
Transformation of Job Demands-Resources Model to Job Demands-Resources Theory

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Abstract

Making the logic behind the theory clear and understandable to the users is the most difficult part of theory construction study in applied disciplines. Even though different approaches of theory building argue for diverse theory building research methodologies, theory development is essentially general. This study supports JD-R as a theory by outlining methodologies often employed in theory construction on past research. JD-R model consists of conservation of resources theory, two-factor theory of Herzberg, job characteristics model, job demand-control model and effort–reward imbalance model. According to this model, job resources will minimize the undesirable impact of job demands on exhaustion. The early model was expanded to incorporate performance measurements. Cynicism predicts performance, whereas cynicism associated to colleague rated extra role and exhaustion related to in role performance. Then the revised model attempted to describe both a negative (burnout) and a positive psychological state (work engagement). Later, personal Resources and Job Crafting have been integrated with this model for the application to predict job burnout, organizational commitment, work enjoyment, connectedness, and work engagement. The JD-R model has developed into a theory because of numerous investigations, original ideas, and meta-analyses that have been conducted on it by following the steps of conceptualization, operationalization, implementation, confirmation or denial, and ongoing refining and improvement. Personal Demand and Leadership style can be attached in JD-R theory in future.

Keywords: *Employee engagement, JD-R theory, Job demands, Job resources*

1. Introduction

The Job Demand-Resources (JD-R) model was first published in the scientific literature more than 20 years ago. Researchers in this article are going to review on the first ten years of the JD-R model (2001-2010) and examine how the model transformed into JD-R theory (2011-2021).

Theory is described as “a coherent description, explanation and representation of observed or experienced phenomena” (Gioia & Pitre, 1990; Lynham, 2000), whereas the creation, confirmation/dis confirmation, application, adaptation, and refinement of theories is a continuous process (Lynham, 2002). Lynham (2000) described theory building as “the purposeful process or recurring cycle by which coherent descriptions, explanations, and representations of observed or experienced phenomena are generated, verified, and refined”. Two types of knowledge should be produced as a result of good theory development: outcome knowledge, which typically takes the shape of explanatory and process knowledge and forecasting information, which could take the form of a deeper grasp of how something operates as well as what it implies (Robert Dubin, 1976). Rigor and relevance, often known as validity and usefulness, are two additional crucial qualities of good theory and theory development (Marsick, 1990; Van de Ven, 1989).

2. Literature Review

Being psychology an applied science, theory-building procedure must be able to cope with practical challenges (Robert Dubin, 1976; Lynham, 1998, 2000; Swanson, 1988, 1997, 2000; Torraco, 1997, 2000). Besides the applied methods of theory building in psychology (for example, Human Resources Management) and other applied disciplines, two common theory-building techniques should be considered known as “Research to Theory (RT)” and “Theory to Research (TR)” (Reynolds, 1971).

The RT refers the deriving the laws of nature from a careful examination of all the available data.

Reynolds (1971) stated the principles of RT:

1. Choose a phenomenon and make a list of all its qualities
2. Measure all the aspects of the phenomena in various situation (as many as possible)

3. Scrutinize resultant data wisely to see if there are any systematic trends that demand further investigation.
4. When substantial patterns have been found, they are formalized into hypothetical statements that make up laws of nature.

Reynolds (1971) states two important condition for RT specifically, “a relatively small number of variables to measure during data collection” as well as “there be a few significant patterns to be found in the data”. This theory-building method primarily uses a quantitative ontology. Thus, epistemological conventions that support and administer the RT method are likewise quantitative. It is believed that this RT strategy, which is primarily deductive in nature, is fit matched to pure science, while the theory development goal is to grow broad and generable natural laws that describe how events in nature and the impartial world in which we live might be expected to work and may even be foreseen and managed. TR, which stands for theory made explicit through continual, iterative interaction between theory creation and empirical study, is the second method for developing theories (Kaplan, 1964; Reynolds, 1971).

According to Reynolds (1971), the following are the guiding ideas for developing a TR theory:

1. Create an explicit theory in the form of an axiom or a process description.
2. Pick a theory-generated statement to compare with the findings of empirical investigation.
3. Create a study to "test" whether the selected assertion corresponds with empirical evidence.
4. Adjust the theory or study design as necessary and carry on with the investigation if the conclusion drawn from the theory does not match the findings.
5. If a statement from the theory matches the findings of the study, choose another statement to test or investigate the theory's constraints.

Karl Popper suggested the development of new concepts (conjectures) and efforts to refute these via empirical research (refutations) would be the most effective ways for the improvement of scientific knowledge (Reynolds, 1971). This approach, which is frequently highly comprehensive of qualitative studies, are driven with similar beliefs about the nature of scientific understanding,

like, nothing is as a genuine reality or, a single truth; rather the brains of people produce knowledge about human behavior that “science is a process of inventing descriptions of phenomena” (Reynolds, 1971). On the other hand, there are multiple and divergent realities and the goal of science is to uncover and explain the nature and significance of phenomena in the world we live in (Hultgren & Coomer, 1989). This TR technique, which is interactive inductive – deductive nature, is particularly suitable to the practical nature of the human and behavioral science (Susan A Lynham, 2002; Reynolds, 1971).

2.1 Toward Job Demand-Resources Theory Building Research Method

The TR theory building strategy along with the practical character and emphasis of many theory building procedures, necessitates that the theorist be knowledgeable about both the primary phenomena and the theory building process (Campbell, 1990; Cohen, 1989; Robert Dubin, 1976; Gioia & Pitre, 1990; Hearn, 1958; Patterson, 1986; Reynolds, 1971; Van de Ven, 1989).

