees feel at work may have an impact on their behavior at work, and also in the long run. For both theoretical and practical

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reasons, it is important to know the potential consequences of different types of employee well-being, and also in comparison with each other.

One important type of organizational behavior is job crafting, that is, how employees shape their jobs in order to align them with their own abilities, needs, and preferences (Wrzesniewski & Dutton, 2001). It is already acknowledged that job crafting, as a bottom-up approach to job redesign, may fruitfully complement traditional top-down job design approaches (Demerouti, 2014). Several studies have now found that job crafting may, for example, increase employees' psychological capital (Vogt, Hakanen, Brauchli, Gregor, & Bauer, 2016) and job resources (Tims, Bakker, & Derks, 2013; van den Heuvel, Demerouti, & Peeters, 2015), enhance meaningfulness on a weekly level (Tims, Derks, & Bakker, 2016), reduce exhaustion (Petrou, Demerouti, & Schaufeli, 2015), and increase task performance (Leana, Appelbaum, & Shevchuk, 2009), creativity, and contextual performance (Demerouti, Bakker, & Gevers, 2015).

The most consistent finding in job crafting research, however, is that it impacts on work engagement (for an overview, see Demerouti, 2014). Apparently, job crafting helps employees become or stay engaged in their work. However, so far, the reversed relationship, that is, whether work engagement—and also other types of employee well-being, such as job satisfaction, burnout, and worka-

holism—influences different types of job crafting has not been systematically investigated. Therefore, the first aim of the current study is to examine the extent to which different types of positive (i.e., job satisfaction and work engagement) and negative (i.e., workaholism and burnout) well-being predict different types of job crafting behaviors.

Another ongoing debate concerns the temporal order of these different types of employee well-being. For example, it has been suggested that work engagement could lead to workaholism (Bakker, Albrecht, & Leiter, 2011) or, alternatively, to burnout (Schaufeli & Salanova, 2011). The latter point was already suggested in the early theories of burnout, when Pines, Aronson, and Kafry (1981, p. 4) wrote that "in order to burn out a person needs to have been on fire at one time." However, so far, there has been very little research on this hypothesis. Hence, the second aim of the current study is to investigate how different positive and negative types of well-being predict each other across time.

We combine the circumplex model of affect (Russell, 1980) and the conservation of resources (COR) theory (Hobfoll, 1998) to hypothesize why different types of employee well-being may predict both job crafting behaviors as well as other types of future employee well-being. According to the circumplex model, two dimensions constitute affective well-being, namely, pleasure (how one is feeling) and activation (mobilization of energy; Russell, 1980). Four types of employee well-being can be plotted into this model: work engagement, job satisfaction, burnout, and workaholism (see Figure 1). In addition, we focus on the basic tenet of the COR theory, which states that people are motivated to protect and maintain their current resources and to acquire new resources (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). Based on the COR theory (Hobfoll, 1998), we hypothesize that one's activation level determines the extent to which new resources are acquired by job crafting rather than that current resources are protected. Moreover, we reason that this activation level, together with the valence (pleasant-unpleasant) of wellbeing, also predicts future employee well-being.

With this study, we contribute to employee well-being and job crafting research in four ways. First, according to Warr and Inceoglu (2012), "there have been surprisingly few conceptually based empirical comparisons between the correlates of different

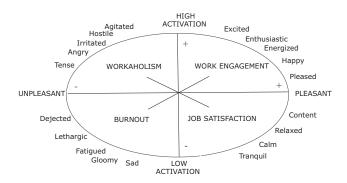


Figure 1. A two-dimensional view on well-being at work (Bakker & Oerlemans, 2011). From "A circumplex model of affect," by J. A. Russell, 1980, Journal of Personality and Social Psychology, 39, p. 1167 Copyright [1980] by the American Psychological Association. Adapted with permission).

forms of well-being" (p. 129). In this study, we investigate both the temporal dynamics between four conceptually different types of employee well-being (i.e., work engagement, job satisfaction, burnout, and workaholism) and their unique impact on future job crafting behaviors. By doing so, we will shed light on the possible impacts of these four types of employee well-being over and above each other. Second, by combining the COR theory (Hobfoll, 1998) and the circumplex model of affect (Russell, 1980), we focus on some of the neglected aspects (e.g., resource investments, protecting vs. gaining resources) of COR theory. We will have a closer look at these theoretical principles in the context of occupational health psychology and make some novel predictions based on COR theory and the circumplex model. Third, we will investigate job crafting as an outcome of different types of employee wellbeing. Job crafting has often been considered a predictor of employee well-being, but testing the reversed relationship may suggest more complex dynamics between the two. Fourth, unlike most other studies, which have excluded decreasing hindering demands, we investigated all four types of job crafting, as distinguished by Tims, Bakker, and Derks (2012).

Job Crafting

Wrzesniewski and Dutton (2001, p. 179) coined the term "job crafting" and defined it as "the physical and cognitive changes individuals make in the task or relational boundaries of their work." Originally, they distinguished three forms of job crafting: (a) changes in number, scope, and type of job tasks (e.g., voluntarily participating in a new project); (b) changes in the quality and/or amount of interactions with whom one interacts at work (e.g., expressing appreciation to colleagues); and (c) changes in cognitive task boundaries (e.g., the way one experiences the meaning of one's job).

Inspired by the original definition of job crafting and the job demands-resources model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), Tims and Bakker (2010) proposed an alternative conceptualization of job crafting. According to their definition, employees may make self-initiated changes to the levels of their job demands and job resources in order to better align these with their own abilities and preferences. More specifically, crafting job resources could take the form of increasing structural resources (e.g., developing oneself professionally or trying to learn new things) or increasing social resources (e.g., asking for performance feedback or asking whether one's supervisor is satisfied with one's work). In addition, increasing challenging demands consists of seeking new, challenging tasks at work (e.g., voluntarily taking on new, additional responsibilities or extra tasks). These three forms of job crafting (i.e., increasing structural and social resources, and challenging demands) can be labeled expansive job crafting (Wrzesniewski & Dutton, 2001). The fourth type of job crafting, according to Tims and Bakker (2010), is decreasing hindering demands (e.g., avoiding contact with emotionally demanding clients or making sure that one's job is mentally less demanding). The distinction between these two types of demand-related job crafting is based on accumulating research evidence that certain job demands ("hindrances") have exclusively negative effects on employees, whereas certain other demands ("challenges") may also have positive consequences (e.g., Lepine, Podsakoff, & Lepine, 2005). In contrast to expansive types of job crafting, decreasing hindering demands has been viewed as a coping mechanism to protect health when job demands are excessively high (Demerouti, 2014). In the current study, we use the conceptualization of job crafting as proposed by Tims and Bakker (2010) because it has been widely used in recent job crafting research that focuses on employee well-being.

Employee Well-Being and Job Crafting

Using Russell's (1980) circumplex model of emotions, it is possible to map different types of employee well-being (see Figure 1). This model assumes that all human emotions may be plotted on the surface of a circle that is defined by two orthogonal dimensions that run from pleasure to displeasure and from activation to deactivation. In a similar vein, both dimensions may constitute employee well-being (Bakker & Oerlemans, 2011; Salanova, Del Líbano, Llorens, & Schaufeli, 2014). That is, employees who experience displeasure at work may suffer from burnout or workaholism, whereas employees who experience pleasure may feel satisfied or engaged. In addition, employees may feel either activated at work—as in workaholism and engagement—or deactivated or only moderately activated—as in burnout and satisfaction.

