ASEAN Journal of Management & Innovation
Vol. 5. No.1, 100 - 112

DOI: 10.14456/ajmi.2018.8
ajmi.stamford.edu

Work Engagement in the Manufacturing Sector in Thailand

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Abstract
This study measures the work engagement using the Utrecht work engagement scale and the job demands resources model in a manufacturing firm in Thailand. By utilizing a cross-section of the employees working at a multinational manufacturing firm, this study tests the role job demands, job resources and personal resources as the significant predictors of work engagement in Thai employees. The results suggested that job, and personal resources such as self-efficacy played a significant role in predicting work engagement. The outcomes of this study will be helpful to the managers and leaders at other manufacturing and non-manufacturing Thai firms.

Keywords: Work engagement, job resources, job demands, personal resources, Thailand

1. Introduction

Work engagement is a popular positive psychology concept, which gained approval with the grounded theory study on personal engagement and disengagement by Kahn (1990). The research on this concept gained momentum after the introduction of positive organizational behavior by (Seligman & Csikszentmihalyi, 2000). With the introduction of the job demands resources model by (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), and the Utrecht Work Engagement Scale (UWES) (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002), the concept has seen extensive research in both burnout and engagement literature. Parallely, it was popularized with the use of employee engagement surveys by commercial firms such as Gallup (Harter, Schmidt, Keyes, 2003; Robinson, Perryman, & Hayday, 2004), and Towers Perrin engagement survey.

In terms of its significance, work engagement has been linked as the antecedent to both individual and organizational outcomes such as, task and extra role performance (Saks, 2006, 2008; Salanova, Agut, & Peiró, 2005), innovation (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008), satisfaction (Schaufeli & Salanova, 2007a), proactivity (Sonnentag, 2003), reduced intention to turnover (de Lange, De Witte, & Notelaers, 2008). At the individual level, work engagement leads to improved well-being and positive emotions (Bakker & Demerouti, 2008), improved job performance (Ahola & Hakanen, 2007; Halbesleben & Wheeler, 2008).

The job demands resources model

Work engagement is an important indicator of workplace well-being (Bakker, 2011), and with the help of the job demands resources model, it has been used to understand, explain, and make predictions about the workplace well-being, its antecedents, and outcomes (Bakker & Sanz-Vergel, 2013). Based on the job demands resources model, work engagement has been stated as positive pole of burnout (Maslach, Schaufeli, & Leiter, 2001; Hakanen, Bakker, & Schaufeli, 2006), or as the positive antithesis of burnout (Schaufeli et al., 2002). The job demands resources model connects a set of job characteristics including job demands, job resources

(Schaufeli & Bakker, 2004), and personal resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) leading to work engagement. Additionally, interactions between job resources and job demands (Bakker, Demerouti, & Euwema, 2005; De Jonge & Dormann, 2003), and personal resources and job demands (Mäkikangas & Kinnunen, 2003; Pierce & Gardner, 2004) are stated as the predictors of work engagement.

2. Research gap and current study

Schaufeli (2012) stated that the job demands resources model is the most often used models to explain work engagement, and UWES is the most often used scales to measure work engagement. However, the review of literature indicates that a majority of engagement studies have been conducted in a concentrated part of the world (Netherlands, and other Schengen countries). This signals a research gap. A need for geographical replication and cross-country research (Schaufeli et al., 2002) has been identified as a direction for future research in order to validate the findings across different samples (Rich, Lepine, & Crawford, 2010; Xanthopoulou et al., 2007). Although recently, a few studies tested the model in Japan (Shimazu et al., 2008), and China (Yi-wen & Yi-qun, 2005), no notable studies have been conducted in Thailand so far.

Within this premise, the current study utilized a cross-section of 77 Thai employees working in the manufacturing sector of a Thai multinational firm to test the role job demands, job resources and personal resources as predictors of work engagement in Thailand. Figure 1 below depicts the study framework.

Figure 1 goes about here.