Bakker & Demerouti (2007) presented a new interpretation of the JD-R by incorporating the conservation of resources theory (Stevan E Hobfoll, 2001) which says that individuals seek to conserve their resources and will utilize resources in order to preserve other resources. Under conditions of high job demands, those with adequate resources will be highly motivated and engaged, and those with inadequate resources will not be engaged. Along with job demands control model (R. A. Karasek, 1979) and effort reward imbalance model (Siegrist, 1996), the JD-R model is one of the most often used job stress models (Wilmar B. Schaufeli & Taris, 2014). Bakker & Demerouti (2014) stated that JD-R theory combines principles from job design theory and job stress model; influenced by Two- factor theory (Herzberg, 1966), the job characteristics model (Hackman & Oldham, 1980), the job demand–control model (R. A. Karasek, 1979), and the effort–reward imbalance model (Siegrist, 1996).

Discussion of the phenomena as it relates to knowledge and experience in developing the JD-R theory enables the increase of relevant and rigorous theoretical knowledge of the phenomenon in the real world as well as focuses of the theory and the theory construction technique itself (Figure 2).

Based on Figure 1 and 2, an effective approach to think about the research technique for applied theory development is as a recursive system of five different stages:

- (1) Conceptual development
- (2) Operationalization
- (3) Application
- (4) Confirmation or, disconfirmation
- (5) Continuous refinement and development

Figure 1. The growth cycle of JD-R theory building

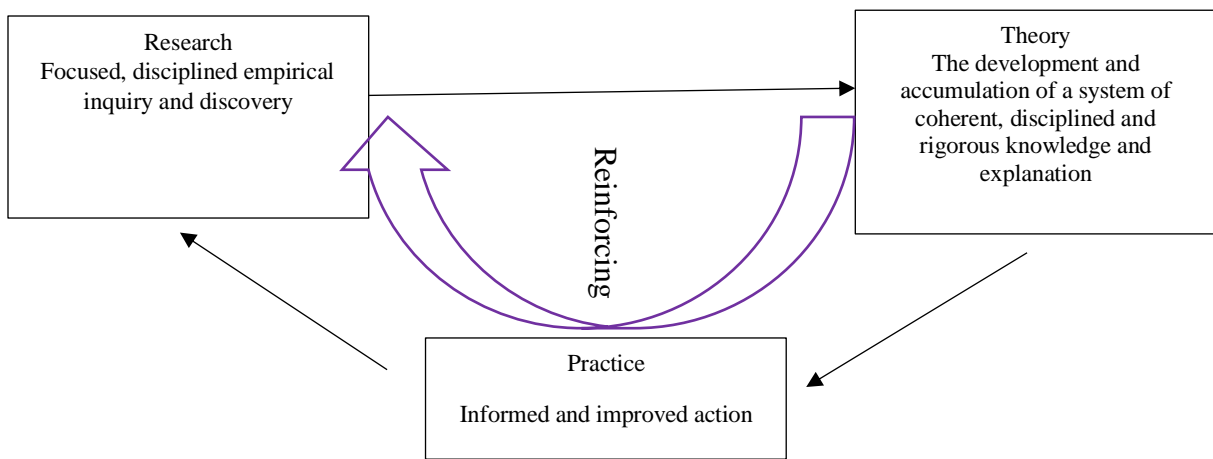
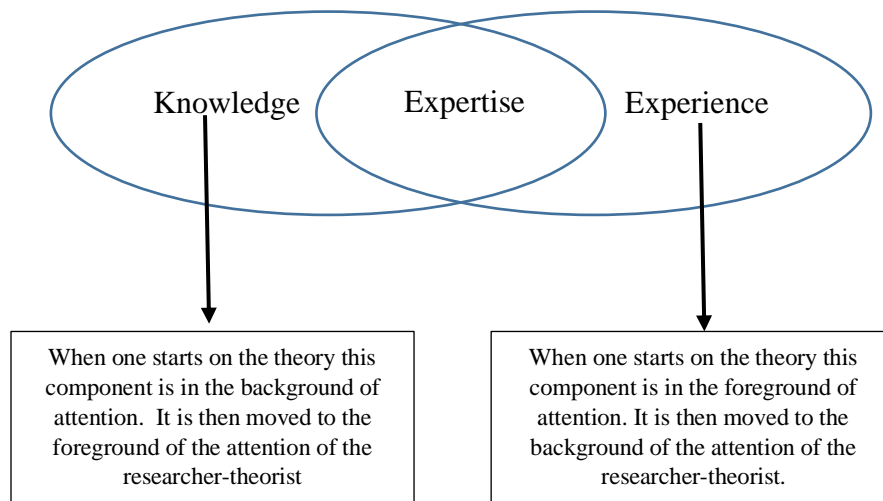


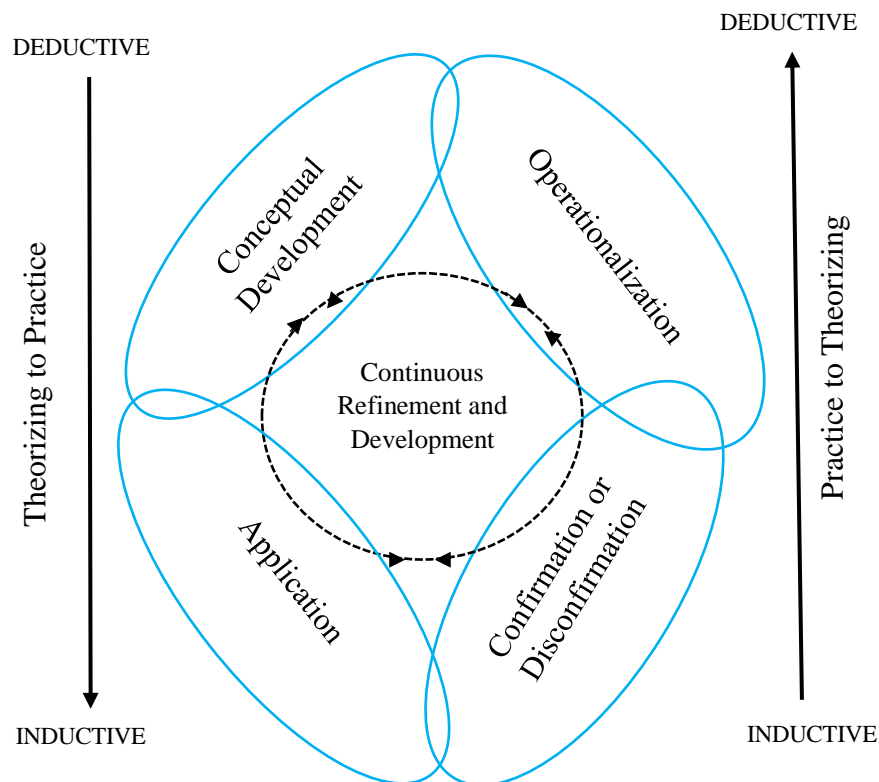
Figure 2. The recursive nature of practical and theoretical expertise inherent in applied theory-building research



