The Effect of Job Resources on Work Engagement: A Study on Academicians in Turkey

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Abstract

Conducting research and publishing these research papers in academic journals is an accepted norm in the academic world. Previous studies prove that work engagement is a significant predictor of performance. Herein, the relationship between work engagement, which is assumed as a substitute for performance, and job resources is examined. At least one university from each Turkish city was selected and academicians of those universities were sent a 20-item survey online. Four hundred and twenty two academicians were tested using the convenience sampling method. Job resources were subject to second-order confirmatory factor analysis. Furthermore, both for job resources and work engagement, discriminant validity, convergent validity, and composite reliability tests were conducted. The results were analyzed using structural equation modeling. The results indicate that job resources (autonomy, social support, coaching, opportunity for personal development, and task significance) need to be enhanced to develop work engagement by Turkish academicians.

Keywords: Job resources • Work engagement • Coaching • Autonomy • Social support • Personal growth • Structural equation

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Nowadays, it is scarcely possible to say that studies on positive psychology, which focuses positive and strong aspects of employees' feelings and features, have caught up with the literature on employees' negative situations. Martin Seligman, who was the president of the American Psychological Association, brought up this idea with the following words: "The time has finally arrived for a science that seeks to understand positive emotion, build strength and virtue, and provide guideposts for finding what Aristotle called the *good life*" (Seligman, 2002). Positive psychology suggest that repairing the negativity and unfavorable situations is not the sole function of psychology; however, it has a more important role of focusing on strengths and improving the positive aspects of individuals.

In today's work life, organizations are aware that members cannot be satisfied only with being kept away from negative conditions. Attention is paid to the strengths of individuals, optimal functioning, and positive experiences at work (Mauno, Kinnunen, & Ruokolainen, 2007). Research in management literature has also analyzed this through several studies (Berg, Wrzesniewski, & Dutton, 2010; Csíkszentmihályi 1990, 1996, 1997; Dutton, Roberts, & Bednar, 2010; Fredrickson, 2001; Gardner, Csíkszentmihályi, & Damon, 2001; Hennessey & Amabile, 1998; Mitchell, Holtom, & Lee, 2001; Park, Peterson, & Seligman, 2004; Sawyer, 2007; Schneider, Goldstein, & Smith, 1995; van den Hout & Davis, 2010).

Since the Industrial Revolution, researchers and practitioners have been trying to optimize workplaces to obtain the most efficient and effective output. From classical management views to contemporary theories, several views have been expressed about how the ideal workplace should be. One of the recent theories on this issue is the Job Demand–Resources Model (J-DR).

The JD-R model has been developed by Demerouti, Bakker, Nachreiner, and Schaufeli in 2001. The model is a far cry from other well-known theories such as Hackman and Oldham's job characteristics theory (JCT) (1980), Karasek's demand-control model (1979) (DCM), and Siegrist's effort-reward imbalance model (1996) (ERI) with its dynamic structure. However, contrary to these theories, the JD-R model does not state specific factors that lead to job strain or motivation. It propounds the assumption that every occupation may have its own specific risk factors associated with job stress, and these factors can be classified particularly into two general categories: job demands and job resources (Bakker & Demerouti, 2007).

Job demands refer to physical and/or psychological (cognitive and emotional) efforts or skills, and are, therefore, associated with certain physiological and/or psychological costs (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Job resources also refer to physical, psychological, social, and organizational aspects of the job that either/or (*1*) reduce job demands and the associated physiological and psychological costs; (*2*) are functional in achieving work goals; and (*3*) stimulate personal growth, learning, and development (Schaufeli & Bakker, 2004). According to the definition, it can be said that any job-related factors at the organization level, interpersonal or social relations level, task level, and the organization of work level (e.g., role clarity) can refer to job resources.

