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Job Demands-Resources Theory and the Role of Individual Cognitive and Behavioral Strategies

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Abstract

The Job Demands-Resources (JD-R) model was introduced in the 00's to explain the causes of burnout. Later it matured into JD-R theory that can explain how various employee and organizational outcomes develop. Job demands are responsible for the health impairment process, whereas job resources initiate a motivational process. These processes occur simultaneously and have unique as well as interactive effects on outcomes. The role of the individual in the form of personal resources was added in the JD-R theory more recently. The aim of the current chapter is twofold. First, we will present a brief overview of the propositions of JD-R theory. After presenting the evidence supporting the JD-R theory, we will critically evaluate the theory. Second, expanding the role of the individual in the JD-R theory even further, we will go on and present strategies that individuals may use to (i) deal directly with the unfavorable effects of job characteristics including actual or anticipated loss of resources, namely coping and recovery; (ii) maximize favorable effects, goal achievement and avoid losses, i.e., self-regulation and (iii) alter job characteristics such that they are less demanding and more motivating, i.e., job crafting. It is discussed that individual strategies can be integrated in the JD-R theory, both as a mediator and a moderator of both processes. It is our hope that JD-R theory will continue to inspire researchers and practitioners who want to promote employee well-being and effective organizational functioning.

Keywords: Burnout, Coping, Job crafting, Job Demands-Resources Theory, Recovery, Self-regulation

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The job demands-resources (JD-R) theory was introduced in the international literature almost 20 years ago (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; 2001). The theory has been applied in thousands of organizations and has inspired hundreds of empirical articles. Part of the widespread interest lies in the way the theory simplifies the complexity of work characteristics, while at the same time making valid predictions about the processes that they evoke. Wilmar Schaufeli worked at the forefront of the model underlying JD-R theory, by co-authoring major JD-R publications and by co-supervising Evangelia Demerouti's PhD project in which the foundations of the JD-R model were laid. Later on, Wilmar co-supervised the PhD project of Despoina Xanthopoulou who expanded the JD-R model by incorporating personal resources. The JD-R approach shaped Wilmar's research, and he continued to challenge the field with theoretical papers and with practical applications in his role as consultant. It is our hope that together with Wilmar's contributions, JD-R theory will continue to inspire researchers and practitioners who want to promote employee well-being and effective organizational functioning.

INTRODUCTION

The Job Demands-Resources (JD-R) model is a theoretical model introduced by Demerouti, Bakker, Nachreiner, and Schaufeli in 2001. In this original paper, eighteen job demands and job resources were identified as potential causes of burnout. Burnout was broadly conceptualized and operationalized by the Oldenburg Burnout Inventory (OLBI). The OLBI differentiates between exhaustion and disengagement from work as dimensions of burnout that can occur in virtually every job. Over the years, the model has matured into Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2017). The scope of JD-R theory is broader than that of previous job stress or job characteristics models, because JD-R theory accommodates all possible job demands and job resources that can prevail in a particular job. The broader scope of the model and its simplicity appeal to researchers, and its flexibility is attractive to practitioners (Schaufeli & Taris, 2014).

Being a work psychological theory, JD-R theory emphasizes the importance of job characteristics. Although there is no doubt about the importance of the context, it is interesting from both a theoretical and a practical perspective to examine whether there are strategies individual employees may use to alter the impact of job characteristics so that possible unfavorable effects are minimized, and possible favorable effects are maximized. Such cognitive or behavioral strategies represent methods or plans people choose to solve a work-related problem or achieve a work-related goal, which generally involves some planning or marshaling of resources for their most efficient and effective use (Demerouti, 2015). Finding such bottom-up individual strategies may be essential to complement the top-down interventions organizations use to improve employee well-being and functioning.

JOB DEMANDS-RESOURCES THEORY

JD-R theory departs from the premise that every occupation has its own specific risk factors associated with impaired well-being and functioning. These factors can be classified in two general categories, job demands and job resources. Thus, JD-R theory constitutes an overarching framework that may be applied to various occupational settings, irrespective of the specific job demands and job resources involved (Bakker & Demerouti, 2017). Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills, and are therefore associated with certain physiological and/or psychological costs. Examples are irregular working hours, an unfavorable physical environment, and demanding interactions with clients. Job resources refer to the physical, psychological, social, or organizational aspects

of the job that are functional in achieving work goals, reduce job demands and the associated physiological and psychological costs, or stimulate personal growth and learning. Examples are career opportunities, participation in decision-making, autonomy, and performance feedback. Although too high demands and lack of job resources are both experienced as negative, there are substantial differences in the reasons for and consequences of these negative experiences. High job demands are experienced as negative because they consume energy and the outcome is energy depletion. In contrast, lack of job resources is experienced as negative because their facilitating role is absent and the outcome is reduced motivation (Demerouti et al., 2001).

