



The Effect of Human Resource Management Practices on Employees' Work Engagement and the Mediating and Moderating Role of Positive Psychological Capital

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ABSTRACT

This study proposes and investigates a model of psychological capital as a mediator and moderator in human resource (HR) practices-employee work engagement relationship. Although there have been a lot of researches on the relationship between HR practices and individual and organizational outcomes, how occur this relationship is still unclear. In order to advance our knowledge about this relationship, there is need to investigate possible mediating and moderating variables that effective on it. To test developed model, we collected data from 590 white-collar employees who are working in private companies from different sectors in Turkey. As a result of this study the effects of motivation and skill enhancing HR practices on work engagement are significantly partial mediated by psychological capital but not moderated. On the other hand the effects of opportunity enhancing HR practices and working conditions on work engagement are significantly partial mediated and moderated by psychological capital at the same time.

Keywords: Human Resource Management Practices, Work Engagement, Positive Psychological Capital

JEL Classifications: M12, M50, M54

1. INTRODUCTION

In competitive business environment, organizations have faced with human capital challenges and uncertain economic conditions. This article highlights the fact that the current competitive environment has made employee engagement a priority issue for organization. It has become a more important concept to consider when dealing with changes at work and sustainable performance (Schaufeli and Salanova, 2007). The majority of studies support the idea that need for engagement. Previous studies have demonstrated the existence of positive and significant relations between employees' work engagement and their performance (Salanova et al., 2005; Macey and Schneider, 2008; Christian et al., 2011, Gruman and Saks, 2011). Work engagement also positively related to service climate, customer loyalty (Salanova et al., 2005), commitment (Hallberg and Schaufeli, 2006) and, negatively related to turnover intentions (Schaufeli and Bakker, 2004).

Although there is a great deal of interest in engagement, there is no universal definition of it. Engagement has been conceptualized

in different ways by academic researchers and consultancy companies. In academic literature, engagement was first described by Kahn (1990) as "the harnessing of organization members selves to their work roles: In engagement, people employ and express themselves physically, cognitively, emotionally and mentally during role performance" (p. 694). An alternative definition of engagement is describes work engagement as a "positive, fulfilling, work related state of mind that is characterized by vigor, dedication and absorption" (Schaufeli et al., 2002). According to Schaufeli (2013), although work engagement and employee engagement are used interchangeably, work engagement refers to the relationship of employee with his/her work, whereas employee engagement may include the relationship with the organization. We prefer to use "work engagement" as an engagement construct in this study because of its specific work-related definition.

Job demand-resource (JDR) model presents a conceptual framework of engagement (Demerouti and Bakker, 2007). In JDR model, engagement is associated with job demands and job resources. The demands refer to "those physical, psychological, social, or

organizational aspects of the job that require sustained physical and/or mental effort or skills and therefore associated with certain physiological and/or psychological costs” (p.312). Job demands are associated with increased burnout. On the other hand, job resources may reduce job demands and are associated with increased engagement (Crawford et al., 2010). In JDR model, work engagement has two main predictors, job resources and personal resources. Although there is a great deal of interest in work engagement, relatively little is known about how work engagement can be affected by HR practices. Another gap in this issue is that, how personal differences have influence on the relations between HR practices and work engagement. The current study is concentrated on HR practices as job resources and positive psychological capital as a personal resource. We try to fill these gaps in the current research by examining whether HR practices and psychological capital influence to work engagement, and whether psychological capital mediates and moderates the HR practices-work engagement relationship presented in Figure 1. In line with JDR model, in the current study, positive psychological capital is adopted as a mediator and moderator in human resource management (HRM) practices and engagement relationships. To our knowledge, no other research has examined the mediating and moderating role of positive psychological capital on this relationship. In the following part, the model of the study and hypotheses are discussed. After this, the methodology of the study and the results are presented. And the final part points out the limitations and the implications of the study and further research directions.

2. LITERATURE REVIEW

2.1. HRM Practices and Employee Work Engagement

Work engagement is found to be positively related with job resources (Salanova et al., 2005). Resources are defined as anything perceived by the individual to help attain his or her goals by Halbesleben et al. (2014). They state that resources serve as a valuable connection point for conservation of resource (COR) theory within the broader array of motivation theories. Job resources refer to physical, psychological, social or organizational aspects of the job. It can be classified at organizational level (e.g. salary, career opportunities), interpersonal level (e.g. supervisor and coworker support), the specific job position (e.g. role clarity, participation in decision making), and at the level of task (e.g. skill variety, task identity, task significance, autonomy and performance feedback) (Demerouti and Bakker, 2011). According to Hakanen et al. (2006), job resources may stimulate personal growth, learning and development and be functional in

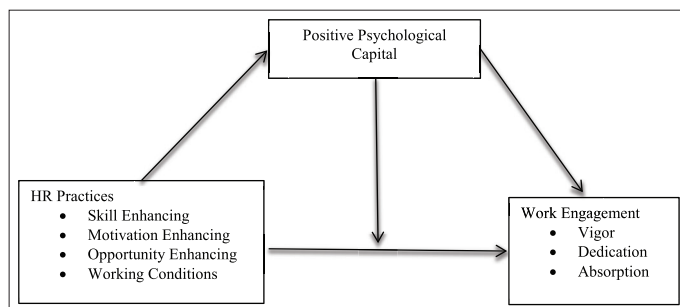
achieving work goals. HR practices may affect work engagement positively through enhancing the necessary skill, motivation, opportunity and proper working condition. In this situation, employees will be more likely to engage in working activities due to a personal enjoyment rather than because of feeling coerced into them. According to May et al. (2004) study, engagement level of employees was enhanced in circumstances where increased psychological meaningfulness, psychological safety and their psychological availability. Psychological availability is defined as an individual’s belief that the physical, emotional or cognitive resources to engage the self at work (Kahn, 1990). Additionally according to Salanova et al. (2005), organizational resources are “facilitators” in workplace, because they seem to have potential motivating functions to increase the level of work engagement. Demerouti and Bakker (2011) claim since because resourceful work environments facilitate employees work engagement, organizations should offer their employees sufficient job resources, including feedback, social support, and skill variety. In consistent with skill, motivation and opportunity enhancing HR practices and proper working conditions can be considered as facilitator job resources which could be affected on work engagement level.