Theorizing to practice and practice to theorizing are the two main components of applied theory-building research, respectively. These components all result in diverse in-process outcomes that direct research on practical theories and, in the end, provide a solid, thorough, and useful theory (Denzin & Lincoln, 2000; Marsick, 1990; Van de Ven, 1989).

One of the key outcomes of the hypothesizing factor of the theory construction is a comprehensive and knowledgeable theoretic structure that includes and incorporates the event description, problem, and issue which is the topic of that theory. The practical components of theory building produce key outputs in the form of carefully gathered information/results and experienced understanding those are used to validate, disprove, revise, and develop current theories, as well as to improve the theory's usability in practice. Figure 3 depicts the broader two-component theory-building frame the process of applied theory-building research is divided into five parts.

Figure 3: General method of Theory-Building Research in Applied Disciplines



3. Conceptual Development

Conceptual development entails the theorist must develop original ideas in such a manner that they portray the most current, best, and most educated knowledge and description of the incident, and concern in the appropriate global environment (Dubin, 1978; Lynham, 2000). The goal of this step is to create an informative conceptual framework that gives a basic knowledge and interpretation of the nature and dynamics of the issue, problem, or phenomena on which the theories focus.

3.1 The Conservation of Resources Theory

Conservation of resources (COR) theory is based on the tenet that individuals are motivated to protect their current resources (conservation) and acquire new resources (acquisition). Resources are loosely defined as objects, states, conditions, and other things that people value (Stevan E Hobfoll, 1988). Several theoretical tenets are derived from the fundamental concept of conservation and acquisition are given in Table 1.

The first is the primacy of resource loss—the idea that it is psychologically more harmful for individuals to lose resources than it is helpful for them to gain the resources that they lost. Loss salience is a well-established notion within cognitive psychology (cf. Cacioppo & Gardner, 1999; Tversky & Kahneman, 1974) and has also seen application in organizational psychology (cf. Stein & Cropanzano, 2011; Taylor, 1991; Thoits, 1983). Resource loss has mostly been used in organizational behavior research to comprehend stress and strain (Halbesleben & Buckley, 2004; Stevan E Hobfoll, 2001). Numerous empirical research have discovered that people are more prone to experience strain in the form of burnout (Shirom, 1989), depression (Kessler, Turner, & House, 1988), and physiological outcomes when they lose resources at work (De Vente, Olf, Van Amsterdam, Kamphuis, & Emmelkamp, 2003; Melamed, Shirom, Toker, Berliner, & Shapira, 2006).

This concept also has a motivating component, arguing that people would behave in ways to prevent resource losses since they may have such a substantial detrimental effect on wellbeing. Resource investment is the second tenet. People make investments in order to obtain resources, recoup from losses, and prevent resource loss (Stevan E Hobfoll, 2001). This has often been discussed in terms of coping, which implies that coping entails investing resources to prevent further resource losses (Ito & Brotheridge, 2003; Vinokur & Schul, 2002). One of the advantages of COR theory is extends predicting strain and stress for comprehend inspiration after experiencing strain (Hobfoll, 2001).

Table 1. Basic Tenets of Conservation of Resources Theory

Name	Description
Principle 1: primacy of resource loss	Resource loss is more salient than resource gain.
Principle 2:resource investment	People must invest resources to gain resources and protect themselves from losing resources or to recover from resource loss.
Corollary 1	Individuals with more resources are better positioned for resource gains. Individuals with fewer resources are more likely to experience resource losses.
Corollary 2	Initial resource losses lead to future resource losses.
Corollary 3	Initial resource gains lead to future resource gains.
Corollary 4	Lack of resources leads to defensive attempts to conserve remaining resources.

To further comprehend this complexity, Hobfoll (1998, 2001) listed a number of resource investment process corollaries (Table 1). The first three are conceptually connected and cope with initial resource reserve and resources development. According to Corollary 1, people who possess resources are in a better position to invest them. In other words, individuals who have a resource pool to draw from have more opportunities to invest resources. Corollary 2 indicates that when resources are depleted, investment becomes more challenging (a resource loss spiral; Hobfoll, 2001). However, Corollary 3 asserts that when people accumulate wealth, they are better able to invest and accumulate more wealth (a resource gain spiral). As a result, whereas Corollary 1 covers the process's beginning, Corollaries 2 and 3 focus on the effects of resource changes downstream. In addition, according to Hobfoll (2001), Individuals are considerably more protective in how they use new assets when assets fail (Corollary 4). This implies that when people lose assets, they will adopt further security measures to protect their enduring assets (e.g., Benight et al., 1999;

Halbesleben & Bowler, 2007). In light of this, Halbesleben et al. (2014) provide a crucial link between COR theory and the larger collection of motivation theories. The foundation of COR theory is the idea that people are driven to obtain new assets and safeguard their existing ones, which may be roughly described as items that people value. The resource construct serves as the cornerstone of COR theory. Resources were described by Hobfoll (1989, 1988) as items that people value, with a focus on things, situations, circumstances, as well as other objects. Specifically, COR framework first proposed by Hobfoll (1989) to explain stress is also cited as a foundation of the JD-R (Hakanen & Roodt, 2011). It is a resource-oriented model based on the assumption that people experience stress as a reaction to threats of the potential or actual loss of valued resources.