More specifically, work engagement has been defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, González-Roma, & Bakker, 2002, p. 74). Thus, engaged workers have high levels of energy and are involved, fully focused on, and happily engrossed in their work. Job satisfaction refers to a moderate to low level of arousal that is experienced as a pleasant positive state and is defined as "a pleasurable or positive emotional state resulting from an appraisal of one's job or job experiences" (Locke, 1969, p. 1300). Burnout, in turn, is characterized by low arousal and unpleasant feelings, and was originally defined as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people" (Maslach & Jackson, 1986, p. 1). Finally, the upper left part of Figure 1, characterized by high but unpleasant activation, is typical of workaholism, which is defined as "the tendency to work excessively hard in a compulsive way" (Schaufeli, Taris, & Bakker, 2008, p. 204)—working excessively hard, referring to the behavioral component, and working compulsively, referring to the cognitive component, of workaholism.

As mentioned earlier, most existing studies that have investigated job crafting and employee well-being have focused on work engagement as a potential outcome of job crafting, whereas only a few studies have examined burnout (e.g., Nielsen & Abildgaard, 2012; Petrou et al., 2015; Tims et al., 2013) or job satisfaction (Leana et al., 2009; Tims et al., 2013), and we could not find any studies on job crafting and workaholism. Moreover, only very few studies have tested the reversed relationship, that is, whether employee well-being might predict job crafting. For instance, in their 3-month follow-up study, Lu, Wang, Lu, Du, and Bakker (2014) found that work engagement predicted an increase in both relational (interacting with people) and physical boundaries (autonomy, task identity, and job variety) in job crafting. In addition, Tims, Bakker, and Derks (2015a) found, in their 2-month follow-up study, that work engagement at Time 1 (T1) predicted expansive (but not decreasing hindering demands) job crafting at Time 2 (T2), which, in its turn, predicted work engagement at

Time 3 (T3). Moreover, Petrou et al. (2015) found that exhaustion, a key-symptom of burnout, predicted more job crafting in terms of decreasing hindering demands. The main difference between these three studies and ours is that instead of focusing exclusively on either work engagement or exhaustion, we simultaneously investigate four conceptually different types of employee well-being and also test their temporal dynamics.

All in all, most studies confirm that increasing job resources and challenges increase work engagement and they may also decrease burnout. In contrast, evidence of the reverse—namely, that work engagement, job satisfaction, burnout, and workaholism might predict job crafting—is at best inconclusive or altogether lacking.

Why Would Employee Well-Being Predict Job Crafting?

To build our hypotheses on how positive and negative types of well-being predict job crafting behaviors, we draw on the COR theory (Hobfoll, 1998). According to COR, people are motivated to protect and maintain their current resources (conservation) and to acquire new resources (acquisition). The theory defines resources as valued entities, which can be objects (e.g., proper work tools), conditions (e.g., social support), personal characteristics (e.g., self-esteem), or "energy" (e.g., work engagement). Following on from the basic tenet of protecting and acquiring resources is COR's resource investment principle, that is, individuals must invest resources to protect against resource loss, to recover from losses, and to gain new resources. A related corollary to this principle is that those with more resources are less vulnerable to resource loss and more capable of gaining new resources, whereas those with fewer resources are less capable of resource gain and more likely to adapt a defensive posture to conserve their resources (Hobfoll, 1998). Following the COR theory, we expect different types of employee well-being (i.e., different combinations of activation and pleasure at work) to predict the extent to which existing resources protect or new resources are acquired in the form of job crafting behaviors.

Work Engagement

Work engagement can be considered a resource and has also been considered a "surplus resource" that results from having sufficient job and personal resources that exceed the demands of one's job (Halbesleben, Harvey, & Bolino, 2009; Hakanen & Peeters, 2015). Because of these surplus resources, engaged employees are more proactive at work (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008) and are thus more likely to craft their jobs by, for instance, increasing structural and social resources and by seeking new challenges, so that they will also remain engaged in the future. Following this line of reasoning, engaged employees are more unlikely to craft their jobs by reducing hindering demands. This is because engaged employees, when facing stressors, can draw on many job and personal resources, such as social support at work and self-efficacy, which may neutralize the negative impact of job stressors (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Thus, taken together, COR theory and previous research lead us to formulate our first set of hypotheses:

Hypothesis 1: Higher levels of work engagement at T1 are related to higher levels of job crafting to increase structural resources (H1a), social resources (H1b), and challenging demands (H1c), and to lower levels of job crafting to decrease hindering demands (H1d) at T2, after controlling for work engagement (and other types of employee well-being) at T2.

Workaholism

Even more so than engaged employees, workaholics are inclined to invest their resources (e.g., time, energy, attention, emotions) in work, and regardless of whether they fail or succeed, will continue to do so, often at the expense of their private and family lives (Hakanen & Peeters, 2015). As noted before, there is as yet no research on how workaholism relates to job crafting. However, because workaholism is characterized by self-imposed demands (Schaufeli et al., 2008), we expect workaholism to be positively related to increasing challenging demands. On the one hand, workaholics take up new challenges and tasks, irrespective of the resources they may draw upon. On the other hand, because they feel a strong drive to do whatever they feel is important at work, workaholics are also more likely to withdraw from emotionally demanding tasks and people they consider obstacles to achieving their goals. Therefore, we assume that workaholism is positively related to decreasing hindering demands. However, as regards increasing one's job resources, the picture is somewhat more complicated. Workaholics are known to be poor at delegating tasks and they may behave in a hostile manner toward their colleagues at work (Scott, Moore, & Miceli, 1997). In addition, they question the contribution of their coworkers and distrust others as far as the use of resources in concerned (Porter, 1996). More generally, research evidence suggests that workaholism is related to a lack of job resources such as social support (Schaufeli et al., 2008) and social capital (Hakanen, Rodríguez-Sánchez, & Perhoniemi, 2012). These indications of poor social relationships and collaboration at work imply that, although workaholics would badly need such social resources, they are not likely to proactively pursue them. Therefore, we do not expect workaholism to predict the crafting of social resources. However, we do expect workaholism, similar to work engagement, to predict increasing structural resources. As workaholics are obsessed with their work, they invest all their capabilities in their jobs, aiming to further develop these capacities as well as manage their job demands—that is, to craft their jobs by increasing structural resources (Tims et al., 2012). Therefore, we hypothesize the following:

Hypothesis 2: Higher levels of workaholism at T1 are related to higher levels of job crafting to increase structural resources (H2a) and challenging demands (H2b), and to higher levels of job crafting to decrease hindering demands (H2c) at T2, after controlling for workaholism (and other types of employee well-being) at T2.

Burnout

Burnout is related to energy depletion and a chronic lack of resources. Therefore, burned-out employees lack the required energy for investing in acquiring new resources or taking on new challenges, which are typical of expansive job crafting (Hobfoll, 1998). According to the COR theory (Hobfoll & Freedy, 1993), employees suffering from burnout are likely to adopt a defensive posture to *protect* existing resources and not invest in gaining new ones by job crafting. Instead, because of exhaustion and depersonalization, burnout is likely to increase behaviors aimed at reducing demands, such as interacting with difficult clients, as a way to cope with work overload. This is illustrated by the 2-month follow-up study of Petrou and his colleagues (2015), which found that exhaustion predicted reducing hindering demands. Hence, we hypothesize the following:

Hypothesis 3: Higher levels of burnout at T1 are related to higher levels of job crafting to decrease hindering demands at T2, after controlling for burnout (and other types of employee well-being) at T2.

Job Satisfaction

Finally, like work engagement, job satisfaction is a positive state. However, unlike work engagement, it is characterized by low to moderate arousal and is typified by relaxation and satiation rather than by energy and drive. Tellingly, Warr and Inceoglu (2012) found that engagement was related to poor person-job fit, whereas job satisfaction was related to experiences of good fit. This finding suggests that satisfied employees are content with their jobs, do not feel overloaded, and can draw upon sufficient resources. As a result, there is no need to reduce hindrance demands. In addition, we expect that, similar to burnout, job satisfaction, albeit not related to lack of resources, may lead to protection of existing resources, as it is characterized by being content with the present person-job fit (Warr & Inceoglu, 2012). Therefore, satisfied employees may not feel motivated to actively seek new resources or challenges. Thus, we do not expect job satisfaction to significantly predict any of the job crafting behaviors at T2:

Hypothesis 4: Job satisfaction is not related to job crafting behaviors over time.