Previous research has demonstrated that employees who perceive effective management, such as organizational and supervisory support and justice are more likely to be engaged in their work (Ang et al., 2013; May et al., 2004; Saks, 2006). In “AMO” model of individual performance (Huselid, 1995); HR systems influence the abilities (A), motivations (M), and opportunities (O), to perform of individual employees. Every HR system works its impacts on the skill and knowledge of individual employees, their willingness to exert effort, and their opportunities to express their talent in their work (Boxall and Macky, 2009). In line with social exchange theory, Alfes et al. (2013) state that HRM practices is one way for an employer to signal their willingness to invest in and support their employees, therefore perceived HRM practices may be linked with employee engagement. According to Social Exchange Theory, employees who perceive that their organization has consistently and fairly implemented HR practices related to skill, motivation, opportunity enhancing HR practices and given proper working conditions should have greater work engagement. On the other hand, inconsistent and poor implementation of HR practices may cause higher levels of disengagement (Ang et al., 2013).

Ang et al. (2013) found that the mediating effect of employee engagement on the relations between high performance work systems (HPWS) and affective commitment. Also, Alfes et al. (2013) have indicated employee engagement as a mechanism which accounts for the relations between HRM practices and individual behavior. According to this study, employees who have a positive perception of the HRM practices in their organization are more likely to be engaged with their jobs (Alfes et al., 2013). In latest study, Conway et al. (2015) found that employee voice mechanisms may act as a resource in enhancing engagement and reducing deleterious effects of emotional exhaustion.

Therefore, according to Social Exchange theory, COR theory, job resource-demand model and previous researches, hypotheses can be formulated as follows:

Figure 1: The research model



Hypothesis 1a: The skill-enhancing HRM practices are positively related to the employee work engagement.

Hypothesis 1b: The motivation-enhancing HRM practices are positively related to the employee work engagement.

Hypothesis 1c: The empowering-enhancing HRM practices are positively related to the employee work engagement.

Hypothesis 1d: The working condition is positively related to the employee work engagement.

2.2. The Mediating and Moderating Role of Psychological Capital

In line with positive psychology approach, positive psychological capital focuses on strengths within individuals and can be seen as a personal resource with the ability to enhance an individual's success within a challenging and uncertain working environment (Avey et al., 2010).

Positive psychological capital is defined as "an individual's positive psychological state of development that is characterized by: (1) Having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans et al., 2007. P. 3).

Previous research indicated that psychological capital has a positive association with commitment (Luthans et al., 2008), performance (Walumbwa et al., 2010), job satisfaction (Luthans et al., 2007; Ozer et al., 2013), well-being (Avey et al., 2010). Meta analytic reviews support positive relations between positive psychological capital and employees work attitudes and behaviors (Avey et al., 2011). Engaged employees have several personal resources that can be differentiate them from less engaged employees. In JDR model, another main predictor of work engagement is personal resources such as self-efficacy, optimism and resiliency. In combine with we may accept positive psychological capital as a personal resource. In previous research positive psychological capital also was found to be related to work engagement (Avey et al., 2008; Xanthopoulou et al., 2009; Teo et al., 2014).

Xanthopoulou et al. (2007), proposed that personal resources may function either as moderators or as mediators in the relationship between environmental factors and (organizational) outcomes, or they may even determine the way people comprehend the environment, formulate it, and react to it. Gupta (2014) investigated psychological capital as a mediator and moderator in relationship between HPWS and employee creativity theoretically. Also Brouze (2014) empirically investigated psychological capital as a moderator and mediator in JDR framework. These studies argued that psychological capital as a moderator has buffering effect in stressful working conditions and as a mediator has a motivational potential.

Some studies have investigated the personal resources as mediators (Xanthopoulou et al., 2007). These studies mainly focus on the

fact that existence of environmental resources (job resources) may activate personal resources and in turn may result in positive psychological and organizational outcomes. According to Sweetman and Luthans (2010), psychological capital is positively related to job resources. Furthermore, each psychological capital dimensions leads to energetic and dedicated, in other words engaged employees. Psychological capital (as a personal resource) may be seen to function as a mediator to extent that it accounts for the relation between the predictors, HR practices (as job resources) and criterion, work engagement (Baron and Kenny, 1986). Taken together theoretical framework job resources and personal resources facilitate engagement at work. In addition, Luthans et al. (2008) study indicated that supportive organizational climate have a facilitator role in building employees psychological capital. When considered JDR model, as HR practices can be viewed as job resources, and Psychological capital can be viewed as a personal resource, it is hypothesized that psychological capital will have the ability to affect the level of engagement affected by HR practices, thereby mediating the relations between HR practices and work engagement. Individual's positive psychological state is helpful to gain job resources and personal resources serves as the antecedents in predicting work engagement. According to Xanthopoulou et al. (2007) employees who have sufficient job resources will feel efficacious, important to organization, optimistic about their future, and consequently stay engaged in their work. Also, in reciprocal relationship, psychological capital may facilitate to take advantage of job resources (Peng et al., 2013). Psychological capital may have positively relation with HR practices and in turn may facilitate to accumulate HR practices.

Xanthopoulou et al. (2007) state personal resources may moderate the relationship between job resources and work engagement. While investigating the role of personal resources (such psychological capital) as moderators, studies have mainly examined the relationship between undesirable work characteristics and negative outcomes. In line with COR theory (Hobfoll, 2002), these studies argued that employees with high levels of personal resources have greater mastery that helps them to deal more effectively with demanding conditions, and in turn prevent them from them negative outcomes. Referring to empirical studies for psychological capital as a moderator, Cheung et al. (2011) found that under high emotional stress, employees who have high in psychological capital reported lower level of cynicism and high level of job satisfaction than their counterparts who have low level psychological capital. In addition, Grau et al. (2001) investigated the moderating role of professional self-efficacy on the relationship between stress and strain. They found that when role conflict was high, individuals with low professional self-efficacy displayed greater levels of cynicism compare to those individuals with high professional self-efficacy. Similarly, Roberts et al. (2011) tested the moderating effect of psychological capital on the relationship between job stress and incivility. They found that psychological capital buffers the effect of job stress on incivility. Another study was made by Lehner et al. (2014) on the moderating role of psychological capital which revealed that the positive relationship of relational contracts with performance become when psychological capital is high and the negative relationship of contract breach with creativity was also become weaker when psychological capital is high. Also