3.2 Two-Factor Theory

According to the two Factor theory of Herzberg, Mausner & Snyderman (1959) and Herzberg (1966), employee satisfaction and motivation are driven by two distinct sets of circumstances: “hygiene factors and motivational factors”. While there is hygiene factor related dissatisfiers that are supposed to be making workers unhappy at workplace if they are absent, motivational factors (also known as satisfiers) are thought to make the employees happy at work. Herzberg discovered the following hygiene factors using data from engineers and accountants: salary, working condition, international correlation, company policies, and supervision. These factors must be present in order to avoid dissatisfaction. On the other hand, motivator factors are recognition, work nature, responsibilities, achievement, advancement and so on that are surely promote satisfaction. As-a-result, the rise in hygiene factors is unlikely to boost satisfaction, while these absences is likely to raise dissatisfaction. A lower or perceived low wage, for example, would be anticipated to promote dissatisfaction. Money on the other hand is no longer a substantial motivation for performance and work satisfaction after a rational salary established. Employees will execute their work as necessary without motivators, but with motivators, they will raise their effort and go over and above the minimum standards, according to the two-factor theory. The validity of discriminating between hygienic elements and motivators has been disputed in research on the two-factor theory. The main criticism is that there is little evidence supporting the two-factor model's ability to anticipate work satisfaction, and the model's depends on the methodology used

(Ambrose & Kulik, 1999). However, Herzberg's work made scholars and experts conscious of the possibility of work enhancement; occupations maybe reinvented, expanded, and enhanced for boosting motivations and work satisfactions (Grant et al., 2010).

3.3 The Job Characteristics Model

The job characteristics model (Hackman & Oldham, 1976, 1980) examines individual job responses (such as, job satisfaction, illness absenteeism, staff turnover) as a function of job characteristics, moderated by individual characteristics (Roberts & Glick, 1981). The core job characteristics, according to Hackman & Lawler (1971), are skill variety (the scale of skills used at work), task significance (the work's influence on other people's lives or jobs), task identity (the ability to complete an entire piece of work), feedback (the quantity of information concerning job performance effectiveness that is presented), and autonomy (the extent to which the position allows for significant flexibility, independence, and choice in selecting goal-directed conduct at work). By the achievement of three critical psychological states (CPS) named experienced meaningfulness of the work, experienced responsibility for outcomes and knowledge of the result of work activities, employment satisfaction and intrinsic motivations for work are predicted to be influenced by fundamental works characteristics (Hackman & Lawler, 1971; Hackman & Oldham, 1976, 1980). Most studies, on the other hand, have removed the essential mental situations from the model, instead concentrating on the straight influence of the fundamental work characteristics on the results. According to meta-analyses, having essential work characteristics—in particular, job autonomy—helps employees feel more positively about their jobs (Fried & Ferris, 1987; S. K. Parker & Wall, 1998).

3.4 Job Demand-Control Model

One of the most commonly researched models of occupational stress is Karasek's (1979) work demands-control model (de Lange, Taris, Kompier, Houtman & Bongers, 2003). The basic concept behind the job demands control model is that it may assist improve employee job satisfaction by allowing them to engage in challenging activities and gain new skills while also reducing the impact of job demand on strain (Karasek, 1979). That means, strain is favorably associated to demands, whereas control is adversely related to strain.

Figure 4. The Job Demands-Control Model

	High demands	Low demands
High control	Active jobs	Low-strain jobs
Low control	High-strain jobs	Passive jobs

Based on distinct combinations of job demand and control, the job demands-control model divides jobs into four categories (Figure 4). According to the model employee suffer the most physical symptoms in “high-strain” jobs where employees experience high demand at work and have little control over how to perform their tasks at the time (Karasek, 1979). Employee in jobs with high demands and high control have greater satisfaction known as “active jobs”. Because, the employee have knowledgeable demands that give them the opportunities to improve their capability, self-efficacy, expertise growth and individual development (Karasek, 1979; Karasek & Theorell, 1990). Employees, in “passive jobs” have jobs with low demands and low control, have gradual reduction of general problem-solving activities, boredom and dissatisfaction because constant repetition of a task results in a decreased capacity for intellectual challenge (Karasek, 1979). The “low strain job” consists of low demand and high control. Karasek (1979) did not suggest any hypothesis about their effect on employee.

However, Job Demands-Resources Model (JD-R) is not merely an extension of Karasek’s Job demands-control model as it also incorporates motivational theories about using resources for positive motivational outcomes at work.

3.5 The Effort-Reward Imbalance Model

In contrast to the control structure of work, the effort-reward imbalance (ERI) model (Siegrist, 1996) places more emphasis on the reward. According to this model, work-related stress is caused by an imbalance between effort (external job demands and intrinsic motivation to meet these demands) and reward (in terms of salary, esteem reward, and security/career opportunities—i.e., promotion prospects, job security, and status consistency). Arousal and stress will result from a lack of reciprocity between effort and reward (high effort/low reward circumstances; see equity

theory; Hatfield, Walster, Walster, & Berscheid, 1978), which may then result in cardiovascular risks and other stress reactions (cf. equity theory). Consequently, having a hard yet uncertain work and doing well but not being given the opportunity to advance are two instances of a stressful imbalance. Furthermore, it has been discovered that the combination of high effort and little reward at work is a risk factor for burnout, moderate mental problems, cardiovascular health, and subjective health (Siegrist, 2008; Tsutsumi & Kawakami, 2004). A personal component is also included in the ERI model. A collection of attitudes, behaviors, and feelings that demonstrate excessive striving in conjunction with a strong need for acceptance and esteem are referred to as overcommitting. The model suggests that excessive commitment may moderate the relationship between the effort-reward imbalance and employee well-being. Thus, it is anticipated that personality will be able to better characterize how effort and reward interact. Scholars (like, De Jonge, Bosma, Peter, & Siegrist, 2000) have reported the evidence of this pattern.

4. Operationalization

Demerouti et al. (2001) created the JD-R model in order to better understand the causes of burnout. The concept was based on the “structural model of burnout” described in the Maslach Burnout Inventory test manual, as well as the meta-analysis of Lee & Ashforth's (1996) in which eight “job demand” and thirteen “job resources” were identified as probable causes of burnout.