The Dynamics of Employee Well-Being

Studies that focus on more than one type of employee well-being, such as work engagement and burnout, usually ignore their relationship across time. Instead, they are often treated equivalently, for example, as parallel mediators in the job demands-resources model (e.g., Hakanen, Schaufeli, & Ahola, 2008; Schaufeli & Bakker, 2004). However, it is important to unravel their dynamics, that is, how they may influence each other over time. This would contribute to our understanding of the potential detrimental or beneficial effects of different types of employee well-being.

Using a similar line of reasoning as above, and based on the COR theory, we expect work engagement—as it is accompanied by surplus resources—to predict less burnout over time. This assumption is supported by a host of previous longitudinal studies that suggest that work engagement may promote health and wellbeing (Airila et al., 2014; Hakanen & Schaufeli, 2012; Seppälä et al., 2012). Therefore, we hypothesize the following, in contrast to earlier, popular speculations (e.g., Pines et al., 1981):

Hypothesis 5a: Work engagement at T1 negatively predicts burnout at T2, after controlling for burnout (and other types of employee well-being) at T1.

In addition, as engaged employees are likely to experience a person–job mismatch (Warr & Inceoglu, 2012), abolishing this mismatch (by job crafting) will result in higher job satisfaction in the long term. Therefore, we hypothesize the following:

Hypothesis 5b: Work engagement at T1 positively predicts job satisfaction at T2, after controlling for job satisfaction (and other types of employee well-being) at T1.

As workaholism is characterized by excessive and compulsive working (Schaufeli et al., 2008), workaholics run the risk of depleting their energy. This is amplified by the fact that they do not recover sufficiently from their efforts at work (Bakker, Demerouti, Oerlemans, & Sonnentag, 2013) and that they extensively invest their own resources in their work (Schaufeli et al., 2008). As a result of insufficient recovery and resource losses, it is likely that the energy of workaholics is drained, which may eventually lead to burnout (van Wijhe, Peeters, & Schaufeli, 2014). Therefore, we hypothesize the following

Hypothesis 6: Workaholism at T1 positively predicts burnout at T2, after controlling for burnout (and other types of employee well-being) at T1.

On the basis of Figure 1, we expect burnout to have a negative impact on both job satisfaction and work engagement. The former is compatible not only with a myriad of cross-sectional studies (for a review, see Faragher, Cass, & Cooper, 2005) but also with longitudinal studies (e.g., Ybema, Smulders, & Bongers, 2010). Although many cross-sectional studies have observed a negative relationship between burnout and engagement (for a review see, Crawford, Lepine, & Rich, 2010), so far, the negative impact of burnout on work engagement has not been demonstrated in previous studies. We hypothesize the following:

Hypothesis 7: Burnout at T1 negatively predicts job satisfaction (H7a) and work engagement (H7b) at T2, after controlling for job satisfaction and work engagement (and other types of employee well-being) at T1.

Finally, for the same reasons as with predictions concerning job crafting, we do not expect job satisfaction, as a low to moderate activation—albeit positive—state, to significantly predict other types of employee well-being:

Hypothesis 8: Job satisfaction at T1 is not predicting work engagement, burnout, or workaholism at T2, after controlling for baseline levels of work engagement, burnout, and workaholism at T1.

Method

Participants

This study was part of a longitudinal research project that focused on health and well-being in Finnish dentistry. Study and consent procedures were approved in accordance with the Research Ethics Committee of the Finnish Institute of Occupational Health. A questionnaire survey was sent to all dentist members of the Finnish Dental Association (FDA; n=4,290). Altogether, 2,897 (67.5%) dentists responded to the questionnaire at baseline

(T1), and 1,877 of those identified 4 years later took part in the follow-up (T2; 65.0%). The respondents represented the population of Finnish dentists relatively well in terms of gender, age, and native language. In total, 73% (70% in the population) of the dentists were female. Their mean age was 48.83 years (SD = 8.33), and their average job tenure at baseline was 22.6 years (SD = 8.77). Younger age groups were somewhat less represented in the sample (under 35, 12% vs. 14%; between 36 and 45, 15% vs. 17%; between 46 and 55, 36% vs. 32%).

We tested selective dropout by comparing the demographics and all study variables of those participating at both times with the data of those who only participated at T1 (N=1,020). Because of retirement among older dentists, the average age was somewhat lower among the participants of both waves than that of the dropouts (mean ages 48.9 years vs. 49.9 years), F(1)=8.67, p<0.01, but there were no gender differences between the two groups. Of the study variables, the dropouts scored slightly higher on job satisfaction than the participants at baseline (means at T1 = 4.00 vs. 3.93), F(1)=6.72, p<0.05). As regards levels of work engagement, workaholism, and burnout, no significant differences were observed between the participants and the dropouts.

Measures

Work engagement was assessed using the Utrecht Work Engagement Scale (Schaufeli et al., 2002), which includes three subscales: Vigor (e.g., "At my work, I feel bursting with energy"; $\alpha_{T1} = .84$, $\alpha_{T2} = .85$), Dedication (e.g., "I am enthusiastic about my job"; $\alpha_{T1} = .85$, $\alpha_{T2} = .85$), and absorption (e.g., "I feel happy when I am working intensely"; $\alpha_{T1} = .76$, $\alpha_{T2} = .76$). All subscales were measured using three items, which were rated on a 7-point scale, ranging from 0 (*never*) to 6 (*always*).

Job satisfaction was measured using two items. The first one is used in many surveys ("Overall, how satisfied are you with your present job?"), and the other we developed for the present study ("How satisfied are you with your present competence in relation to the demands of your job?"); the correlations between both items were 0.42 at T1 and 0.45 at T2. Both items were rated on a 5-point scale, ranging from 1 (very dissatisfied) to 5 (very satisfied).

Workaholism was measured using the 10-item Dutch Workaholism Scale (Schaufeli, Shimazu, & Taris, 2009), rated on a 4-point scale from 1 (hardly never) to 4 (nearly always). The scale consists of two subscales of five items each: Working Excessively (e.g., "I seem to be in a hurry and racing against the clock"; $\alpha_{T1} = .77$, $\alpha_{T2} = .79$) and Working Compulsively (e.g., "It is important to me to work hard even when I do not enjoy what I am doing"; $\alpha_{T1} = .81$, $\alpha_{T2} = .83$).

Burnout was measured using two scales from the Maslach Burnout Inventory (Maslach & Jackson, 1981) that constitute the core of the syndrome (Schaufeli & Taris, 2005): Emotional Exhaustion (nine items; $\alpha_{\rm T1}=.91$; $\alpha_{\rm T2}=.91$) and Depersonalization (five items; $\alpha_{\rm T1}=77$, $\alpha_{\rm T2}=.76$). The items were scored on a 7-point frequency rating scale ranging from 0 (*never*) to 6 (*daily*). High scores in emotional exhaustion and depersonalization are indicative of burnout.

Job crafting at T2 was measured using the Job Crafting Scale (Tims et al., 2012), which measures four aspects of job crafting: Increasing Structural Resources (five items; e.g., "I try to develop my capabilities"; $\alpha_{T2} = .86$), Increasing Social Resources (five

items; e.g., "I ask others for feedback on my job performance"; $\alpha_{T2} = .78$), Increasing Challenging Demands (five items; e.g., "I regularly take on extra tasks even though I do not receive extra salary for them"; $\alpha_{T2} = .78$), and Decreasing Hindering Demands (six items; e.g., "I try to ensure that I do not have to make many difficult decisions at work"; $\alpha_{T2} = .81$). The response options were on a scale ranging from 1 (never) to 5 (very often).