Erkutlu (2014) found that the moderating effect of psychological capital with regard to the relationship between narcissism and psychological wellbeing. Additionally, according to Ozer et al. (2013), employees who reflect positive states in organizations can affect positive organizational outputs better than others. In their research, they found the moderating effect of employee perception about organizational climate and supportiveness on the relation between psychological capital and job satisfaction. A moderator is a variable that affects the direction and or strength of relation between a predictor variable (HR practices) and a criterion variable (work engagement) (Baron and Kenny, 1986). In this study, an individual's level of Psychological capital is hypothesized to affect the strength of the relation between HR practices and work engagement. According to the motivational process, the availability of job resources leads to work engagement. Job resources, due to their motivational potential, foster employees to meet their goals. In turn, employees may become more committed to their job, because they derive fulfillment from it (Xanthopoulou et al., 2007). Employees with high levels of psychological capital have psychological resources that can produce positive behaviors. When people have more psychological capital, they have more psychological resources for preserving and succeeding when facing setbacks and challenges (Roberts et al., 2011; Teo et al., 2014). Additionally, Demerouti and Bakker (2011) proposed that employees may be particularly engaged in their work and flourish if job demands and job resources are high, if their personal resources, such as resilience and hope, are high as well. According to Xanthopoulou et al. (2007), employees who have high level of psychological capital will focus more on job resources than on job demands, and as a result they will experience lower level of exhaustion and higher level of work engagement. In line with literature, we expect that in particular individuals with higher levels of psychological capital will demonstrate higher levels of engagement than those with low level of psychological capital. The relations between HR practices and engagement will be stronger for those with high level of psychological capital than low level of psychological capital and we can formulate the following hypotheses.

Hypothesis 2a: The relation between skill-enhancing HRM practices and work engagement is partial mediated and moderated by the positive psychological capital.

Hypothesis 2b: The relation between motivation-enhancing HRM practices and work engagement is partial mediated and moderated by the positive psychological capital.

Hypothesis 2c: The relation between empowering-enhancing

HRM practices and work engagement is partial mediated and moderated by the positive psychological capital.

Hypothesis 2d: The relation between working condition and work engagement is partial mediated and moderated by the positive psychological capital.

3. METHODS

3.1. Participants

The present empirical study was carried out among a sample of full-time white-collar employees who are working in private companies from different sectors in Turkey. A convenience sampling method was used and the voluntary participants completed the questionnaires anonymously. A total number of 590 questionnaires were returned. Because of the missing information and irrelevant response, in total 555 usable questionnaires were obtained. 46% of the respondents were female and 54% were male. 20% of the respondents were aged between 18 and 25, 42.9% between 26 and 32, 24.9% between 33 and 39, 10.3% between 40 and 46, and the rest were older than 46. 58.6% of respondents were single, the rest were married. Regarding education, 47.7% of respondents had undergraduate degree, 37.7% had graduate degree, and the rest had high school.

3.2. Measures

3.2.1. HRM practices

HR practices scales were occurred to base on ability, motivation and opportunity approach (AMO) (Gardner et al., 2011) and HPWS (Lepak et al., 2006; Takeuchi et al., 2007; Bae and Lawler, 2000; Wu and Chaturvedi, 2009). All items adapted from established scales on HR systems and practices presented Table 1. HR practices were investigated as four dimensions: Skill enhancing HR practices (selective staffing, extensive training programs), motivation enhancing HR practices (internal career opportunities, employment security, incentive and fair compensation and result oriented appraisals), opportunity enhancing HR practices (clear job descriptions, participation, information sharing and empowerment) and proper working conditions. There were 48 items.

In this study, HR practices were examined as employee-rated and assessed employee perceptions of HR practices (Wu and Chaturvedi, 2009). The response scale ranged from 1 ("strongly disagree") to 5 ("strongly agree"). According to previous studies on HPWS, using an additive measure of HPWS was suggested

Table 1: HR practice scales

S. No.	HR practices	Source
1	Selective staffing	(Sun et al., 2007; Singh, 2004; Yu and Egri, 2005), 4 item
2	Internal career opportunities	(Sun et al., 2007; Delery and Doty, 1996; Singh, 2004), 6 item
3	Extensive training programs	(Edgar and Geare, 2005; Vanhala and Ahteela, 2011; Delery and Doty, 1996), 6 item
4	Results oriented appraisals	(Delery and Doty, 1996; Singh, 2004; Yu and Egri, 2005), 7 item
5	Incentive and fair compensation	(Singh, 2004; Sun et al., 2007), 4 item
6	Employment security	(Tsai, 2006), 2 item
7	Clear job descriptions	(Delery and Doty, 1996; Singh, 2004; Vanhala and Ahteela, 2011), 4 item
8	Participation	(Delery and Doty, 1996), 4 item
9	Information sharing	(Paré and Tremblay, 2007), 5 item
10	Empowerment	(Tsai, 2006), 3 item
11	Working conditions	(Edgar and Geare, 2005), 3 item

HR: Human resource

(Takeuchi et al., 2007; Bae and Lawler, 2000; Wu and Chaturvedi, 2009). In consistent with literature, because four dimensions of HR practices were highly correlated, these practices were combined into one aggregate index reflecting all HR practices and, Cronbach's alpha coefficient of aggregate measure was $\alpha = 0.96$. Additionally, skill enhancing HR practices Cronbach's alpha coefficient was 0.91, motivation enhancing HR practices was 0.93, opportunity enhancing HR practices was 0.89 and working condition was 0.73. All HR practice scales demonstrated good internal consistency reliabilities because they exceed the recommended level 0.70 for organizational research studies (Nunnally and Bernstein, 1994).

3.2.2. Work engagement

Work engagement was measured using the shortened nine item version of the Utrecht work engagement scale (UWES-9) (Schaufeli et al., 2006). The shortened version of the scale as a single construct was showed good fit in several empirical studies (Balducci et al., 2010; Nerstad et al., 2010; De Bruin and Henn, 2013). This scale in line with UWES-17, consists of three underlying dimensions, which are measured with three items each vigor, dedication and absorption. The response scale ranged from 1 ("never") to 5 ("always"). Internal consistency Cronbach's alpha coefficient was $\alpha = 0.90$. It demonstrated good internal consistency reliabilities because exceed the 0.70 recommendations for organizational research studies (Nunnally and Bernstein, 1994).