In addition, according to the JD-R model, job resources are assumed to have motivational potential, which leads to high performance through low cynicism and high engagement (Bakker & Demerouti, 2007). The job resources may play both an extrinsic and an intrinsic motivational role, based on Deci and Ryan's self-determination theory (1985), because they both foster learning and personal growth and are instrumental in achieving tasks. While a job resource such as autonomy is one of the basic human needs, another one is feedback, which fulfills the need of competence via learning. In addition, social support meets the need of relatedness that is described as essential for facilitating proneness for growth (Bakker & Demerouti, 2007; Deci & Ryan, 2000).

One of the concepts under positive psychology literature is work engagement, which has been studied by Schaufeli, Salanova, Gonzalez-Roma, and Bakker in 2002. Work engagement is defined as a "positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption" (Schaufeli et al., 2002). Depending on the definition, individuals who are engaged to work are expected to show high levels of energy, to be enthusiastic about their work, and to be fully immersed in their job so that their time flies (Macey & Schneider, 2008; May, Gilson, & Harter, 2004).

Some profound consequences of work engagement are customer satisfaction (Salanova, Agut, & Piero, 2005), formal role performance (Schaufeli, Taris, & Bakker, 2006), financial returns (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009), lower intention to quit (Schaufeli & Bakker, 2004), and loyalty (Llorens, Bakker, Schaufeli, & Salanova, 2006). Besides the above, personal consequences also exist, such as feelings of happiness, enthusiasm,

joy, and optimism (Bakker & Demerouti, 2008), lower stress (Demerouti et al., 2001), well-being, low neuroticism, and high extroversion (Langelaan, Bakker, Van Doornen, & Schaufeli, 2006). In a Turkish sample, work engagement is found to be related to work–family conflict, supervisor support, and time flexibility (Turgut, 2011).

It should be noted that employees may repay their organization by their level of engagement. That is, employees will choose to engage themselves to varying degrees and in response to the resources, and they receive from their organization. According to Saks (2006), bringing oneself more fully into one's work roles and devoting greater amounts of cognitive, emotional, and physical resources is a very profound way for individuals to respond to an organization's actions. When employees are reinforced with resources and benefits by their organization, they are more likely to be engaged more in exchange for expected effort will increase (Saks, 2006).

Moreover, work engagement might be seen as "old wine in a new bottle" due to similarities with the workaholism concept. According to Bakker and Demerouti (2007), these are similar concepts, but do not overlap each other. Contrary to workaholics, engaged employees do not have the typical compulsive drive. They see work as fun, not an addiction. This proposal was concluded from a qualitative study among 15 engaged workers (Schaufeli et al., 2001).

When the above information is taken into consideration, investigating work engagement among university staff is a beneficial starting point because researchers, especially those referred to as academicians, are generally considered to be characterized as having intrinsic motivation, so they would have a high level of work engagement. Therefore, this should be a good indicator of the motivational process—from job resources to performance.

Purpose

Academicians seem to be the backbone of universities due to their roles as lecturers and researchers, which provide face-to-face contact with students and reputation outside. Therefore, their level of engagement might be beneficial for universities' education quality as possible consequences of the engagement referred to above. This study is a modest contribution to the ongoing research about the quality of academicians' work place, and thereby, of the quality of higher education in Turkey. Based on the JD-R approach, the purpose of this study is to examine the relationship between job resources and work engagement of Turkish academicians.

Method

Design

To test the proposed model and to identify the structural and causal relationship among key constructs, structural equation modeling is used. Structural equation modeling is a family of statistical models that aims to explain the relationships between multiple variables (Hair, Black, Babin, Anderson, & Tatham, 2008).

In the current study, relationship between job resources, work engagement, and publication performance is examined through the structural equation model.

Sample and Data Collection

Employing a convenience sampling method, 422 academicians of universities all around Turkey participated in the study. Professors were excluded due to that coaching activities over them by others is next to nothing. They often give advice to juniors but they usually do not take. Besides, it is stated that while 55.7 percent of the participants were male, 44.3 percent were female. Distributions of academicians' titles are as follows: 59.5 percent were research assistants, 6.9 percent were teaching assistants, 23.7 percent were assistant professors, and 10 percent were associate professors. If the percentage distribution of these titles is considered as reflecting the reality, it can be convincingly said that our sample represents the population. While 78.4 percent of the participants work for public universities, 21.6 percent work for private universities.