Analyses

In order to investigate the hypothesized relationships, we employed structural equation modeling (SEM) techniques using the AMOS 20.0 software package (Arbuckle, 2011). Work engagement, workaholism, and burnout were indicated by their respective subscales. Job satisfaction and each of the four latent job crafting variables were indicated by their respective items. The error terms of each indicator that was measured at both times were allowed to correlate. In the current study, we used the root mean square error of approximation (RMSEA) as absolute goodness-of-fit indices. In addition, two relative fit indices were assessed: the comparative fit index (CFI) and the normed fit index (NFI). RMSEA values under .05 are indicative of a good fit, whereas values greater than 0.1 should lead to model rejection (Browne & Cudeck, 1993). For the remaining indices, as a rule of thumb, values greater than .90 are considered to indicate a good fit, and values greater than .95, an excellent fit (Hu & Bentler, 1999).

Before analyzing the structural relationships between the variables, we tested the measurement model for job crafting at T2, and for the well-being measures at both T1 and T2. The fit with the data of the four-factor measurement model of job crafting was not very good, $\chi^2(184) = 1,485.85$, CFI = .89, NFI = .88, and RMSEA = .061. In addition, two items of the latent increasing structural resources factor had very poor factor loadings (0.14 for "I decide on my own how I do things"; 0.28 for "I use my capacities to the fullest"). Therefore, we removed both items, after which the fit of the measurement model improved substantially, $\chi^2(147) = 1,232.68$, CFI = .91, NFI = .90, and RMSEA = .063. Next, we tested the measurement model for the well-being factors at T1 and T2. The fit of the model consisting of eight correlated latent variables (work engagement, job satisfaction, workaholism, and burnout), measured at two time points, was good, $\chi^2(91) = 1,045.13$, CFI = .95, NFI = .94, and RMSEA = .073. In addition, we investigated the invariance of the factor loadings of the four wellbeing constructs across time, that is, whether the factor loadings of each indicator of well-being remain equal over time. We constrained the corresponding factor loadings of this model to remain equal at T1 and T2 and compared this model with the unconstrained model. The resulting time invariant model also fit the data well, $\chi^2(103) = 1,059.86$, CFI = .95, NFI = .94, and RMSEA = .070. Comparison of the time invariant model and the unconstrained model revealed that keeping the loadings invariant worsened the model fit, $\chi^2(5) = 14.84$, p < .05, suggesting that some factor loadings are not invariant over the 4-year period. However, closer inspection revealed that the largest difference was as small as 0.17 for the Absorption scale (0.54 at T1; 0.71 at T2), whereas the average difference in all factor loadings of each other indicator at T1 and T2 was 0.04 (ranging from 0 to 0.07). In addition, the fit indices for the

constrained and unconstrained models were practically identical. Therefore, we used the time constrained latent variables for testing the structural models below. Finally, the overall measurement model, including all latent well-being as well as the four job crafting variables, also showed an acceptable model fit, $\chi^2(557) = 2,941.32$, CFI = .93, NFI = .91, and RMSEA = .048.

Results

Descriptive Statistics

Table 1 presents the means, standard deviations, and intercorrelations between the study variables.

Testing the Structural Model

We tested all our hypotheses simultaneously, using one comprehensive model that tests the unique contributions of each type of employee well-being (M_{unique}). In this model, work engagement, job satisfaction, workaholism, and burnout at T1 each predicted all four different aspects of job crafting, as well as each other at T2. Moreover, all T1 variables were allowed to correlate with each other, as were all the error terms of the T2 variables. The model fit was acceptable, $\chi^2(708) = 3,280.50$, CFI = .93, NFI = .91, RMSEA = .044, and Akaike information criterion = 3,668.50. To investigate the robustness of the model, we also compared it with four alternative models based on the two dimensions (activation and valence) of the circumplex model presented in the introduction: Mposit, in which work engagement and job satisfaction predict all types of employee well-being and job crafting, and M_{negat}, in which burnout and workaholism similarly predict all outcomes. The third alternative, Model M_{high}, considers work engagement and workaholism as the only predictors, and, finally, in M_{low}, burnout and job satisfaction are the only predictors, respectively. In all alternative models, each well-being factor at T1 was allowed to predict itself at T2, thus accounting for their stabilities. Table 2 indicates that although all models fit the data, M_{unique}, that is, the original model in which all four types of employee well-being are allowed to predict each other and job crafting, showed the best fit with the data.

Figure 2 shows the results of the best fitting model, M_{unique} . As expected, work engagement at T1 positively predicted increasing structural resources ($\beta = .42$, p < .001), increasing social resources ($\beta = .24$, p < .001), and increasing challenging demands ($\beta = .39$, p < .001). In addition, work engagement weakly and negatively predicted decreasing hindering demands at T2 ($\beta = -.11$, p < .05). Thus, Hypotheses 1a to 1d were supported.

Workaholism positively influenced increasing structural resources ($\beta=.19, p<.001$) and increasing challenging demands ($\beta=.26, p<.001$), thus supporting Hypotheses H2a and H2b, respectively. However, Hypothesis 2c was not supported, as workaholism at T1 did *not* predict decreasing hindering demands. As expected, workaholism was also unrelated to increasing social resources over time. In addition, burnout positively predicted decreasing hindering demands over time ($\beta=.36, p<.001$), hence supporting Hypothesis 3. Moreover, but *not* as hypothesized, burnout at T1 also negatively influenced increasing structural resources ($\beta=-.12, p<.05$). Finally, and as expected, job

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Table 1 Means, Standard Deviations, and Correlations Between Study Variables (N=1,877)

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	Variables		1. Vigor _{T1}	2. Dedication _{T1}	3. Absorption _{T1}	4. Job satisfaction _{T1}	5. Working	${\sf excessively}_{{\sf T}_1}$	6. Working	$compulsively_{\mathrm{T1}}$	7. Exhaustion _{T1} 8. Depersonalization _{T1}		9. Increasing	structural	resources _{T2}	10. Increasing social	$resources_{T2}$	11. Increasing	challenging	demands _{T2}	12. Decreasing	hindering	$demands_{T2}$	13. Vigor _{T2}	14. Dedication _{T2}	15. Absorption _{T2}	 Job satisfaction_{T2} Working 	excessively _{T2}	18. Working	compulsively _{T2}	19. Exhaustion _{T2}	20. Depersonalization _{T2}

Note. Correlations \ge .09 are statistically significant at p < .001; correlations .07–.08 are statistically significant at p < .01; correlations .05–.06 are statistically significant at p < .05. T1 = Time 1; T2 = Time 2.

Table 2 Fit Statistics for the Alternative Study Models (N = 1,877)

Model	Model description	χ^2	df	CFI	NFI	RMSEA	AIC	Model comparisons	$\Delta\chi^2$	Δdf
M_{posit}	"Positive states as predictors model"	3,370.85	722	.93	.90	.044	3,730.85			
M_{negat}	"Negative states as predictors model"	3,466.65	722	.92	.90	.045	3,826.65			
$M_{\rm high}$	"High activation states as predictors model"	3,369.04	722	.92	.90	.044	3,729.04			
$M_{\rm low}$	"Low activation states as predictors model"	3,375.66	722	.93	.90	.044	3,735.66			
$M_{\rm unique}$	"Unique contributions' model"	3,280.50	708	.93	.91	.044	3,668.50	$\begin{array}{l} M_{posit} \text{ vs. } M_{unique} \\ M_{negat} \text{ vs. } M_{unique} \\ M_{high} \text{ vs. } M_{unique} \\ M_{low} \text{ vs. } M_{unique} \end{array}$	90.36*** 186.15*** 88.55*** 95.17***	22 22 22 22

Note. df = degrees of freedom; CFI = comparative fit index; NFI = normed fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion.

satisfaction did *not* predict any of the job crafting behaviors. Thus, Hypothesis 4 was supported.