3.2.3. Positive psychological capital

Psychological capital was measured with the 24 item psychological capital questionnaire (PCQ) developed by Luthans et al. (2007). Each dimension of psychological capital was represented by 6 items: Self-efficacy, hope, optimism, resilience. Higher order factor representation of Psychological capital was used for hypothesis testing. Participants indicated their agreement with each item on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). In current study the Cronbach's alpha coefficients was $\alpha = 0.91$ for complete measure of 24 items. It demonstrated good internal consistency reliabilities because exceed the 0.70 recommendations for organizational research studies (Nunnally and Bernstein, 1994).

3.3. Analysis

Before hypothesis testing, a confirmatory factor analytic model was performed using AMOS 18 to assess the structure of variables and their convergent and discriminant validity relative to each other. Model testing followed the two step approach of first specifying and assessing the measurement model, then specifying and assessing the structural model (Anderson and Gerbing, 1988).

Models were estimated using single indicators for each construct except working condition (Bagozzi and Edward, 1998). The latent skill enhancing HR practices were indicated by selective staffing and extensive training programs. The latent motivation enhancing HR practices were indicated by internal career opportunities, employment security, incentive and fair compensation and result oriented appraisals. The latent opportunity enhancing HR practices were indicated by clear job descriptions, participation, information sharing and empowerment. The Working condition had three-item indicators. The latent work engagement was indicated by vigor,

dedication and absorption. The latent Psychological capital was indicated by self-efficacy, optimism, hope and resilience.

To assess the measurement model of the study's variables of interest - HR practices, Psychological capital and Work engagement - confirmatory factor analysis (CFA) was performed. A measurement model exhibited good psychometric properties. All observed indicators were specified to load on their respective latent constructs and no observed indicator was allowed to cross-load. Model fit statistics were selected to capture aspects of absolute, incremental, and parsimonious fit. Model modifications are often needed in structural equation modeling (SEM) in order to the fit of the model. In current CFA model, on the basis of modification indices, by allowing one pair of errors to correlate from opportunity enhancing HR practices, it yielded acceptable fit statistics. The chi-square test was significant ($\chi^2 = 593.138$, $df = 162$, $P < 0.01$); however, this result was expected, as our sample consisted of 555 cases and the chi-square test is sensitive to sample sizes over 200 (Marsh et al., 1988; Iacobucci, 2010). All other indices examined demonstrated acceptable fit to the data (CMIN/DF = 3.661, root mean square error of approximation [RMSEA] = 0.06, comparative fit index [CFI] = 0.93, TLI = 0.92, standardized root mean square residual (SRMR) = 0.06).

To check for the potential influence of common method variance, Harman's single-factor test was performed through CFA. This test is based on the assumption that common method variance is a serious problem when a single factor will account for the majority of the covariance among the measures (Podsakoff et al., 2003). This test involves a CFA in which all variables were allowed to load onto one general factor. According to the result for single-factor model, the model exhibited very poor fit ($\chi^2 = 1940.823$ $df = 104$, goodness of fit index = 0.62, CFI = 0.67, RMSEA = 0.179, SRMR = 0.13), which showed a good indicator that a single factor did not account for the majority of variance in research data.

In the analysis about the relations between HR practices and employee's work engagement we focused for positive psychological capital as a mediator and moderator at the same time. The analyses were carried out with the SPSS 17 and AMOS 18. Four path analyses were used to simultaneously test to hypotheses.

Preacher et al. (2007) express that a variable M (in current study psychological capital) can be investigated to determine whether it serves as a mediator, a moderator or both. According to Model 1, the effect of M (psychological capital) on Y (work engagement) is moderated by the independent variable X (HR practices), but this model can also be understood as one in which the path linking X (HR practices) to Y (work engagement) (c' or direct effect [DE] of X [HR practices] on Y [work engagement]) is moderated by M (psychological capital). Instead of using separate mediation and moderation analyses, such investigations could theoretically be conducted on the basis of a single path analysis (Preacher et al., 2007). Our statistical model was in presented Figure 2.

Any missing data was handled using EM method. To create interaction term and reduce the likelihood of multicollinearity between predictor variables, which could influence the results,

all main predictors (HR practices, psychological capital) were standardized before entering the path analyses (Cohen et al., 2003). The generalized least square method of estimation was used because inclusion of a product term may violate multivariate normality assumption (Cortina et al., 2001; Olsson et al., 2000).

4. RESULTS

Table 2 presents correlations between variables, means, standard deviations, scale reliabilities, construct reliabilities and average variance extracted (AVE) values. All variables were significantly correlated with each other. HR practices were positively correlated with work engagement ($r = 0.50, P < 0.001$) and psychological capital ($r = 0.476, P < 0.001$). In addition, psychological capital was positively correlated with work engagement ($r = 0.64, P < 0.001$).

All measures in the analysis demonstrated good construct reliabilities, with estimates that ranged from 0.847 to 0.956, and thus exceed the 0.80 minimum recommendations for organizational research studies such as ours (Nunnally and Bernstein, 1978; Carmines and Zellar, 1979). Assessment of convergent validity showed that all items loaded significantly on their respective factors with the AVE for each latent construct exceeding 0.50 (Fornell and Larcker, 1981). Additionally, the AVE for each latent construct must exceed the respective squared correlation between factors to provide stringent evidence of discriminant validity (Fornell and Larcker, 1981). Results from the CFA met Fornell and Larcker's (1981) guidelines and are presented in Table 2.

4.1. DE

Results of the path analyses are presented in Table 3, consistent with H1 (a, b, c, d), each of HR practices (skill enhancing, motivation enhancing, and opportunity enhancing, working conditions) was positively related to work engagement in all models tested. Of all HR

practices (in other words job resources) tested, working conditions showed relatively to be the weakest predictor of work engagement ($\beta = 0.18, P < 0.001$). On the contrary, opportunity enhancing HR practices were the strongest predictor of work engagement ($\beta = 0.287, P < 0.001$, Table 3). Opportunity enhancing HR practices model explains 47% and working condition model explains 40% variance through psychological capital in work engagement. Furthermore, psychological capital was positively related to work engagement and of all models tested, the relatively strongest effect was relatively in working conditions model. Additionally skill enhancing and opportunity enhancing HR practices models explained 17% variance of psychological capital, whereas working condition explained only 9% variance of psychological capital.