Next to mapping the psychosocial work environment, job demands and resources are important because they initiate two different psychological processes (Demerouti et al., 2001). In the first process, the health-impairment process, chronic job demands exhaust employees' mental and physical resources (*can do*), and may therefore lead to energy depletion (i.e., a state of exhaustion, which represents the prime indicator of burnout). When individuals need to constantly invest high effort to deal with job demands, they drain their energy resources, start to develop health problems, and undermine their own functioning (Bakker & Demerouti, 2017; Hockey, 1993). In the second process, the motivational process, job resources satisfy basic psychological needs and motivate employees. The experience of work engagement (*want to*) consequently leads to improved functioning. Job resources may either function as intrinsic motivators by fostering employee's growth, learning and development, or as extrinsic motivators by facilitating work goal achievement.

Job demands and resources also have joint effects: (1) job resources can buffer the impact of job demands in predicting employee health – meaning that the relationship between job demands and adverse health will be weaker for those who have access to more job resources, and (2) job demands may boost the impact of job resources on motivation such that job resources particularly influence motivation when job demands are high (Bakker & Demerouti, 2017). The former happens because resources mitigate the experienced level of demands or the reaction to these demands (Kahn & Byosiére, 1992), whereas the latter happens because high demands challenge the individual to use the resources and translate them into motivated action.

An important innovation in JD-R theory is the inclusion of personal resources which refer to aspects of the self that are generally linked to resiliency and capture employees' ability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003). Personal resources (e.g., self-efficacy, optimism) play a similar role as contextual, job resources. Personal resources protect from job demands and the associated costs, stimulate employee growth and development, and facilitate goal achievement (Xanthopoulou, Bakker,

Demerouti, & Schaufeli, 2009a). Personal resources and job resources are reciprocal and explain motivational outcomes in tandem.

Over the years, JD-R theory has been tested in various cultural and occupational contexts (for overviews, see Bakker & Demerouti, 2017; Crawford, LePine, & Rich, 2010; Demerouti & Bakker, 2011). Generally, and in line with theoretical assumptions, empirical evidence shows that irrespective of the cultural background and the occupational context, working conditions can be classified as job demands or job resources; and job demands are the most important instigators of the energetic/health-impairment process, whereas job resources are the most important instigators of the motivational process. In addition, although more empirical evidence is needed, the evidence for the moderating role of personal resources on the relationship between job demands and health outcomes is increasing. Also, several studies suggest that personal resources partially mediate the job resources-work engagement link (e.g., Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Xanthopoulou et al., 2007; 2009b).

JD-R theory offers a parsimonious perspective on occupational health, but over time, several propositions have been added in order to increase the theory's predictive value and to better capture the complexity of the phenomena related to employee energy and motivation. Specifically, recent formulations of the theory have included employee behaviors such as job crafting and self-undermining (Bakker & Demerouti, 2017). Also, the link with job performance has been established in several studies, and loss and gain spirals have been incorporated in the theory. Schaufeli and Taris (2014) discuss some shortcomings of the theory that should be addressed in future research. In the remainder of this chapter, we focus on the role of individual behavioral and cognitive strategies in JD-R theory.

INDIVIDUAL STRATEGIES IN JD-R THEORY

JD-R theory started as a work psychological model aimed at explaining how the working environment influences employee well-being. However, the stimulus-organism-response idea does not fully represent reality. In real life, work and individual characteristics (and their outcomes) are not always linearly related. Relationships between variables are dynamic and complex with individual actors playing an important role. Employees are more than just passive receivers of external influences; they actively modify their work environment through cognitive interpretation and intentional behaviors. In what follows, we focus on three types of individual strategies that can be integrated in JD-R theory, being strategies to (1) deal with the unfavorable effects of job characteristics (i.e. coping and recovery), (2) maximize the

favorable effects of job characteristics (i.e. self-regulation), and (3) change job characteristics (i.e. job crafting).

Strategies to deal with unfavorable effects of job characteristics

When employees face high demands and threats at work, they may use coping and recovery strategies to deal with the diminished time and energetic resources.

Coping. Lazarus and Folkman (1984) defined coping as “those changing cognitive and behavioral efforts developed for managing the specific external and/or internal demands judged as exceeding or surpassing the individual’s own resources” (p. 164). Individuals usually employ both task- and emotion-focused coping strategies. The former concerns attempts to shape action directly targeted at dealing with the source of stress (adaptation *of* the environment), while the latter attempts to attenuate the emotional experience associated with stress (adaptation *to* the environment). Cox and Ferguson (1991) suggest that, like other individual differences, coping is often seen to function in the stress process as either “mediators of stress appraisal” (transmitting the effects of stressors), or as “moderators of the stress-outcome relationship” (determining when stress will occur).