As regards temporal dynamics between work engagement, job satisfaction, burnout, and workaholism, we found first that work engagement ($\beta=.71, p<.001$), burnout ($\beta=.62, p<.001$), and, particularly, workaholism ($\beta=.84, p<.001$) were quite stable over the 4-year follow-up period, whereas job satisfaction ($\beta=.40, p<.001$) was less stable. After controlling for these stabilities, work engagement at T1 positively predicted job satisfaction at T2 ($\beta=.22, p<.001$), thereby supporting Hypothesis 5a. Work engagement at T1 also negatively predicted burnout at T2 ($\beta=-.08, p<.05$), thus lending support to Hypothesis 5b.

Moreover, workaholism at T1 predicted burnout at T2 (β = .10, p < .01), supporting Hypothesis 6. However, contrary to Hypotheses 7a and 7b, burnout predicted neither job satisfaction (β = -.11, ns) nor work engagement (β = -.07, ns). Finally, job satisfaction did not predict any other type of employee well-being, which supported Hypothesis 8.

Discussion

This study, which employed the COR theory (Hobfoll, 1998) and the circumplex model of affective well-being (Russell, 1980), had two purposes: (a) to investigate whether positive (work en-

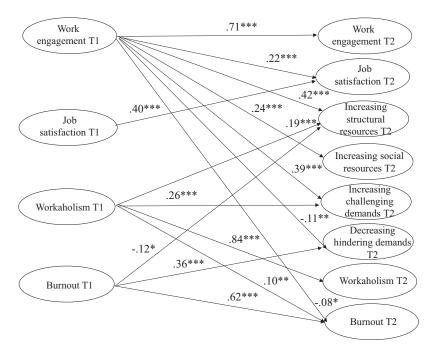


Figure 2. Structural equation modeling results. All exogeneous variables were allowed to correlate with each other, as were all error terms of the endogeneous variables. Only significant paths are presented for the sake of clarity. The results of the nonsignificant paths can be obtained from the first author on request. T1 = Time 1; T2 = Time 2. * p < .05. ** p < .01. *** p < .001.

gagement, job satisfaction) and negative (burnout, workaholism) types of employee well-being would be differently related to job crafting behaviors across time; and (b) to investigate the temporal dynamics of these four types of employee well-being, that is, to uncover their mutual relationships across time. Hence, the current study focused on the unique contributions of work engagement, job satisfaction, burnout, and workaholism, which can be differentiated on theoretical grounds, to explain future employee behavior (job crafting) and well-being. In line with our hypotheses, we found that, in general, positive and negative types of employee well-being were differently related to different types of future job crafting. This general finding suggests that how employees feel at work has implications for whether and how they craft their jobs in the longer run. We also found that positive and negative types of employee well-being may predict each other, which implies that they do not develop independently over time. Below we discuss the study results in more detail.

Employee Well-Being May Influence How Employees Craft Their Jobs

In line with our hypotheses, we found that a positive, high arousal state, that is, work engagement, predicted all four types of job crafting: positively increasing structural and social resources and challenging demands, and negatively decreasing hindering demands. In addition, workaholism predicted two types of expansive job crafting, namely, increasing structural resources and challenging demands, whereas burnout predicted (more) decreasing hindering demands and (less) increasing structural resources.

Our findings support many previous studies that have demonstrated that work engagement and job crafting are strongly related to each other, although the direction of this relationship that has usually been investigated is that from job crafting to work engagement, rather than vice versa (e.g., Bakker, Tims, & Derks, 2012; Tims et al., 2012). In line with the predictions of the COR theory (Hobfoll, 1998), engaged employees had surplus resources that they were able and willing to invest in job crafting in order to gain new resources. Similarly, previous studies found that work engagement was not only related to task performance; it also predicted extrarole performance (Halbesleben et al., 2009) and proactive behaviors (Hakanen et al., 2008). In our study, in addition to being related to expansive forms of job crafting, work engagement also reduced the likelihood of decreasing hindering demands. Engaged employees are resilient and persistent (Schaufeli et al., 2002), and, therefore, when they are faced with, for example, emotionally demanding patients, they are not likely to withdraw. Instead, they can draw on their many resources (e.g., social support, social skills or a promotion-focused orientation), which allow them to interpret job demands as challenges rather than threats. Work engagement is known to be quite stable even over time (e.g., Seppälä et al., 2015), and our study suggests that one reason for this high stability could be that when an employee is engaged, they may remain so because of active job crafting. This agrees with the results of a recent study by Lu et al. (2014), which showed that work engagement predicts physical and relational job crafting across time, which, in turn, increases the employee's person-job fit.

Since the introduction of the work engagement construct, an interesting question has been whether engagement and job satis-

faction can be distinguished and, if so, whether their associations with outcomes would be different (e.g., Macey & Schneider, 2008; Newman, Joseph, & Hulin, 2010; Warr & Inceoglu, 2012). Our study adds to this discussion by suggesting that work engagement as a high-activation state of well-being boosts future job crafting, whereas job satisfaction as a low to moderate positive state does not. The relationships between T1 job satisfaction and T2 expansive types of job crafting were positive, whereas the correlation was negative with T2 decreasing hindering demands. However, when testing the unique contribution of job satisfaction to job crafting as regards other types of employee well-being, job satisfaction did not predict any type of job crafting. This finding also suggests the special role of engagement in predicting organizational behaviors. It is noteworthy that job satisfaction was the least stable type of employee well-being in our study, and hence that we cannot rule out the possibility that the more stable nature of the other states may have strengthened their impact on job crafting. However, our findings agree with our hypotheses and the distinct nature of both positive constructs, which are supported by the above-mentioned studies.

As expected, workaholism was positively related to increasing challenging demands in the future. Workaholism—the compulsive tendency to work excessively—is characterized by high negative arousal and self-imposed job demands that go beyond organizational expectations (e.g., McMillan, Driscoll, & Burke, 2003). Therefore, workaholics are likely to start new projects and volunteer for additional work tasks. In our study, workaholism was not related to decreasing hindering demands. We expected a positive relationship between the two because we assumed that workaholics would aim to avoid demands that prevent them from accomplishing more challenging demands and tasks, as well as, for example, emotionally demanding situations. However, workaholics are known to be rigid perfectionists who are unwilling to compromise on any aspect of work or on delegating (Porter, 1996). Seen from this perspective, it is plausible that some workaholics aim to put effort into all kinds of job demands, whether challenging or hindering.

Consistent with our expectations, workaholism was positively related to increasing structural resources. Thus, workaholics may not only indulge in self-initiated changes at work by increasing demands, but, to be able to do so, they must also invest in gaining new resources by learning and developing themselves, that is, by increasing their structural resources. This finding is important, as workaholism is often only considered "bad" (Schaufeli et al., 2009). This study suggests that a high—albeit negative—level of activation, as in workaholism, may predict increases in not only demands but also resources. Moreover, the finding that workaholism did not predict increasing social resources is consistent with previous studies that report deficiencies in social relationships among workaholics (e.g., Hakanen et al., 2012; Scott et al., 1997).

Finally, burnout was positively associated with decreasing hindering demands, such as work overload and emotional conflicts. This type of job crafting may be considered a coping mechanism to protect the health of those who suffer from burnout (Demerouti, 2014). In line with this reasoning, a study by Petrou et al. (2015) also found that the core dimension of burnout—exhaustion—predicted decreasing hindering demands, but that by doing so, it further increased the likelihood of exhaustion. Withdrawing and avoiding (e.g., demanding patients) may, in the long term, be

detrimental to employees who feel they are accomplishing less and less and are increasingly exhausted. (Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendonck, 2000). We also found that burnout was negatively related to increasing structural resources in the future. Burnout is associated with resource loss (Hobfoll & Freedy, 1993), and therefore burned-out employees lack the resources that should be invested in gaining new resources that would help them cope with their workload and other demands.