4.2. The Mediating and Moderating Effects of Psychological Capital

The model predicted that HR practices would have direct and indirect effects on work engagement with employee's psychological capital mediating the relationship between HR practices and work engagement. In regression equation without the mediator, the estimates of the causal paths from all HR practices to work engagement were significant. In addition, in all cases, chi-square difference tests showed that the fit of the models with partial mediation, was significantly better than the models with full mediation. Results of the moderated and mediated SEM presented in Table 3, provided support about partial mediation in all models. Whereas moderation was only significant in opportunity enhancing HR practices and working conditions models. As can be seen in Table 3, results support Hypothesis 2 (c and d) by demonstrating that the DE of opportunity enhancing HR practices and working conditions on work engagement were particularly less effective under conditions of high psychological capital level. All models presented in Table 3, showed reasonably good model fit according to SEM fit statistics.

Figure 2: The statistical research model

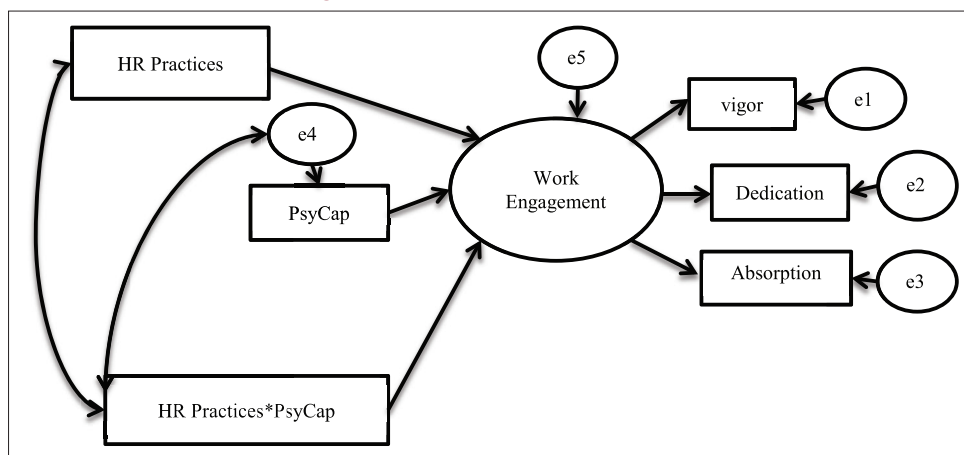


Table 2: Descriptive statistics

Variables	M±SD	α	CR	AVE	1	2	3
Work engagement	3.72±0.78	0.90	0.87	0.691	0.831		
Psychological capital	4.02±0.50	0.91	0.847	0.584	0.642	0.764	
HR practices	3.26±0.72	0.96	0.956	0.846	0.503	0.476	0.92

The square root of the AVE is shown in bold on the diagonal of the matrix and the correlation coefficient on the lower triangle, CR: Construct reliability, AVE: Average variance extracted, HR: Human resource

Table 3: Results of moderated and mediated structural equation modelling (N=555)

Predictor	Psychological capital		Work engagement		Fit				
	UPC (SE)/SPC	UPC (SE)	SPC	CMIN/df	GFI	CFI	RMSEA	SRMR	
Skill enhancing HR practices (DE)	0.412 (03)	0.564 (0.08)	0.263***						
	0.414***								
Skill enhancing HR practices (IE)			0.211***						
Skill enhancing HR practices (TE)			0.473***						
Psychological capital		1.096 (0.09)	0.508***						
Skill enhancing HR practices×Psychological capital		0.101 (0.06)	0.058						
R ²	0.172***	0.42***		4.085	0.98	0.93	0.07	0.02	
Motivation enhancing HR practices (DE)	0.327 (0.04)	0.549 (0.08)	0.255***						
	0.329***								
Motivation enhancing HR practices (IE)			0.167***						
Motivation enhancing HR practices (TE)			0.423***						
Psychological capital		1.101 (0.08)	0.509***						
Motivation enhancing HR practices×Psychological capital		-0.077 (0.07)	0.04						
R ²	0.11***	0.42***		4.270	0.98	0.93	0.07	0.02	
Opportunity enhancing HR practices (DE)	0.410 (0.03)	0.617 (0.08)	0.287***						
	0.412***								
Opportunity enhancing HR practices (IE)			0.193***						
Opportunity enhancing HR practices (TE)			0.48***						
Psychological capital		1.014 (0.08)	0.47***						
Opportunity enhancing HR practices×Psychological capital		-0.179 (0.07)	-0.094**						
R ²	0.17***	0.47***		4.836	0.98	0.91	0.08	0.02	
Working conditions (DE)	0.298 (0.04)	0.393 (0.08)	0.184***						
	0.301***								
Working conditions (IE)			0.162***						
Working conditions (TE)			0.346***						
Psychological capital		1.163 (0.08)	0.539***						
Working conditions×Psychological capital		-0.199 (0.07)	-0.10**						
R ²	0.09***	0.403***		3.959	0.98	0.93	0.07	0.02	

DE: Direct effect, IE: Indirect effect, TE: Total effect, the df of all models is 6, UPC: Unstandardized path coefficient, SPC: Standardized path coefficient, GFI: Goodness of fit index, CFI: Comparative fit index, RMSEA: Root mean square error of approximation, SRMR: Standardized root mean square residual. *P<0.05, **P<0.01, ***P<0.001

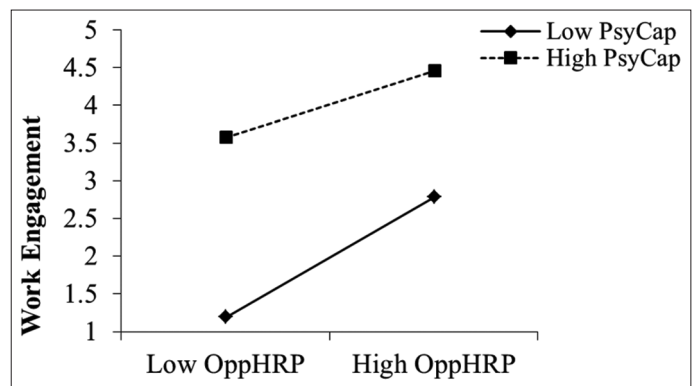
To see the direction of the effects, graphical representations of the interaction effects were presented in Figures 3 and 4. For the significant interactions, opportunity enhancing HR practices and psychological capital interaction was significant and negative ($\beta = -0.09$, $P < 0.01$), indicating a stronger relationship between perceptions of opportunity HR practices and work engagement for low psychological capital than high psychological capital (Figure 3).