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Demerouti et al. (2001) defined job demands as “those physical, social, or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain

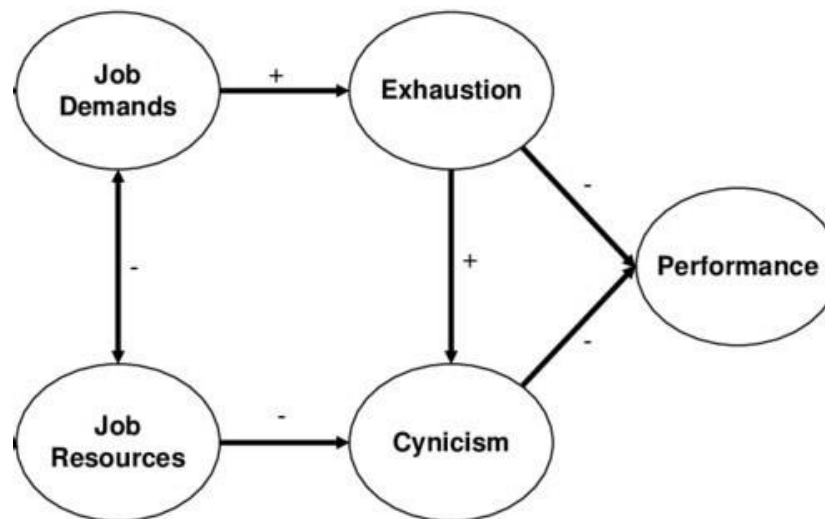
physiological and psychological costs” (p. 501). Work overload, heavy lifting, interpersonal conflict, and job uncertainty are some examples of job demands. The JD-R model, which is based on (Hockey's (1997) model of compensatory control, proposes that when job demands are high, more effort is required to fulfil work goals and to prevent performance decline. This clearly has physical and psychological consequences, such as weariness and irritation. Workers can recover from mobilizing this extra energy and the expenses associated with it by taking a break, switching jobs, or doing fewer demanding activities, for example. When recuperation is insufficient or non-existent, the outcome is a condition of continuous activity that eventually exhausts the employee physically and/or psychologically (Knardahl & Ursin, 1985). Job resources were defined as “those physical, social, or organizational aspects of the job that may do any of the following: (a) be functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; (c) stimulate personal growth and development” (Demerouti et al., 2001). Feedback, job control, and social support are examples of job resources.

5. Confirmation or Disconfirmation

For the development of burnout, the early JD-R model suggested two stages. To begin with, long-term excessive job demands from which employees do not effectively recuperate can result in sustained activation and overtaxing, eventually leading to tiredness – the energizing element of burnout. Second, a shortage of resources prevents job demands and work goals from being accomplished, resulting in withdrawal behavior. Withdrawal – or diminished motivation/disengagement, i.e., the motivational component of burnout – is a self-protective technique to avoid additional energy depletion. According to studies, the primary consequences of demands and resources on burnout are: although job demands are connected to weariness, a lack of resources is linked to disengagement (see among others, (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003; Bakker, Demerouti, & Euwema, 2005; Bakker, Demerouti, & Verbeke, 2004; Demerouti, Nachreiner, Bakker, & Schaufeli, 2001; Hansen, Sverke, & Näswall, 2009; Xanthopoulou et al., 2007). In addition to these primary impacts, the JD-R model predicts that job resources will counteract the negative impact of job demands on exhaustion. This is concluded from the definitions of job resources, which are thought to minimize job demands and exhaustion.

Bakker, Demerouti, Taris, Schaufeli, & Schreurs (2003) discovered that the influence of job demands on exhaustion was notably great when employees had little job resources, and that the effect of job resources on cynicism was similarly strong when employees experienced numerous job demands. Subsequent study of Bakker et al. (2005) and Xanthopoulou et al. (2007) revealed that around 60% of all conceivable interactions between individual job demands and job resources were significant and in the predicted direction, whereas no significant interaction effects contradicted predictions. These results were successfully cross-validated in two private and one public hospitals (Hansen et al., 2009), demonstrating the robustness of the JD-R model.

Figure 5. The Job Demands-Resources (JD-R) model

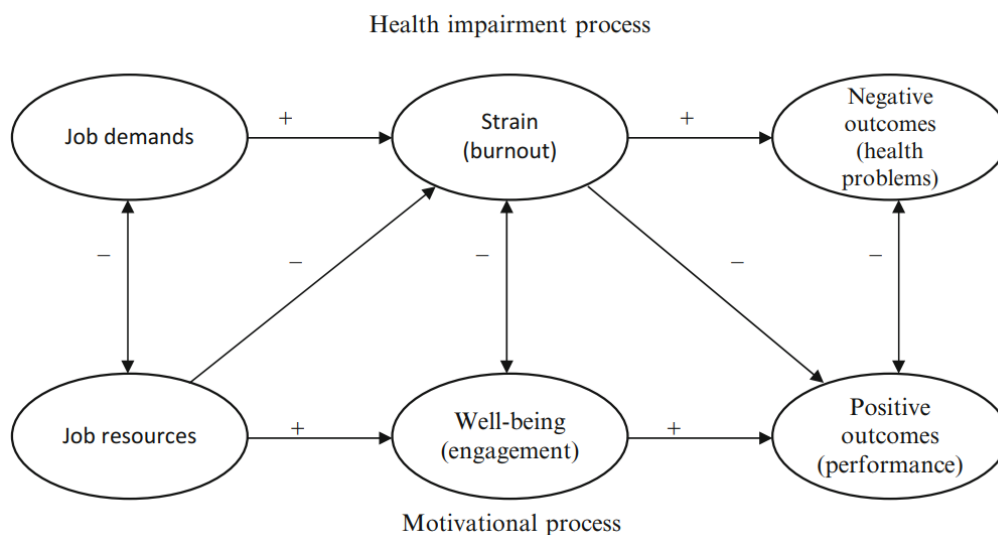


Finally, performance measurement, which was initially believed to indicate burnout effects, was added to the original JD-R model. Bakker, Van Emmerik, & Van Riet (2008) found that cynicism predicts team sales success, whereas Bakker et al. (2004) found that cynicism and weariness were strongly linked to colleague-rated extra-role and in-role performance, respectively.