Before the data collection period, the survey—including all items—was transferred to electronic media. This made the data collection process easier. Therefore, data were collected from academicians via an e-survey method using an e-survey website.

At least one university had been selected from each city and e-survey links were sent to all of those universities' academicians to ensure geographical representation. According to Sekaran's sample size table (Sekeran & Bougie, 2010), the number of 384 participants is sufficient for a population more than 100.000, which is close to our population size. According to YÖK (Council of Higher Education), in Turkey, the number of academicians, exluding professors, is equal to 100.717.

Instruments

Job Resources Scale: Job resources are a construct defined in the literature as "physical, psychological, social, or organizational features of the job that are functional in achieving work goals" (Bakker, Demerouti, & Schaufeli, 2003). Therefore, any provided feature which facilitates carrying out the jobs can be classified as a job resource. In the first section of the survey, 5 features are selected to measure job resources, including autonomy, coaching, social support, task significance, and opportunities for personal development. These subscales constitute 20 items in total.

Autonomy is measured by a 6-item scale developed by Turgut (2010) (e.g., "I can decide when I start and stop doing my job.")

Social Support is measured by a 3-item scale developed by Bakker et al. (2003), including such questions as "If necessary, can you ask your colleagues for help?"

Coaching is assessed by a 5-item scale developed by Graen and Uhl-Bien (1991) (e.g., "Senior professors uses his/her influence to help me solve my problems at work.")

Task significance scale comprises 3 items developed by Boonzaier, Ficker, and Rust (2001), depending upon Hackman and Oldham's JCT. A sample item for Task significance is "This job itself is very significant and important in the broader scheme of things."

Opportunities for personal development are measured by a 3-item scale developed by Bakker et al. (2003). A sample item is "My work offers me the possibility to learn new things."

Work Engagement Scale: Work engagement is measured via UWES-9, which is the shortened version of the Utrecht Work Engagement Scale developed by Schaufeli, Martinez, Pinto, Salanova, and Bakker (2002). In a later study in 2006, Schaufeli, Bakker, and Salanova developed a shortened version and they recommended that the shortened version should be used if *Work Engagement* construct is handled as one overall factor. In this study, work engagement is added to the model as one overall factor. Therefore, the UWES-9 is used. A sample item for UWES is "At my work, I feel I am bursting with energy."

Data Analysis

The maximum likelihood method of estimation, together with the two-staged process as recommended by Anderson and Gerbing (1988), was used for the analysis. A confirmatory factor analysis is first performed to specify the structure between the latent constructs and the observed indicators and also to test the validity of the measurement model. Afterwards, structural equations among latent constructs are examined to test the conceptual structural equation model. Data were analyzed using AMOS 21.0 (Arbuckle, 1997).

Results

Correlation Matrix

In Table 1, inter-correlations among the variables—Autonomy, Social Support, Coaching, Opportunities for personal development, Task significance, and Work engagement—are shown.

Table 1
Correlation Matrix

Variables	1	2	3	4	5
1. Autonomy					
2. Social Support	.356**				
3. Coaching	.353**	.627**			
4. Opportunities for Personal Development	.418**	.371**	.472**		
5. Task Significance	.392**	.384**	.488**	.633**	
6. Work Engagement	.441**	.356**	.514**	.675**	.682**

** Correlation is significant at the 0.01 level (2-tailed).

Reliability and Validity

The measurement model was evaluated before the final measurement model and structural equation models were examined (Anderson & Gerbing, 1988). Items that had a standardized factor loading below 0.3 were deleted and not included in further analysis (Joreskog, 1993). Therefore, the first item in the autonomy scale and the item belonging to the publication performance variable (which questioned the number of authored books published) were excluded. Then, autonomy is measured with the remaining five items and publication performance was measured with only academic articles and papers presented in congress and printed in booklets. The proposed final measurement model consisted of seven latent constructs and 30 observed variables. The job resources variable is taken as the second-order latent construct posited by the five first order latent constructs. In Table 2, the measurement construct

and indicator, standardized factor loading, *t*-value, composite reliability, and average variance extracted are summarized. The index of composite reliability, which is more robust than Cronbach's alpha, is the main criterion for construct reliability (Fornell & Larcker, 1981). Bagozzi and Yi (1988) also suggested that there are two criteria for reliability: the composite reliability and the variance extracted. The composite

reliability must be greater than or equal to .60. As summarized in Table 1, the composite reliability value ranged from .649 to .929. The average variance extracted ranged from .489 to .727.