In the same way, working conditions and psychological capital interaction was significant and negative ($\beta = -0.10$, $P < 0.01$), indicating a stronger relationship between perceptions of working conditions and work engagement for low psychological capital than high psychological capital (Figure 4).

5. DISCUSSION

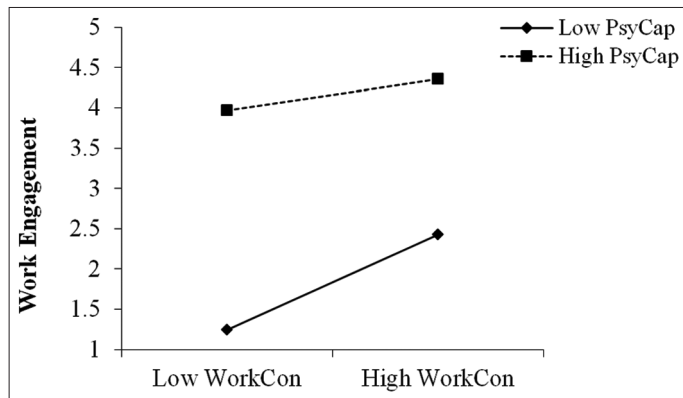
The purpose of this study was to investigate how HR practices affect employees work engagement and whether psychological capital has the mediating and moderating role on the relation between HR practices and work engagement. The hypothesized model was partially confirmed. The results provided support for partial mediational processes specified in the model and revealed that HR practices had DE on work engagement. It means that employee work engagement can be increased by HR practices. This study contributes to social exchange theory. HR practices have been investigated, may be used as incentives in social

Figure 3: The moderating effect of psychological capital on the opportunity enhancing human resource practices-work engagement relationship



exchange relationship. Also the results of this study provide support for the universalistic HRM practices approach which have directly and positively related to employee attitudes and behaviors (Guest, 1999; Wu and Chaturvedi, 2009). In addition, results demonstrated the influence of HR practices on work engagement as partially indirect through psychological capital. It has confirmed much of the literature around COR theory and mediating role of psychological capital as a personal resource which can increase employee's work engagement (Demerouti and Bakker, 2011; Xanthopoulou et al, 2007).

Figure 4: The moderating effect of psychological capital on the working condition-work engagement relationship



The current study has predicted that all perceived HR practices (skill, motivation, empowerment enhancing and working conditions) would predict work engagement through psychological capital. In consistent with literature (Luthans et al., 2008), psychological capital had a (partial) mediating role. Advancement opportunities and supporting to motivational process were positively related work engagement but some part of these relations occurred through psychological capital. Mediation findings indicate that HR practices directly increase both work engagement and psychological capital, in addition HR practices increase work engagement via psychological capital indirectly. Also, according to the findings, psychological capital effect on work engagement was stronger than the DE of HR practices on work engagement. It may be explained in the context of JDR model framework. Our results are consistent with Crawford et al. (2010) meta-analytic study findings. Accordingly, they state that decisions to adjust levels of demands to influence employee's engagement are more complex and depend on the type of the demands being considered. Accordingly, the relationships between job demands and engagement vary as a function of the nature of the demands with respect to how it tends to be appraised by employees. Psychological capital is negatively associated with cynicism, stress, and anxiety (Avey et al., 2010). Psychological capital may these decisions.

The results of analyses did not provide strong support for the predicted moderating effects. These findings are made probably the most interesting theoretical contribution of this study. Psychological capital has a significant moderating effect on opportunity HR practices-work engagement and working condition-work engagement relationships. But surprisingly, directions were not positively. These results may be explained in COR theory. With regard to COR theory, losses at work will have more important than similarly valued gains. According to primacy of resource loss principle, it is psychologically more harmful for individuals to lose resource than it is helpful for them to gain the resources that they lost. Resource loss is more salient than resource gain. Another principle of COR theory claims that lack of resources leads to defensive attempts to conserve remaining resource (Hobfoll, 2002; Halbesleben et al., 2014). In addition, according to Halbesleben et al. (2014), the value of resource can vary significantly depending on the context. Resources may be substituted for one another to obtain the same goal (Halbesleben et al., 2014). In that vein, when HR practices influence on engagement was low, psychological

capital effect on engagement was high relatively. In other words the resources substituted each other.

5.1. Implications for Theory and Practice

In today's competitive business environment, many organizations are placing a greater emphasis on their HRM practices as a means of generating positive individual and organizational outcomes. As scholars suggested, considering the effects of HRM practices on employee-level outcome variables is important (Alfes et al., 2013). Employee's work engagement and positive psychological capital have become more important concepts to consider when dealing with changes at work and sustainable performance. This study suggests that producing individual performance may be achieved by following this type of HR practice to increase employee work engagement. According to our findings, the establishment and maintenance of the working environment which fosters job resources including skill, motivation and opportunity HR practices and proper working condition is very important. Skill enhancing, motivation enhancing, opportunity enhancing HR practices and proper working conditions increase to employees' work engagement through psychological capital. If organizations apply to these types of HR practices, they may get more engaged employees who have higher work performance, commitment, life satisfaction and lower turnover intentions.

In addition the moderating role of psychological capital on HR practices- work engagement relationships need to be investigated in other samples in future research. Person-Job fit, person organization fit and stressful working conditions may have an impact on these relationships. They should also be considered for further research.

5.2. Limitations and Future Research

The current study has some limitations that need to be mentioned. First of all, the findings come from a study of cross-sectional design. Therefore it is not possible to draw final conclusions about the causal relations. It would be more appropriate to complement these measurements with different methods. In order to draw causality more correctly, longitudinal and experimental study designs are needed in examining proposed model. A second limitation is that all the data were based on self-reports and because of this reason results may be contaminated the common method variance. Although performed statistical analysis revealed that common method variance was not a major concern, results may be contaminated by potential effects of common method variance. Future studies should gather data from multiple sources to prevent such a problem. Finally, this study can only be generalized across a limited and defined population. The application of these findings to a wider population needs cautious.

REFERENCES

- Alfes, K., Shantz, A.D., Truss, C., Soane, E.C. (2013), The link between perceived human resource management practices, engagement and employee behaviour: A moderated mediation model. *The International Journal of Human Resource Management*, 24(2), 330-351.
- Anderson, J.C., Gerbing, D.W. (1988), Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411.