6. Ongoing Refinement and Development

Schaufeli & Bakker (2004) published an updated version of the JD-R model three years after its initial release (Figure 6). Burnout and work engagement were considered mediators of the relationship between job demands and health problems, and job resources and turnover intention, respectively, in this model.

Figure 6. The revised Job Demand-Resources (JD-R) model

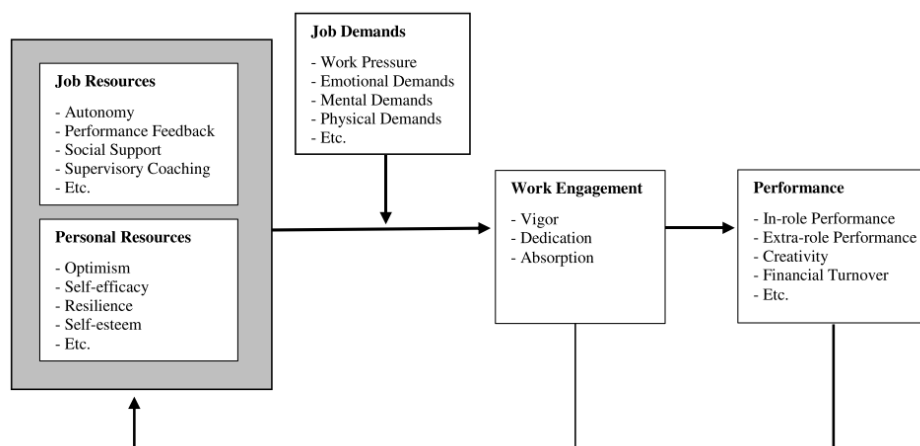


Schaufeli and Bakker (2004) added a psychological aspect to the JD-R model. The new JD-R model tried to evaluate both a negative (burnout) and a positive psychological state (work engagement). Work engagement is characterized by vigor, dedication and absorption. Vigor refers to high levels of energy and mental resilience while working, dedication refers to sense of significant, enthusiasm and challenge and absorption is related with happily engrossed in work.

The new JD-R model implies that high job demands, and insufficient job resources cause burnout, although burnout is now considered as a unitary rather than a two-dimensional concept, like the early JD-R model. Furthermore, according to burnout literature (e.g., Melamed et al., 2006), burnout is associated with health issues for example, anxiety, heart disease, and psychological illnesses. As a result, via the slow depletion of mental resources, the link between work demands and employees' health and wellbeing are anticipated to be mediated by burnout. In the new JD-R

model, this is the energy or health deterioration process. A motivating process is also in operation, which is spurred by ample work resources. The modified JD-R model highlights job resources' intrinsic motivating aspects. Job environments that provide numerous resources, according to effort recovery theory (Meijman & Mulder, 1998), encourage workers to devote their efforts and skills to the work task. As a result, job resources play an extrinsic motivating function since they trigger the desire to expend compensatory effort, lowering job demands and promoting goal achievement. That is, employment resources are critical to fulfilling work objectives. They also, however, provide internal drive through meeting fundamental demands for independence, connectedness, and competency in people (Deci & Ryan, 2000; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). In the JD-R model, the function of job demands as a moderator between job resources and engagement has been studied by Bakker & Demerouti (2007) and Korunka, Kubicek, Schaufeli, & Hoonakker (2009). In the Bakker & Demerouti (2007) research, the term "motivation" was used in place of "engagement." Job demands were also included as a moderator between job/personal resources and work engagement in Bakker & Demerouti's (2007) study, which was concerned with testing a model that primarily focused on work engagement. Job resources provide fundamental human requirements for competence, autonomy, and relatedness in the Job Demands-Resources model (Bakker & Demerouti, 2007).

Figure 7. The JD-R Model of Work Engagement (Bakker & Demerouti, 2008)



There is negative relationship between job resources and job demands that was discovered in the associated research, which to some extent supports the idea that job demands have an impact on job resources that are thought to promote work engagement.

6.1 The Integration of Personal Resources (PR)

The JD-R model's early and updated versions initially simply considered aspects of the workplace. However, it was only natural that personal resources (PR) would be incorporated into the JD-R model because most psychological techniques presuppose that human behavior is the outcome of an interplay between personal and environmental elements. PR defines self-mental traits or qualities typically linked to resiliency and that allude to the capacity in order to successfully influence as well as manage one's surroundings. PR serve the same purpose as job resources in achieving work objectives, and they also promote individual development and advance. PR have been incorporated into JD-R model in five different approaches.

1. Well-being is directly impacted by PR. PR that are characterized by Control and resilience might reduce burnout and increase engagement. after adjusting for initial levels of resources and demands, Lorente, Salanova, Martinez and Schaufeli (2008) showed that Levels of burnout and engagement at the end of the academic year were predicted by emotional and mental competencies at the beginning of the year. Similar to this, an 18-month longitudinal research by Xanthopoulou, Bakker, Demerouti and Schaufeli (2009) found that personal resources (self-efficacy, optimism, and organization-based self-esteem) were the second best predictors of subsequent work engagement after job resources (control, guiding, training, response, and chances for growth).
2. The relationship between work features and happiness is moderated by PR. PR, as defined, have the potential to increase the positive effects of job resources on engagement while buffering the negative impact of job demands on burnout. This reasoning was supported by study using a representative sample of Dutch employees, which discovered that intrinsic work motivation boosted the positive effect of job autonomy on work engagement while

decreasing the negative effect of learning opportunity on exhaustion. (Van den Broeck, Van Ruysseveldt, Smulders, & De Witte, 2011).