A chi-square difference test was used in this study to test the discriminant validity of each construct. For every possible pair of estimated construct,

Table 2
Final Measurement Model

Construct & Indicators	Factor Loadings	*t*-value	Composite Reliability	Average Variance Extracted
First-Order Constructs				
Work Engagement			.926	.584
WE 1	.811	λ set to 1		
WE 2	.828	19.980		
WE 3	.887	22.108		
WE 4	.863	21.213		
WE 5	.776	18.203		
WE 6	.639	14.141		
WE 7	.702	15.917		
WE 8	.593	12.897		
WE 9	.727	16.685		
Autonomy			.862	.563
AUT 2	.735	9.946		
AUT 3	.760	10.113		
AUT 4	.875	10.699		
AUT 5	.818	10.464		
AUT 6	.511	λ set to 1		
Social Support			.880	.712
SS 1	.867	17.676		
SS 2	.911	18.053		
SS 3	.744	λ set to 1		
Coaching			.929	.727
COA 1	.617	λ set to 1		
COA 2	.856	16.088		
COA 3	.919	14.850		
COA 4	.939	14.914		
COA 5	.893	14.407		
Task Significance			.876	.702
TS 1	.789	19.229		
TS 2	.849	21.365		
TS 3	.873	λ set to 1		
Opp. for Personal Development			.877	.704
PD 1	.775	λ set to 1		
PD 2	.869	18.756		
PD 3	.870	18.788		
Second Order Constructs				
Job Resources			.822	.489
Autonomy	.565	λ set to 1		
Social Support	.533	6.435		
Coaching	.670	6.753		
Task Significance	.836	7.751		
Personnel Development	.832	7.536		

All factor loadings are significant at the .001 level.

two models were tested. The chi-square value was generated for the constrained model by constraining the correlation parameter to 1. In the second model (unconstrained model), the correlation parameter between two constructs was not manipulated. For the constrained and unconstrained model, a chi-square difference test was performed on the values obtained. A significant difference between the models demonstrated that discriminant validity had been achieved. Convergent validity was also assessed from the measurement model by examining the item loadings and their associated *t*-values. All of the indicators were significant at the .05 level, indicating that convergent validity had been achieved.

Fit Indices of the Models

The overall fit of the second-order measurement model, final measurement model, and the structure model are listed in Table 3. These fit indices suggested that second-order measurement model, final measurement model, and the structure model were acceptable and that the data fits the model.

Research Hypotheses Testing and Path Coefficients

Three research hypotheses were proposed and tested using structural equation modeling for their causal relationship. Path coefficients and *t*-values are examined to identify the causation between the constructs. Results of the analysis are discussed below.

Hypothesis 1: Job resources are positively related to work engagement. This hypothesis is supported by the test results. According to the SEM analysis, the path coefficient from the job resources to the work engagement was statistically significant at the .001 level, with a strong and positive causation (β = .89, t = 7.78, p < .001). The model results are shown in Figure 1.
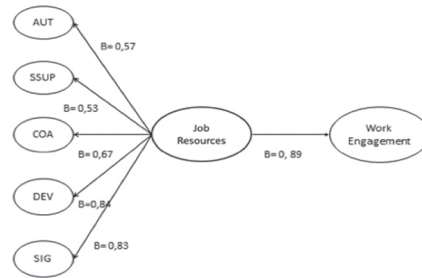

Figure 1: Structural equation model results.
p < .001 all values

Discussion

The aim of this study was to determine the impact of job resources on work engagement of Turkish academicians. Accordingly, as a first step, the second-order confirmatory analysis of job resources is implemented using the constructs—autonomy, social support, coaching, opportunities for personal development, and task significance. It has been found that these 5 constructs converge on a common underlying construct, which is job resources, which can fairly explain the data (Bauer, Falk, & Hammerschmidt, 2006; Li, 2006; Wu, 2008). In addition, as a second step, the final revised measurement model has been tested and the results revealed that the data fit the model. Finally, based on the structural model, the impact of job resources on work engagement has been investigated.