Work Engagement May Decrease Burnout and Increase Job Satisfaction

Although work engagement and workaholism both predicted partly the same types of expansive job crafting, the difference between the two is evident when it comes to the consequences for other types of employee well-being: Work engagement predicts an increase in job satisfaction and a decrease in burnout, whereas workaholism predicts an increase in burnout. Finally, job satisfaction did *not* predict changes in any other type of employee well-being.

One of the unquestioned and understudied "truths" in the burnout literature has been that only those who are initially highly committed and energetic, that is, engaged, may eventually burn out (e.g., Pines et al., 1981). In a similar vein, it has been suggested that work engagement has a "dark side," namely that, in the long term, it might turn into burnout (Schaufeli & Salanova, 2011) or workaholism (Bakker et al., 2011). However, our study, which spans a rather long time interval of 4 years, suggests the opposite: It seems that work engagement prevents rather than fosters future burnout and that it is unrelated to future workaholism, also in the long term. Although engaged employees invest a lot of their energy into their work, they are likely to gain even more in return, and thus they have surplus resources that prevent them from burning out. Moreover, it seems that burnout symptoms decrease. Our result agrees with many studies that document work engagement as having a positive impact on employees' physical and mental health (Airila et al., 2014; Hakanen & Schaufeli, 2012; Seppälä et al., 2012). In addition, although some cross-sectional studies have modeled job satisfaction as a consequence of work engagement (e.g., Giallonardo, Wong, & Iwasiw, 2010; Saks, 2006), to our knowledge, our study is the first to establish this relationship across time using a prospective design. Although the search for the dark side of work engagement will, without a doubt, continue, our study supports the notion that engaged employees have surplus resources that benefit not only their organizations but also themselves.

Workaholism May Lead to Burnout

To our knowledge, our study was also the first to show that workaholism has an impact on future burnout, although an earlier longitudinal study by van Wijhe et al. (2014) found that workaholism predicts exhaustion. Thus, in our study, despite engagement and workaholism being likely to boost expansive job crafting, their consequences regarding burnout differed. Workaholism has been related to poor job and personal resources and lack of recovery (e.g., Hakanen et al., 2012), and therefore, unlike engaged employees, workaholics investing their resources into their work results in the draining of their resources, which may eventually lead to burnout.

It is interesting that burnout did not predict job (dis)satisfaction, although it was inversely correlated with job satisfaction. However, we studied the *unique* contributions of each type of employee well-being, and work engagement clearly overruled the potential effects on job satisfaction. It may be that work engagement is a stronger predictor of job satisfaction than burnout, and therefore, also in practical terms, boosting engagement in organizations may be a more effective way to increase satisfaction than preventing poor well-being.

Limitations

The current study has six limitations that are worth discussing. First, we could not measure job crafting at T1 because at that time, the measurement was not available. Thus far, most studies on job crafting have used cross-sectional or half-longitudinal designs, that is, such that do not use full-panel designs but, for example, measure the predictor and mediator at T1 and the outcome at T2 (Cole & Maxwell, 2003). Our study also still leaves unanswered the question of the extent to which the relationships between job crafting and employee well-being are reciprocal in the long term. It would be important to repeat this study using a full panel design to reveal the unique contributions of each type of employee wellbeing on each type of job crafting, and vice versa. A recent study by Tims, Bakker, and Derks (2015b) also indicated that job crafting may influence the well-being of one's colleague. The reciprocal crossover relations of different types of employee well-being and job crafting among colleagues would be an interesting future research topic. In the second part of the study, we were able to use a full panel design to investigate the effects between all four types of employee of well-being over time. However, even here, causal conclusions cannot be drawn from our study, as strictly speaking, not even a full panel design with two waves can be called longitudinal, as this would require at least three measurement points (Ployhart & Vandenberg, 2010).

Second, because only a few longitudinal studies exist that include our study variables, it is impossible to know the optimal time lags for studying their relationships and impacts. However, employee well-being, such as burnout and work engagement, is known to be rather stable across time (Schaufeli, Maassen, Bakker, & Sixma, 2011; Seppälä et al., 2015). For example, on the basis of a large epidemiological study, it has been estimated that at least 2.5 years is needed in order to recover from burnout (Kant, Jansen, van Amelsvoor, Mahren, & Swaen, 2004). Therefore, we assume that detecting lagged effects between different well-being constructs, after controlling for their baseline situation, requires a long follow-up period. In the future, different time lags should be compared systematically.

Third, all measures used self-reporting. It is difficult to use something other than self-reports when studying well-being at work because it is—by definition—a subjective experience. However, we used a full panel design to test relationships between different types of employee well-being, and we measured job crafting 4 years apart from the predictors. Moreover, we also controlled for the synchronous impact of employee well-being at T2 on job crafting, and we simultaneously investigated the unique contributions of four different positive and negative types of employee well-being to the outcomes. The positive and negative items measuring well-being were also mixed in the questionnaire

in order to counterbalance answering bias. Finally, we used latent factors which correct for measurement errors. Thus, we believe that by the measures mentioned above, we could diminish the risk for common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012).

Fourth, the measure for job satisfaction had only two items, and their correlations at T1 and T2 were moderate. Many studies (e.g., Warr & Inceoglu, 2012) use only one item of overall job satisfaction. We considered that it was better to include more than one item for modeling purposes with SEM. It is noteworthy that the factor loadings of these two items on their respective job satisfaction factor were acceptable (0.58 and 0.71 at T1; 0.59 and 0.74 at T2). Moreover, we also ran the analyses with only one item (separately for overall job satisfaction and satisfaction with one's competence in relations to one's job demands), and even then, the results for job satisfaction did not change.

Fifth, testing the measurement model of job crafting indicated that two items had low loadings on the latent crafting structural resources factor. The content of both items differs from that of the other three items, which are all about learning and developing professionally. It is noteworthy that in the original validation study also (Tims et al., 2012), the same two items displayed lower—although acceptable—factor loadings.

Finally, our study focused on one particular professional group—dentists—which might limit the generalizability of our results to other occupational groups. It is noteworthy that in Finland, most dentists work in organizations—in the public sector, as part of municipal health care organizations and hospitals, and in the private sector, in clinics with many dentist colleagues and other dental staff. They face various top-down pressures, as many health care laws regulate their work, and they also need to deal with different types of job demands, such as quantitative, emotional, physical, and cognitive demands. On the other hand, dentists also have rather high clinical autonomy and other job resources to enable proactivity. Hence, our study sample might not be that different than other (medical) professions, and job crafting can be considered an important issue for them. Nonetheless, the current study should be replicated in other occupational contexts.

Theoretical and Practical Implications

Theoretically, we addressed fairly rarely tested tenets of COR theory (Halbesleben et al., 2014; Hobfoll, 1998) by hypothesizing that different types of employee well-being (characterized by different levels of activation and valence; Russell, 1980) are accompanied by different backups of resources (surplus of, fit with, or lack of). These resource backups then lead to either protecting existing resources or acquiring new ones by means of job crafting. They also predict how employees feel at work in the longer term. We found that the model that included both high and low arousal, and both positive and negative types of employee well-being, fit the data better than the models that only included high (or low) and positive (or negative) states. Therefore, we recommend distinguishing between different types of employee well-being based on the theoretical circumplex model and including these simultaneously in future studies to determine their unique contributions to different outcomes.