3. PR serve as a bridge between job qualities and well-being. According to the principle of conservation of resources (Hobfoll, 2002), resources tend to accumulate. Employees working in a resourceful environment, for example, are more likely to develop emotions of self-confidence and optimism about their future at work. As a result, these PR will be favorably associated to job engagement. According to Van den Broeck et al. (2008), the associations between job demands and exhaustion, job resources and vigour, and job resources and exhaustion were mediated by the satisfaction of fundamental psychological needs (such as competency, independence, and connectedness). While job demands hinder their pleasure, job resources provide fundamental necessities. When fundamental needs are met, workers are likely to feel less burnt out and more energetic.
4. PR affect how people view certain aspects of the workplace. According to Social Cognitive Theory (Bandura, 1997), personal resources (such as self-efficacy) impact how people interpret and react to their surroundings. Job resources, according to Xanthopoulou et al., (2007), intervened the relationship among PR (i.e., self-efficacy, confidence, and organizational-based self-respect) and job engagement.

Therefore, personal resources serve as the "third variable." Finally, because personal resources may influence both work perception and employee well-being, that can be served as "third variables" to explain the connection between work perception and employee well-being.

6.2 The Integration of Job Crafting

Job crafting is characterized by Tims, Bakker, & Derks (2012) as adjustments employee may make to their job demands and job resources. The JD-R theory serves as the foundation for this conception.

It is obvious that having elegant works and operational environments improves worker inspiration and minimizes anxiety, but what if these satisfactory job settings really aren't existing? Workers can vigorously influence the strategy of their employment through selecting jobs, bargaining for alternative work contented, and attributing significance to their tasks or occupations (Parker & Ohly, 2008). The practices of workers customizing their occupations is known as "job crafting" (Wrzesniewski & Dutton, 2001). Job crafting refers to mental and physical adjustments that people mark in their job or interpersonal contexts. Physically variations pertain to variations in the shape, extent, or quantity of work duties, while mental variations allude to shifting one's perspective on the work. According to Wrzesniewski and Dutton, job crafting is neither intrinsically "good" nor "bad" for an institute. Its impact is determined on the condition. According to Wrzesniewski and Dutton (2001), job crafting is motivated by three specific wants.

1. In order to avoid unfavorable outcomes like alienation from their jobs, employees who engage in job crafting feel the need to take control of certain parts of their work.
2. To enable a more positive sense of self to be expressed and validated by others, employees are encouraged to alter characteristics of their employment.
3. Employees can use job crafting to meet their basic human desire for connection with others.

Additionally, it was stated by Petrou, Demerouti, Peeters, Schaufeli, & Hetland (2012) that people should craft their jobs in order to create an environment where they may work productively and with enthusiasm.

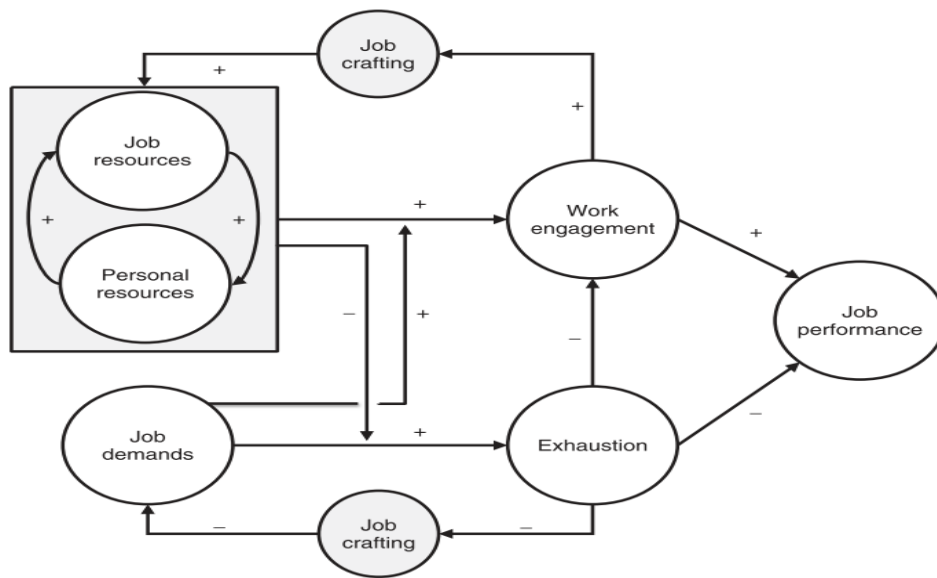
7. Application

The job demand resources model has been used to predict job burnout, organizational commitment, work enjoyment, connectedness and work engagement (Bakker et al., 2005; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Bakker et al., 2008; Bakker, van Veldhoven, & Xanthopoulou, 2010; Demerouti et al., 2001; Hakanen, Bakker, & Schaufeli, 2006; Lewig, Xanthopoulou, Bakker, Dollard, & Metzger, 2007). Furthermore, JD-R model has been used to predict consequences of

these experiences, including sickness absenteeism and job performance (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Bakker et al., 2004, 2008; Clausen, Nielsen, Carneiro, & Borg, 2012; Schaufeli, Bakker, & Van Rhenen, 2009).

The JD-R model has developed into a theory as a result of the numerous investigations, original ideas, and meta-analyses that have been conducted on it (Crawford, Lepine, & Rich, 2010; Halbesleben, 2010; Nahrgang, Morgeson, & Hofmann, 2011). Employee wellbeing (such as burnout, health, motivation, and engagement at work) and job performance may be studied, explained, and predicted using JD-R theory.

Figure 8. JD-R theory with job crafting



JD-R theory contends that work characteristics may be divided into two groups: job demands and job resources, which overcomes the constrained, static, and one-sided early theories of stress and motivation. These two types of work characteristics are prevalent in almost all occupations, making them significant since they serve as the catalysts for two distinct processes: the motivating process and the impairment of health. Demands and resources affect employee motivation and health in different ways, but they also combine to affect employee wellbeing. The model reveals that, rather than being mechanical, personal resources are also significant determinants of motivation and can mitigate the negative impacts of job demands. In addition, the JD-R theory

proposes that job characteristics, as well as health of the employees and motivations, influence one another over time. As a result, employee motivation and health affect the workplace, highlighting the problem's dynamic nature and the link between a healthy workplace and overall welfare. JD-R theory explains perfectly how these reversal impacts take place. Worker adaptation to their environment to make work more exciting and less demanding appears to be explained by job craft, or individualized adaptation of demands and resources. Personal or group interventions that focus on personal resources or work demands and resources may be informed by JD-R theory.