- Ang, S.H., Bartram, T., McNeil, N., Leggat, S.G., Stanton, P. (2013), The effects of high-performance work systems on hospital employees work attitudes and intention to leave: A multi-level and occupational group analysis. *The International Journal of Human Resource Management*, 24(16), 3086-3114.
- Avey, J.B., Luthans, F., Smith, R.M., Palmer, N.F. (2010), Impact of positive psychological capital on employee well-being over time. *Journal of Occupational Health Psychology*, 15(1), 17.
- Avey, J.B., Luthans, F., Youssef, C.M. (2010), The additive value of positive psychological capital in predicting work attitudes and behaviors. *Journal of Management*, 36(2), 430-452.
- Avey, J.B., Reichard, R.J., Luthans, F., Mhatre, K.H. (2011), Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127-152.
- Avey, J.B., Wernsing, T.S., Luthans, F. (2008), Can positive employees help positive organizational change? Impact of psychological capital and emotions on relevant attitudes and behaviors. *The Journal of Applied Behavioral Science*, 44(1), 48-70.
- Bae, J., Lawler, J.J. (2000), Organizational and HRM strategies in Korea: Impact on firm performance in an emerging economy. *Academy of Management Journal*, 43(3), 502-517.
- Bagozzi, R.P., Edwards, J.R. (1998), A general approach for representing constructs in organizational research. *Organizational Research Methods*, 1(1), 45-87.
- Balducci, C., Fraccaroli, F., Schaufeli, W.B. (2010), Psychometric properties of the Italian version of the utrecht work engagement scale (UWES-9). *European Journal of Psychological Assessment*, 26(2), 143-149.
- Baron, R.M., Kenny, D.A. (1986), The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Boxall, P., Macky, K. (2009), Research and theory on high-performance work systems: Progressing the high-involvement stream. *Human Resource Management Journal*, 19(1), 3-23.
- Brouze, K.L. (2014), Examining the mediating and moderating role of psychological capital in the job demands-resources model. A Dissertation Submitted in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Commerce in Organisational Psychology, School of Management Studies, University of Cape Town.
- Carmines, E.G., Zellar, R.A. (1979), Reliability and Validity Assessment. Beverly Hills, CA: Sage.
- Cheung, F., Tang, C.S., Tang, S. (2011), Psychological capital as a moderator between emotional labor, burnout, and job satisfaction among school teachers in China. *International Journal of Stress Management*, 18(4), 348.
- Christian, M.S., Garza, A.S., Slaughter, J.E. (2011), Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, 64(1), 89-136.
- Cohen, J., Cohen, P., West, S.G., Aiken, L.S. (2003), *Applied Multiple Regression/Correlation Analysis for Behavioral Sciences*. 3rd ed. New Jersey: Hillsdale.
- Conway, E., Fu, N., Monks, K., Alfes, K., Bailey, C. (2015), Demands or resources? The relationship between HR practices, employee engagement, and emotional exhaustion within a hybrid model of employment relations. *Human Resource Management*, 55(5), 901-917.
- Cortina, J.M., Chen, G., Dunlap, W.P. (2001), Testing interaction effects in LISREL: Examination and illustration of available procedures. *Organizational Research Methods*, 4(4), 324-360.
- Crawford, E.R., LePine, J.A., Rich, B.L. (2010), Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95(5), 834.
- De Bruin, G.P., Henn, C.M. (2013), Dimensionality of the 9-item utrecht work engagement scale (UWES-9) 1. *Psychological Reports*, 112(3), 788-799.
- Delery, J.E., Doty, D.H. (1996), Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39(4), 802-835.
- Demerouti, E., Bakker, A.B. (2011), The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37(2), 1-9.
- Edgar, F., Geare, A. (2005), HRM practice and employee attitudes: Different measures–different results. *Personnel Review*, 34(5), 534-549.
- Erkutlu, H. (2014), Exploring the moderating effect of psychological capital on the relationship between narcissism and psychological well-being. *Procedia Social and Behavioral Sciences*, 150, 1148-1156.
- Fornell, C., Larcker, D.F. (1981), Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Gardner, T.M., Wright, P.M., Moynihan, L.M. (2011), The impact of motivation, empowerment, and skill-enhancing practices on aggregate voluntary turnover: The mediating effect of collective affective commitment. *Personnel Psychology*, 64(2), 315-350.
- Grau, R., Salanova, M., Peiró, J.M. (2001), Moderator effects of self-efficacy on occupational stress. *Psychology in Spain*, 5(1), 63-74.
- Gruman, J.A., Saks, A.M. (2011), Performance management and employee engagement. *Human Resource Management Review*, 21(2), 123-136.
- Guest, D.E. (1999), Human resource management—the workers verdict. *Human Resource Management Journal*, 9(3), 5-25.
- Gupta, V. (2014), Employee creativity: Mediating and moderating role of psychological capital. *Indian Journal of Industrial Relations*, 49(4), 649.
- Hakanen, J.J., Bakker, A.B., Schaufeli, W.B. (2006), Burnout and work engagement among teachers. *Journal of School Psychology*, 43(6), 495-513.
- Halbesleben, J.R., Neveu, J.P., Paustian-Underdahl, S.C., Westman, M. (2014), Getting to the COR understanding the role of resources in conservation of resources theory. *Journal of Management*, 40(5), 1334-1364.
- Hallberg, U.E., Schaufeli, W.B. (2006), “Same Same” but different? Can work engagement be discriminated from job involvement and organizational commitment? *European Psychologist*, 11(2), 119.
- Hobfoll, S.E. (2002), Social and psychological resources and adaptation. *Review of General Psychology*, 6, 307-324.
- Hughes, J.C., Rog, E. (2008), Talent management: A strategy for improving employee recruitment, retention and engagement within hospitality organizations. *International Journal of Contemporary Hospitality Management*, 20(7), 743-757.
- Huselid, M.A. (1995), The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 635-672.
- Iacobucci, D. (2010), Structural equations modeling: Fit indices, sample size, and advanced topics. *Journal of Consumer Psychology*, 20(1), 90-98.
- Kahn, W.A. (1990), Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724.
- Lehner, J.M., Azeem, M.U., Haq, I.U., Sharif, I. (2014), Moderating role of PsyCap in relationship of psychological contracts, breach and job-outcomes. In *Academy of Management Proceedings*, 2014(1),

16247-16247.