In addition, and in line with the findings of many previous studies (cf., Demerouti, 2014), it seems that there are two main

types of job crafting: expansive job crafting, comprising seeking resources and new challenges, and coping-related job crafting, comprising decreasing negative aspects of the job. Moreover, the present study also sheds light on the long-term temporal dynamics between different types of employee well-being, which has been a surprisingly little-studied topic in occupational health psychology. Our study lends further support to the notion that work engagement and burnout are not each other's opposites, and suggests that boosting work engagement may also partly decrease burnout.

From a practical point of view, our findings suggest that for organizations striving for proactive employees, it may not be enough to merely provide opportunities for job crafting behaviors in general (Wrzesniewski & Dutton, 2001), as employees' wellbeing may determine whether and in what ways they will craft their jobs. Therefore, organizations and managers should take into account individual differences in well-being when encouraging employees to be more proactive.

The current study also implies that having engaged employees can be highly valuable for organizations, as these employees are most likely to be willing and capable of increasing their resources and also taking on new challenges in the future. In addition, work engagement seems to protect from burnout and is not related to workaholism, even in the long term. Our findings also suggest that engaged employees will behave more proactively in the future than satisfied employees by actively crafting their jobs. Many organizational surveys focus on job satisfaction, but perhaps a measure of engagement should also be included (Rich, Lepine, & Crawford, 2010), as it may provide more information regarding employees' motivation to behave proactively.

It seems that those suffering from burnout symptoms should be provided with more job resources (and job demands should be reduced, if possible), as burned-out employees do not have the energy to craft their jobs to include more resources, but rather the opposite, as our study indicated. Somewhat similarly, workaholics, despite proactively developing themselves professionally, do not seek social resources (support, feedback), and could benefit from organizational and managerial support, appreciation of a less hardworking attitude, and other social job resources. Obviously, the best outcome is achieved when both organizational top-down and employee-initiated bottom-up job redesign approaches are used to build decent, inspiring working conditions and engaged, proactive employees.

References

Airila, A., Hakanen, J. J., Schaufeli, W. B., Luukkonen, R., Punakallio, A., & Lusa, S. (2014). Are job and personal resources associated with work ability 10 years later? The mediating role of work engagement. *Work & Stress*, 28, 87–105. http://dx.doi.org/10.1080/02678373.2013.872208

Arbuckle, J. L. (2011). Amos 20 user's guide. Chicago, IL: SPSS Inc.

Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Key questions regarding work engagement. European Journal of Work and Organizational Psychology, 20, 4–28. http://dx.doi.org/10.1080/1359432X.2010 .485352

Bakker, A. B., Demerouti, E., Oerlemans, W., & Sonnentag, S. (2013).
Workaholism and daily recovery: A day reconstruction study of leisure activities. *Journal of Organizational Behavior*, 34, 87–107. http://dx.doi.org/10.1002/job.1796

Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands

- are high. *Journal of Educational Psychology*, 99, 274–284. http://dx.doi.org/10.1037/0022-0663.99.2.274
- Bakker, A. B., & Oerlemans, W. (2011). Subjective well-being in organizations. In K. S. Cameron & G. M. Spreitzer (Eds.), *The Oxford handbook of positive organizational scholarship* (pp. 178–189). New York, NY: Oxford University Press.
- Bakker, A. B., Schaufeli, W. B., Sixma, H. J., Bosveld, W., & Van Dierendonck, D. (2000). Patient demands, lack of reciprocity, and burnout: A five-year longitudinal study among general practitioners. *Journal of Organizational Behavior*, 21, 425–441. http://dx.doi.org/10.1002/(SICI)1099-1379(200006)21:4<425::AID-JOB21>3.0.CO;2-#
- Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. *Human Relations*, 65, 1359–1378. http://dx.doi.org/10.1177/0018726712 453471
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation* models (pp. 136–162). Newbury Park, CA: Sage.
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112, 558–577. http://dx.doi.org/10.1037/0021-843X.112.4.558
- Crawford, E. R., Lepine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95, 834–848. http://dx.doi.org/10.1037/a0019364
- Demerouti, E. (2014). Design your own job through job crafting. *European Psychologist*, 19, 237–247. http://dx.doi.org/10.1027/1016-9040/a000188
- Demerouti, E., Bakker, A. B., & Gevers, J. M. (2015). Job crafting and extra-role behavior: The role of work engagement and flourishing. *Journal of Vocational Behavior*, 91, 87–96. http://dx.doi.org/10.1016/j.ivb.2015.09.001
- 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. http://dx.doi.org/10.1037/0021-9010.86.3.499
- Faragher, E. B., Cass, M., & Cooper, C. L. (2005). The relationship of job satisfaction and health. *Occupational and Environmental Medicine*, 62, 105–112. http://dx.doi.org/10.1136/oem.2002.006734
- Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: Predictor of new graduate nurses' work engagement and job satisfaction. *Journal of Nursing Management*, 18, 993–1003. http://dx.doi.org/10.1111/j.1365-2834.2010.01126.x
- Hakanen, J., & Peeters, M. (2015). How do work engagement, workaholism, and the work-to-family interface affect each other? A 7-year follow-up study. *Journal of Occupational and Environmental Medicine*, 57, 601–609. http://dx.doi.org/10.1097/JOM.000000000000000457
- Hakanen, J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of Vocational Behavior*, 73, 78–91. http://dx.doi.org/10.1016/j.jvb.2008.01.003
- Hakanen, J. J., Rodríguez-Sánchez, A. M., & Perhoniemi, R. (2012). Too good to be true? Similarities and differences between engagement and workaholism among Finnish judges. *Ciencia y Trabajo*, 14, 72–80.
- Hakanen, J. J., & Schaufeli, W. B. (2012). Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *Journal of Affective Disorders*, 141, 415–424. http://dx.doi.org/10.1016/j.jad.2012.02.043
- Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The job demandsresources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. Work & Stress, 22, 224–241. http://dx.doi.org/10.1080/02678370802379432
- Halbesleben, J. R. B., Harvey, J., & Bolino, M. C. (2009). Too engaged? A conservation of resources view of the relationship between work

- engagement and work interference with family. *Journal of Applied Psychology*, 94, 1452–1465. http://dx.doi.org/10.1037/a0017595
- Halbesleben, J. R., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR": Understanding the role of resources in conservation of resources theory. *Journal of Management*, 40, 1334–1364. http://dx.doi.org/10.1177/0149206314527130
- Hobfoll, S. E. (1998). Stress, culture, and community: The psychology and philosophy of stress. New York, NY: Plenum Press. http://dx.doi.org/10 .1007/978-1-4899-0115-6
- Hobfoll, S. E., & Freedy, J. (1993). Conservation of resources: A general stress theory applied to burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 115–133). New York, NY: Taylor & Francis.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55. http://dx.doi.org/10.1080/10705519909540118
- Kant, I. J., Jansen, N. W. H., van Amelsvoor, L. G. P. M., Mahren, D. C. L., & Swaen, G. M. H. (2004). Burnout in de werkende bevolikng. Resultaten van de Maastrichtse Cohort Studie [Burnout in the working population. Results from the Maastricht Cohort Study]. Gedrag en Organisatie, 17, 5–17.
- Leana, C., Appelbaum, E., & Shevchuk, I. (2009). Work process and quality of care in early childhood education: The role of job crafting. *Academy of Management Journal*, 52, 1169–1192. http://dx.doi.org/10 5465/AMI 2009 47084651
- Lepine, J. A., Podsakoff, N. P., & Lepine, M. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, 48, 764–775. http://dx.doi.org/10 .5465/AMJ.2005.18803921
- Locke, E. A. (1969). What is job satisfaction? *Organizational Behavior & Human Performance*, 4, 309–336. http://dx.doi.org/10.1016/0030-5073(69)90013-0
- Lu, C. Q., Wang, H. J., Lu, J. J., Du, D. Y., & Bakker, A. B. (2014). Does work engagement increase person–job fit? The role of job crafting and job insecurity. *Journal of Vocational Behavior*, 84, 142–152. http://dx .doi.org/10.1016/j.jvb.2013.12.004
- Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 1, 3–30. http://dx.doi.org/10.1111/j.1754-9434.2007.0002.x
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2, 99–113. http://dx.doi.org/10.1002/job.4030020205
- Maslach, C., & Jackson, S. E. (1986). Maslach Burnout Inventory manual (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
- McMillan, L. H. O., Driscoll, M. P., & Burke, R. J. (2003). Workaholism: A review of theory, research, and future directions. *International Review of Industrial and Organizational Psychology*, 18, 167–190.
- Newman, D. A., Joseph, D. L., & Hulin, C. L. (2010). Job attitudes and employee engagement: Considering the attitude "A-factor." In S. L. Albrecht (Ed.), *The handbook of employee engagement: Perspectives, issues, research, and practice* (pp. 43–61). Cheltenham, UK: Edward Elgar. http://dx.doi.org/10.4337/9781849806374.00010
- Nielsen, K., & Abildgaard, J. S. (2012). The development and validation of a job crafting measure for use with blue-collar workers. Work & Stress, 26, 365–384. http://dx.doi.org/10.1080/02678373.2012.733543
- Petrou, P., Demerouti, E., & Schaufeli, W. B. (2015). Job crafting in changing organizations: Antecedents and implications for exhaustion and performance. *Journal of Occupational Health Psychology*, 20, 470– 480. http://dx.doi.org/10.1037/a0039003
- Pines, A. M., Aronson, E., & Kafry, D. (1981). Burnout: From tedium to personal growth. New York, NY: Free Press.

- Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, 36, 94–120. http://dx.doi.org/10.1177/0149206309352110
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569. http://dx.doi.org/ 10.1146/annurev-psych-120710-100452
- Porter, G. (1996). Organizational impact of workaholism: Suggestions for researching the negative outcomes of excessive work. *Journal of Occu*pational Health Psychology, 1, 70–84. http://dx.doi.org/10.1037/1076-8998.1.1.70
- Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. Academy of Management Journal, 53, 617–635. http://dx.doi.org/10.5465/AMJ.2010.51468988
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39, 1161–1178. http://dx.doi.org/10.1037/h0077714
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21, 600-619. http://dx.doi.org/10.1108/02683940610690169
- Salanova, M., Del Líbano, M., Llorens, S., & Schaufeli, W. B. (2014). Engaged, workaholic, burned-out or just 9-to-5? Toward a typology of employee well-being. Stress and Health: Journal of the International Society for the Investigation of Stress, 30, 71–81. http://dx.doi.org/10 .1002/smi.2499
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement. *Journal of Organiza*tional Behavior, 25, 293–315. http://dx.doi.org/10.1002/job.248
- Schaufeli, W. B., Maassen, G. H., Bakker, A. B., & Sixma, H. J. (2011). Stability and change n burnout: A 10-year follow-up study among primary care physicians. *Journal of Occupational and Organizational Psychology*, 84, 248–267. http://dx.doi.org/10.1111/j.2044-8325.2010 .02013.x
- Schaufeli, W., & Salanova, M. (2011). Work engagement: On how to better catch a slippery concept. *European Journal of Work and Organizational Psychology*, 20, 39–46. http://dx.doi.org/10.1080/1359432X .2010.515981
- Schaufeli, W. B., Salanova, M., González-Roma, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*, 71–92. http://dx.doi.org/10.1023/A:1015630930326
- Schaufeli, W. B., Shimazu, A., & Taris, T. W. (2009). Being driven to work excessively hard: The evaluation of a two-factor measure of workaholism in the Netherlands and Japan. Cross-Cultural Research: The Journal of Comparative Social Science, 43, 320–348. http://dx.doi .org/10.1177/1069397109337239
- Schaufeli, W. B., & Taris, T. W. (2005). The conceptualization and measurement of burnout: Common ground and worlds apart. Work & Stress, 19, 356–362.
- Schaufeli, W. B., Taris, T. W., & Bakker, A. B. (2008). It takes two to tango: Workaholism is working excessively and working compulsively. In R. J. Burke & C. L. Cooper (Eds.), *The long work hours* culture: Causes, consequences and choices (pp. 203–226). Bingley, UK: Emerald.
- Scott, K. S., Moore, K. S., & Miceli, M. P. (1997). An exploration of the meaning and consequences of workaholism. *Human Relations*, 50, 287– 314. http://dx.doi.org/10.1177/001872679705000304

- Seppälä, P., Hakanen, J. J., Mauno, S., Perhoniemi, R., Tolvanen, A., & Schaufeli, W. (2015). Stability and change model of job resources and work engagement: A seven-year three-wave follow-up study. European Journal of Work and Organizational Psychology, 24, 360–375. http://dx.doi.org/10.1080/1359432X.2014.910510
- Seppälä, P., Mauno, S., Kinnunen, M. L., Feldt, T., Juuti, T., Tolvanen, A., & Rusko, H. (2012). Is work engagement related to healthy cardiac autonomic activity? Evidence from a field study among Finnish women workers. *The Journal of Positive Psychology*, 7, 95–106. http://dx.doi .org/10.1080/17439760.2011.637342
- Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. SA Journal of Industrial Psychology, 36, 1–9. http://dx.doi.org/10.4102/sajip.v36i2.841
- Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, 80, 173–186. http://dx.doi.org/10.1016/j.jvb.2011.05.009
- Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, 18, 230–240. http://dx.doi.org/10.1037/a0032141
- Tims, M., Bakker, A. B., & Derks, D. (2015a). Job crafting and job performance: A longitudinal study. European Journal of Work and Organizational Psychology, 24, 914–928. http://dx.doi.org/10.1080/ 1359432X.2014.969245
- Tims, M., Bakker, A. B., & Derks, D. (2015b). Examining job crafting from an interpersonal perspective: Is employee job crafting related to the well-being of colleagues? *Applied Psychology: An International Review*, 64, 727–753. http://dx.doi.org/10.1111/apps.12043
- Tims, M., Derks, D., & Bakker, A. B. (2016). Job crafting and its relationships with person–job fit and meaningfulness: A three-wave study. *Journal of Vocational Behavior*, 92, 44–53. http://dx.doi.org/10.1016/j.jvb.2015.11.007
- van den Heuvel, M., Demerouti, E., & Peeters, M. C. W. (2015). The job crafting intervention: Effects on job resources, self-efficacy, and affective well-being. *Journal of Occupational and Organizational Psychology*, 8, 511–532. http://dx.doi.org/10.1111/joop.12128
- van Wijhe, C., Peeters, M. C., & Schaufeli, W. B. (2014). Enough is enough. Cognitive antecedents of workaholism and its aftermath. *Human Resource Management*, *53*, 157–177. http://dx.doi.org/10.1002/hrm 21573
- Vogt, K., Hakanen, J. J., Brauchli, R., Gregor, G. J., & Bauer, G. F. (2016). The consequences of job crafting: A three-wave study. *European Journal of Work and Organizational Psychology*, 25, 353–362. http://dx.doi.org/10.1080/1359432X.2015.1072170
- Warr, P., & Inceoglu, I. (2012). Job engagement, job satisfaction, and contrasting associations with person-job fit. *Journal of Occupational Health Psychology*, 17, 129–138. http://dx.doi.org/10.1037/a0026859
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. Academy of Management Review, 26, 179–201.
- Ybema, J. F., Smulders, P. G. W., & Bongers, P. M. (2010). Antecedents and consequences of employee absenteeism: A longitudinal perspective on the role of job satisfaction and burnout. *European Journal of Work* and Organizational Psychology, 19, 102–124. http://dx.doi.org/10.1080/ 13594320902793691

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