8. Future Model of JD-R Theory

8.1 The Integration of Personal Demand

Van den Broeck, Van Ruysseveldt, Vanbelle and De Witte (2013) indicated that personal characteristics putting an additional burden on employees' might be labeled as personal demands and the JD-R model can constitute a valuable framework to further examine their impact on job design, burnout, and work engagement. Consequently, the inclusion of personal demands in addition to resources makes the current study unique. According to Lorente et al. (2008), it might be worthwhile to take personal demands into account as well. "For example, personality traits like perfectionism and emotional instability, and goal setting and levels of expectations, could be relevant personal demands to be studied in future research on this intriguing topic". Guglielmi, Simbula, Schaufeli, & Depolo (2012) included workaholism as a personal demand. Workaholism functions as an individual risk factor that affects burnout and wellbeing irrespective of workplace setting, according to research by Schaufeli, Bakker, Van der Heijden, & Prins (2009). However, despite its widespread use, no universally accepted definition of workaholism exists beyond its fundamental component: a significant interest in work. Workaholism is also defined by Schaufeli, Taris, & Bakker (2008) as the propensity to work extremely hard and to get preoccupied in job, that shows as working obsessively. This description of workaholism is consistent with an examination of academic conceptions which revealed two essential traits of the condition: (1) Continuing to work too much; and (2) Being driven by an obsessional inner desire (McMillan & O'Driscoll, 2006). The JD-R model is enhanced by Guglielmi, Simbula, Schaufeli and Depolo (2012b) emphasis on the importance of personal demands (i.e. workaholism) in the emergence of

burnout in school administrators. In fact, and consistent with earlier findings (Taris et al., 2005). It has been suggested that workaholism might lead to burnout because working excessively depletes one's mental resources, resulting in a state of mental exhaustion known as burnout (Maslach, 1986).

8.2 The Integration of Leadership Style

Every organization requires leadership to deal with coordination issues. Someone must define the company's direction, who to employ, who to dismiss, and how to handle disagreements within the workforce or between the staff and clients. We describe leadership as the activity of intentionally influencing someone in order to direct, organize, and assist others. According to current definitions, leadership is a purposeful influencing process (Dansereau, Seitz, Chiu, Shaughnessy, & Yammarino, 2013; Yukl, 2013). For the performance and well-being of employees, leadership is essential (Antonakis & Day, 2017; Dinh et al., 2014). Judge and Piccolo (2004) came to this conclusion based on a meta-analysis of primarily surveys: there were positive connections between transformational leadership and employee job satisfaction and employee motivation. Experimental research have demonstrated that leadership style influences both employee performance and well-being (Barling, Weber, & Kelloway, 1996; Bellé, 2014; Dvir, Eden, Avolio, & Shamir, 2002). For example, Chemin (2021) shown that hard-working and high-ability leaders boost employee effort, knowledge-sharing, and performance. As discussed, JD-R theory and leadership are becoming more and more connected (Cheung, Zhang, Cui, & Hsu, 2021; Diebig, Bormann, & Rowold, 2017; Perko, Kinnunen, & Feldt, 2014; Syrek, Apostel, & Antoni, 2013). Many academics who research leadership and the JD-R theory examine what leaders do or how they are seen by their subordinates. In other words, individuals adopt a behavioural style of leadership (Antonakis & Day, 2017).

In contrast to the JDC model, the JD-R theory does not explicitly relate any ideas to one another. Rather, the JD-R theory is adaptable. The JD-R theory may be used in a variety of circumstances in this manner. However, as Bakker & Demerouti (2017) point out, this adaptability might be the theory's Achilles heel, lowering the precision and fineness of its prediction. In relation to the subject of this study, although there is no simple method to include leadership into the JD-R theory,

Tummers and Bakker (2021) observed that it can be done. Actually, building on each other's work becomes challenging. Tummers and Bakker (2021) conceive how leadership and JD-R theory might be linked for cumulative knowledge to grow.

A fresh, perhaps useful, theoretical angle on the relationship between leadership and JD-R theory was offered by Tummers and Bakker (2021). Most of the JD-R research have looked at employees' or individuals' level processes. As a result, employees disclose their workload, resources, level of engagement, and burnout (for instance, Salanova, Llorens, & Cifre, 2013). Through job crafting, employees may also change the resources and requirements for their task (Wrzesniewski and Dutton, 2001). Leaders, who are positioned at higher organizational levels, might operate in contrast to such individualized methods. If they are aware of the resources and job requirements that require attention, they can act to make such working circumstances better.

9. Conclusion

Work overload, work-home conflict, and the emotional and physical demands of the job are all risk factors for burnout, but resources provided by the job, such as autonomy, social support, a good working relationship with the boss, and performance feedback, can lessen the negative effects of the demands of the job on burnout. Thousands of organizations have used the concept, which has served as the inspiration for hundreds of empirical investigations. The JD-R model has been utilized by several occupational health and safety/workplace health and safety authorities and government organizations across the world, particularly in industrialized nations like the UK, Canada, Australia, and Europe. Job demands-resources (JD-R) theory is described by Bakker & Demerouti (2014) as an expansion of the job demands-resources model (Bakker & Demerouti, 2007; Demerouti et al., 2001). Job stress models usually neglect the ability for job resources to motivate employees, in contrast to job design theories that frequently downplay the importance of job demands or stresses. The work demands and resources (JD-R) hypothesis unites the two study traditions and explains how these factors have distinct and additive impacts on job stress and motivation. The JD-R theory also suggests reversed causal effects: although engaged people mobilize their own job resources to stay engaged, burned-out workers may create additional job demands for themselves over time.

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