Coping can be integrated in JD-R theory as (a) a mediator in the health-impairment and motivational processes, or (b) a moderator in the form of cognitive and behavioral efforts to manage (reduce, minimize, master, or tolerate) the job demands that are appraised as taxing or exceeding the person’s resources (Folkman, Lazarus, Gruen, & DeLongis, 1986). Although there is some evidence suggesting that coping is a reaction to high demands and low resources (Koeske, 1993), most studies conceptualized coping as an outcome of burnout complaints. Meta-analytic findings suggest that when employees experience higher levels of exhaustion and cynicism (i.e. burnout; low “can do”, combined with low “want to”), active coping is rarely used (Lee & Ashforth, 1996). These results seem to indicate that when employees are more strained by their work, they become less effective in coping with the stressor. This idea has been included in recent extensions of JD-R theory (Bakker & Demerouti, 2017; 2018). Accordingly, when employees experience job strain, they start to engage in self-undermining behaviors – they communicate poorly, make mistakes and create conflicts, which add up to the already high job demands. Self-undermining is the consequence of high levels of job strain and is the fuel of a vicious cycle of high job demands and strain (Bakker & Costa, 2014).

Recently, scholars have proposed *proactive coping* as a strategy to deal with job demands and stressors. Proactive coping represents an effort to build up general resources that facilitate promotion toward challenging goals and personal growth (Ângelo & Chambel, 2014).

The latter authors found proactive coping to partially mediate the relationship between job demands and burnout, and to mediate the relationship between job resources and work engagement. Whereas both job demands and job resources related positively to proactive coping, proactive coping related negatively to burnout and positively to work engagement. Furthermore, proactive coping plays a moderating role in the job characteristics-well-being link. Searle and Lee (2015) found that proactive coping boosted the positive relationship between challenge demands and work engagement and buffered the positive relationship between challenge demands and burnout.

Recovery from work. One crucial strategy individuals may use to directly deal with the unfavorable effects of job demands is recovery from work-related effort (Demerouti, Bakker, Geurts & Taris, 2009). Recovery is the process during which an individual's functional systems that have been activated in order to deal with the work demands return to their pre-stressor levels (Meijman & Mulder, 1998). Prolonged exposure to job demands (e.g., rumination about work problems) inhibits recovery, while successful recovery takes place only when demands are no longer present. Thus, recovery is particularly relevant for the health-impairment process in JD-R theory because it may disrupt the exposure to demands that may lead to strain accumulation.

Sonnentag and Fritz (2007) introduced specific recovery experiences that are relevant for JD-R theory. They argued that employees recover when they engage in off-job time activities that facilitate psychological detachment (i.e., physical and mental disengagement from work activities), relaxation, as well as mastery (i.e., learning something new during off-job time). Recovery experiences may play the role of a mediator and a moderator in JD-R processes. Regarding the mediating role of recovery, Kinnunen, Feldt, Siltaloppi, and Sonnentag (2011) found that psychological detachment fully explained the relationship between job demands and fatigue at work, while mastery experiences partially mediated the relationship between job resources and work engagement. As regards recovery experiences as moderators, Siltaloppi, Kinnunen, and Feldt (2009) showed that psychological detachment and mastery were protective mechanisms against increased need for recovery in a situation of lack of job control. Moreover, relaxation protected against increased job exhaustion under high time demands. Similarly, psychological detachment and relaxation were found to buffer the impact of role conflict on psychological and physical health (anxiety, somatic complaints, bullying experiences; Moreno-Jiménez, Rodríguez-Muñoz, Sanz-Vergel, & Garrosa, 2012). Recent studies have suggested that employees may also proactively manage their vitality in order to

improve their own well-being and performance (Op den Kamp, Tims, Bakker, & Demerouti, 2018).

Strategies to Maximize Favorable Effects of Job characteristics

This section focuses on self-regulation strategies individual employees use to maximize favorable effects of job characteristics, achieve their goals, and avoid losses. How do individuals take successful action at work, make effective decisions, and manage their motivation and emotions – also in the face of setbacks?