Looking at the results of the study, job resources are found to be a good predictor of work engagement (β = .89). This finding is consistent with the studies done earlier (Bakker & Demerouti, 2008; Hakanen, Schaufeli, & Ahola, 2008; Koyuncu, Burke, & Fiksenbaum, 2006; Simbula, Guglielmi, & Schaufeli, 2011). Furthermore, the research results on education literature is parallel to our results (Bakker & Bal, 2010; Hakanen, Bakker, & Schaufeli, 2006; Rothman & Jordaan, 2006; Reeve, Jang, Carrell, Jeon, & Barch, 2004).

From the results that have been obtained, it is possible to say that to increase the academicians'

Table 3
Summary of Goodness of Fit Indices for the Measurement and Structural Model

Model	X²	df	X²/ df	CFI	NNFI	SRMR	RMSEA
Second-order measurement model	462.844	144	3.214	.945	.934	.0719	.0073
Final measurement model	1009.700	340	2.970	.926	.918	.0727	.0068
Structural Model	1009.700	340	2.970	.926	.918	.0727	.0068
Recommended Value	-	-	< 3.0 or < 5.0	≥ 0,90	≥ 0,90	< 0,08	< 0,07

level of work engagement, academicians should be reinforced with the following:

i. More autonomy (is one of the basic human needs), which refers to the decision latitude of academicians. An example is academicians' option to determine the amount and time of their lectures as they want.

ii. Better social support, which refers to perception and actuality that one is cared for, has assistance available from other people, and that one is part of a supportive social network. An example is academicians' help with statistical methods during one's research.

iii. Coaching, which means all the help given by senior professors to achieve or carry out the job. Hence, an example of coaching might be an arrangement of help by a company to conduct business research.

iv. Opportunities for personal development, which refers to creating an environment that has the potential to improve academicians' awareness, talents, and build their human capital. An example of this is the training program given to research assistants about methods, programs, tools, and techniques given by the university management.

v. Task significance awareness, which refers to being able to identify the task as contributing to something wider, to society or a group over and beyond the self (Hackman & Oldham, 1980). As is understood from the definition, while academicians lecture and conduct research, they are not only contributing to themselves, but also to their society and entire world. As they feel this positive contribution, they become aware of task significance, and therefore, become engaged.

This study has several limitations that need to be addressed, although the study makes some practical contribution to university management and theoretical contribution to positive psychology literature via retesting the JD-R model and work engagement constructs to see how they apply to Turkish academicians'. Recommendations and suggestions are also provided for future studies.

The first limitation in this study is about the implementation of the convenience sampling method, which is one of the non-random sampling methods. Nevertheless, to represent the population, data collected from at least one university from each city. Therefore, it is assumed that sample dispersion represent whole Turkish universities.

Considering the JD-R model, resources are limited due to the feasibility of research whereas the model (Demerouti et al., 2001) tolerates countless resources by means of its dynamic structure.

A third limitation is that, as noted before, professors are excluded from the research because one variable, "coaching," would not be applicable to them due to their seniority.

Based on the literature, work engagement was taken as an indicator of performance; in other words, engagement is assumed to be a wellness predictor of performance. It is suggested that a real performance scale may be more useful instead of engagement. Future studies should use engagement as a mediator or moderator variable between job resources and performance.

Finally, these researches are sensitive to personal characteristics. Thus, any variable that relates to personal characteristics should be added to the model in order to clarify the relationships better.

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