- Lepak, D.P., Liao, H., Chung, Y., Harden, E.E. (2006), A conceptual review of human resource management systems in strategic human resource management research. *Research in Personnel and Human Resources Management*, 25, 217-271.
- Luthans, F., Avolio, B.J., Avey, J.B., Norman, S.M. (2007), Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572.
- Luthans, F., Norman, S.M., Avolio, B.J., Avey, J.B. (2008), The mediating role of psychological capital in the supportive organizational climate-employee performance relationship. *Journal of Organizational Behavior*, 29(2), 219-238.
- Luthans, F., Youssef, C.M., Avolio, B.J. (2007), *Psychological Capital: Developing the Human Competitive Edge*. Oxford, UK: Oxford University Press.
- Macey, W.H., Schneider, B. (2008), The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1), 3-30.
- Marsh, H.W., Balla, J.R., McDonald, R.P. (1988), Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, 103(3), 391.
- May, D.R., Gilson, R.L., Harter, L.M. (2004), The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77(1), 11-37.
- Nerstad, C.G., Richardsen, A.M., Martinussen, M. (2010), Factorial validity of the utrecht work engagement scale (UWES) across occupational groups in Norway. *Scandinavian Journal of Psychology*, 51(4), 326-333.
- Nunnally, J.C., Bernstein, I. (1978), *Psychometry Theory*. New York: McGraw-Hill.
- Olsson, U.H., Foss, T., Troye, S.V., Howell, R.D. (2000), The performance of ML, GLS, and WLS estimation in structural equation modeling under conditions of misspecification and nonnormality. *Structural Equation Modeling*, 7(4), 557-595.
- Ozer, P.S., Topaloglu, T., Ozmen, Ö.N. (2013), Destekleyici orgüt ikliminin, psikolojik sermaye ile iş doyumunu ilişkisinde düzenleyici etkisi. *Ege Academic Review*, 13(4), 437-447.
- Paré, G., Tremblay, M. (2007), The influence of high-involvement human resources practices, procedural justice, organizational commitment, and citizenship behaviors on information technology professionals turnover intentions. *Group and Organization Management*, 32(3), 326-357.
- Peng, J., Jiang, X., Zhang, J., Xiao, R., Song, Y., Feng, X., Zhang Y, Miao, D. (2013), The impact of psychological capital on job burnout of Chinese nurses: The mediator role of organizational commitment. *PLoS One*, 8(12), e84193. Available from: <http://www.10.1371/journal.pone.0084193>.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., Podsakoff, N.P. (2003), Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
- Preacher, K.J., Rucker, D.D., Hayes, A.F. (2007), Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227.
- Roberts, S.J., Scherer, L.L., Bowyer, C.J. (2011), Job stress and incivility: What role does psychological capital play? *Journal of Leadership and Organizational Studies*, 18(4) 449-458.
- Saks, A.M. (2006), Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.
- Salanova, M., Agut, S., Peiró, J.M. (2005), Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90(6), 1217.
- Schaufeli, W., Salanova, M. (2007), Work engagement: An emerging psychological concept and its implications for organizations. In: Gilliland, S.W., Steiner, D.D., Skarlicki, D.P., editors. *Managing Social and Ethical Issues in Organizations*. Greenwich, CT: Information Age Publishing. p13-177.
- Schaufeli, W.B. (2013), What is engagement? In: Truss, C., Alfes, K., Delbridge, R., Shantz, A., Soane, E., editors. *Employee Engagement in Theory and Practice*. London: Routledge.
- Schaufeli, W.B., Bakker, A.B. (2004), Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293-315.
- Schaufeli, W.B., Bakker, A.B., Salanova, M. (2006), The measurement of work engagement with a short questionnaire a cross-national study. *Educational and Psychological Measurement*, 66(4), 701-716.
- Schaufeli, W.B., Salanova, M., González-Romá, V., Bakker, A.B. (2002), The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71-92.
- Singh, K. (2004), Impact of HR practices on perceived firm performance in India. *Asia Pacific Journal of Human Resources*, 42(3), 301-317.
- Sun, L.Y., Aryee, S., Law, K.S. (2007), High-performance human resource practices, citizenship behavior, and organizational performance: A relational perspective. *Academy of Management Journal*, 50(3), 558-577.
- Sweetman, D., Luthans, F. (2010), The power of positive psychology: Psychological capital and work engagement. In: Arnold Bakker, A.B., Leither, M.P., editors. *Work Engagement a Handbook of Essential Theory and Research*. New York: Psychology Press. p54-68.
- Takeuchi, R., Lepak, D.P., Wang, H., Takeuchi, K. (2007), An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations. *Journal of Applied Psychology*, 92(4), 1069.
- Teo, S., Roche, M., Pick, D., Newton, C.J. (2014), Psychological capital as moderator of organizational change demands on nursing stress. In: 74th Annual Meeting of the Academy of Management, 1-5 August 2014. Philadelphia, PA: Pennsylvania Convention Center.
- Tsai, C.J. (2006), High performance work systems and organizational performance: An empirical study of Taiwan's semiconductor design firms. *The International Journal of Human Resource Management*, 17(9), 1512-1530.
- Vanhala, M., Ahteela, R. (2011), The effect of HRM practices on impersonal organizational trust. *Management Research Review*, 34(8), 869-888.
- Walumbwa, F.O., Peterson, S.J., Avolio, B.J., Hartnell, C.A. (2010), An investigation of the relationships among leader and follower psychological capital, service climate, and job performance. *Personnel Psychology*, 63(4), 937-963.
- Wu, P.C., Chaturvedi, S. (2009), The role of procedural justice and power distance in the relationship between high-performance work systems and employee attitudes: A multilevel perspective. *Journal of Management*, 48(5), 745-768.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., Schaufeli, W.B. (2007), The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., Schaufeli, W.B. (2009), Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, 74(3), 235-244.
- Yardley, K., (2012), *Psychological Capital as a Positive Resource to Assist with the Organizational Outcomes of Work Family Conflict*, Master Thesis. Massey University. Albany. New Zealand.
- Yu, B.B., Egri, C.P. (2005), Human resource management practices and affective organizational commitment: A comparison of Chinese employees in a state-owned enterprise and a joint venture. *Asia Pacific Journal of Human Resources*, 43(3), 332-360.