Self-regulation is the capacity to alter actions to conform to morals, ideals, values, and social expectations in order to pursue long-term goals (Baumeister, Tice, & Vohs, 2018). Self-regulation is a key mechanism to understand why some individuals adapt to stressors effectively, and others do not. Mackey and Perrewé (2014) suggest that self-regulation moderates the relationship between organizational stressors or demands and well-being. They argue that coping with stressors requires individuals to utilize self-regulatory resources in order to buffer inappropriate coping behaviors (e.g., yelling at coworkers when angry). However, there is some evidence that self-regulation – if used frequently – may deplete limited cognitive resources (Baumeister et al., 2018; see, however, Hagger et al., 2016). Depleted self-regulation resources may be replenished in different ways such as by increasing the availability of personal resources (e.g., resilience, political skills, self-monitoring) and organizational resources (e.g., role clarity, leadership, autonomy) that may help to either prevent depletion or to enhance self-regulation once depleted. In that sense, self-regulation may also explain why job demands result in energy depletion and job resources in enhanced motivation by mediating these processes.

Existing empirical evidence supports that self-regulation both moderates and mediates the relationship between job demands and health-related outcomes. For instance, cognitive control deficits (self-reported failures in perception, memory, and action) were found to mediate the relationship between self-control demands and burnout (Schmidt, Neubach, & Heuer, 2007). In addition, Demerouti, Bakker, and Leiter (2014) found effective self-regulation (compensation or organizing substitute means to reach goals) to buffer the negative associations of burnout with supervisor-ratings of performance, whereas ineffective self-regulation (selection or reduction of the number of goals) exacerbated the negative effects of burnout.

Strategies to Change Job Characteristics

Job crafting is a strategy through which employees proactively alter the task boundaries of a job (i.e., type or number of activities), the cognitive boundaries of a job (i.e., how one perceives the job), or the relational boundaries of a job (i.e., whom one interacts with at work) in order to make their work more meaningful and achieve a better job-person fit (Wrzesniewski & Dutton, 2001). Petrou et al. (2012) and Tims et al. (2012) conceptualized job crafting using JD-R theory and the challenge stressor-hindrance stressor framework (Podsakoff, LePine & LePine, 2007). Accordingly, job crafting is defined as voluntary, self-initiated employee behaviors targeted at seeking job resources (i.e., asking a manager or colleagues for advice), seeking challenges (i.e., asking for more responsibilities), and reducing hindering job demands (i.e., eliminating emotionally, mentally or physically demanding job aspects).

Job crafting has been examined both as predictor and as outcome of job demands and resources but also of health and motivational indicators. Petrou et al. (2012) were the first to investigate the work conditions under which crafting is more likely to occur. They found that the combination of high daily work pressure and high daily autonomy (i.e., active jobs) was positively related to day-level seeking resources and negatively related to day-level reducing demands. Kanten (2014) found that skill variety and feedback were directly and positively related to job crafting, whereas task significance and autonomy were unrelated to job crafting. In turn, seeking resources and challenges related negatively to burnout and positively to work engagement over time (Petrou, Demerouti & Schaufeli, 2015; Tims, Bakker, & Derks 2013), whereas reducing job demands related positively to exhaustion. Moreover, job demands were detrimental to pilot's simulator training performance because demands made pilots more exhausted and less able to craft their job, whereas job resources had a favorable effect because they reduced disengagement and increased job crafting (Demerouti, Veldhuis, Coombes, & Hunter, 2018).

Although job crafting has mainly been examined as a mediator in the processes proposed by JD-R theory, it makes theoretical sense to suggest that job crafting may also play the role of a moderator. Bakker (2018) found that the interaction between job crafting and work engagement was positively related to several work characteristics including opportunities for development, performance feedback bureaucracy and role ambiguity. Job crafting attempts seem particularly effective when employees are highly engaged in their work. We expect that future studies will provide further insights into the moderating role of job crafting within JD-R theory.

CONCLUSIONS AND FUTURE RESEARCH

The goal of this chapter was twofold, namely to: (i) present the key assumptions of JD-R theory, and (ii) highlight the role of three categories of individual cognitive and behavioral strategies therein. We discussed strategies that employees use to (a) deal with the unfavorable effects of job characteristics (coping and recovery), (b) maximize favorable effects, achieve goals and avoid losses (self-regulation); and (c) alter job characteristics (job crafting). Individual strategies can be integrated in JD-R theory by functioning as mediators and moderators of the health-impairment and motivational processes. Future research should further advance our knowledge by accounting for other possible strategies employees use to avoid or minimize negative effects and maximize positive effects of job characteristics. It will also be interesting to illuminate competing or synergetic effects of individual cognitive and behavioral strategies. Finally, it will be crucial to investigate how organizations may facilitate individual employees in their use of effective work strategies. We hope that JD-R theory will continue to inspire future research and practice such that employees can work in healthier, more engaging, and more productive working environments, which is also the driving force of Wilmar Schaufeli's research.

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