Variables

Job demands

The research on the job demands resources model indicates that job demands are the "demanding aspects of work which lead to taxing and exhaustion" (Demerouti et al., 2001, p.502). Job demands are also known as the environmental stressors or as contextual work characteristics associated with engagement (Christian et al., 2011). Physical demands and stressful work conditions lead the workers to become physically uncomfortable (Campion, 1988), resulting in more negative experiences while at work (Humphrey, Nahrgang, & Morgeson, 2007). However, empirical evidence on the relationship of job demands to engagement had been mixed (Bakker, Emmerik, & Euwema, 2006; Schaufeli & Bakker, 2004). This was due to the nature of demands as either challenges or hindrances. Challenge job demands are positively related to work engagement, while hindrance job demands are negatively related to work engagement. Previous studies (e.g., Hakanen et al., 2008; Sonnentag, 2003) approve this differential nature of job demands.

Based on the theoretical argument and the empirical evidence, this study argues that job demands will be related with work engagement. Specifically, this study hypothesizes that-

H1a: Workload (e.g., time pressures and quantity of work) will be positively related to work engagement

H1b: Role conflict will be negatively related to work engagement

H1c: Role ambiguity will be negatively related to work engagement

Job resources

Referring to the literature, the term resource means supplying to a want or deficiency. Based on the conservation of resources theory (Hobfoll, 1989), resources are defined as ". . . those entities that either are centrally valued in their own right, or act as means to obtain centrally valued ends" (Hobfoll, 1989). In the job demands resources model, Hackman and Oldham

(1974) pointed at the five key job characteristics, which foster the psychological states of experienced meaningfulness and responsibility of work. These five job characteristics of skill variety, task identity, task significance, feedback, and autonomy have been linked to positive outcomes such as high quality work performance, job satisfaction, low absenteeism, low turnover, and high work motivation (Fried & Ferris, 1987) and have been employed as job resources in the model. Bakker (2011) and Christian et al. (2011) stated that these job resources have intrinsic motivational potential. Additional empirical support was provided by other studies (e.g., Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Schaufeli et al., 2009).

Based on aforementioned studies, and other empirical evidence (e.g., Mauno, Kinnunen, & Ruokolainen, 2007; Xanthopoulou et al, 2007b, 2008), this study hypothesizes that,

H2: Job resources (e.g., skill variety, task identity, task significance, autonomy, and feedback from the supervisors and colleagues) will be positively related to work engagement.

Personal resources

Along with job resources, personal resources have been significant determinants of work engagement. The conservation of resources theory (Hobfoll, 1989) stated that personal resources are fundamentals components of individual adaptability. The individual characteristics that function as a means of dealing with individual adaptability are called 'personal resources'. Prieto, Soria, Martínez, and Schaufeli (2008) differentiated between job resources and personal resources and defined personal resources as "people's mental characteristics which reduce the negative impact of demands on psychological well-being" (p.355). Broaden and build theory (Fredrickson, 2004) and conservation of resources theory (Hobfoll, 1989) provided the theoretical support on how personal resources actively affected the motivational process in the job demands resources model (Demerouti et al., 2001). Empirical support provided evidence for personal resources such as, self-efficacy, organization based self-esteem, optimism (Langelaan et al., 2006), resiliency (Bakker & Demerouti, 2008; Luthans, Norman, Avolio, & Avey, 2007).

Based on the empirical findings, the conservation of resources theory (Hobfoll, 1989), and the concepts proposed as, self-efficacy (Bandura, 1991), organizational-based self-esteem (Pierce, Gardner, Cummings, & Dunham, 1989), optimism (Scheier & Carver, 1985), this study hypothesizes that,

H3a: Self-efficacy will be positively related to work engagement
H3b: Self-esteem will be positively related to work engagement
H3c: Optimism will be positively related to work engagement

Demands-Resources Interactions

The job demands resources model suggests that job demands, job resources, and personal resources can have joint effects leading to a motivational process in the model (Salanova, Agut, et al., 2005), and that individuals use the performance protection strategy against the demanding aspects of work (Demerouti et al., 2001). Empirical evidence shows that employees with high personal resources focus more on job resources than job demands, and thus experience higher levels of work engagement (Mäkikangas & Kinnunen, 2003; Pierce & Gardner, 2004). Based on the empirical support, this study hypothesizes that:

H4: Job resources and personal resources will moderate the relationship between job demands and work engagement

3. Method, sample and data collection

The current study was conducted on a group of Thai-speaking respondents, and targeted the Thais working in manufacturing industries in Thailand. Sample size was calculated based on the guideline from Barlett, Kotrlik, and Higgins (2001), which suggested a sample size of around 209. Henceforth, self-administered questionnaires were disseminated to Thai employees working in a multinational manufacturing firm in Sriracha, Thailand. A cover letter accompanied the questionnaires, explaining to the respondents the objective of the study. Voluntary participation, anonymity and confidentiality was also stressed. Of 210 questionnaires distributed, responses were received from 95 employees (response rate of 47.5%), with 77 being usable for this study. Of the respondents, 70.1% were female and 68.8% were single. 37.7% were in the age range of 20-30, 29.9% were in the 31-40 age range and the rest (32.5%) were in the age range of 41-50. A majority (35.06%) had a work experience of less than 5 years, 18.2% had a work experience of 6 to 10 years, and the rest (46.7%) had a work experience of 11 or more years. Among the respondents, 22.08% had a salary of less than 30k per month, while a majority of people (46.7%) earned a salary between 30000 to 50000 Baht per month, and 31.1% earned a salary of more than 50000 Baht per month.

Measurement scales

The instruments used in the study were derived from established reliable and valid scales. The questionnaires were translated from English in to Thai following the procedure recommended by Beaton, Bombardier, Guillemin, and Ferraz (2000) to ensure translation equivalence in both versions. The dependent variable of work engagement was measured with the Utrecht work engagement scale (UWES) developed by Schaufeli et al. (2002). This 17-item scale measures the underlying concepts of vigor, dedication, and absorption. Workload was measured using seven items from Karasek's (1979) job demands and decision latitude scale. This scale was developed to assess the effects of stressful jobs on physical health of the employees and uses seven items. Role conflict and ambiguity was measured via the 8-item and the 6-item scale developed by Rizzo, House, Lirtzman (1970). The eight items for role conflict measure the the degree to which there was consensus regarding the respondents' role expectations for an organization.

Role ambiguity was assessed with the remaining six items and measured the degree of uncertainty respondents felt about what actions to take to fulfill a role. The job diagnostic survey (Hackman & Oldham, 1974) was used to measure the job resources. This scale uses five subscales with 15 questions to measure skill variety, task identify, task significance, autonomy, and feedback. Among personal resources, self-efficacy was measured using 8-item scale developed by Luszczynska, Scholz, and Schwarzer (2005) assessing a general sense of perceived self-efficacy to predict coping and adaptation of stress. Self-esteem denoted a valid measure of global self-worth and was assessed with 10-item Rosenberg's (1965) Self-esteem scale (RSE). Optimism was measured using the 10-item Life Orientation test (LOT) developed by Scheier, and Carver (1992). In addition to the independent predictor variables, previous studies show that demographics and indicators of socio economic status affect work engagement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). Hence, to reduce the potential confounding effects, the demographic variables were controlled for statistically.

Data analysis

The control variables were categorical in nature. However, excluding gender and marital status, variables such as age ranges, education, job position, work experience, and salaries had a rank order and thus were not converted into dummies for regression. The gender and marital status variables registered a reply in only two of the three categories (male, female for gender and single, and married for marital status) and did not register any response on the third category

(other for gender, and separated for marital status). The means, standard deviations, and the correlation coefficients of all variables are presented in Table 1. The zero order correlations depicted that work engagement correlated positively with workload (r = 0.26, p < 0.01), role conflict (r = 0.24, p < 0.01), job resources (r = 0.37, p < 0.001), optimism (r = 0.30, p < 0.01), and self-efficacy (r = 0.29, p < 0.01), while negatively correlated with role ambiguity (r = -0.49, p < 0.001).

Workload was positively correlated with role conflict (r = 0.34, p < 0.01), self-esteem (r = 0.29, p < 0.05), optimism (r = 0.36, p < 0.001), self-efficacy (r = 0.39, p < 0.001). Role ambiguity was negatively correlated with job resources (r = -0.54, p < 0.001), optimism (r = -0.46, p < 0.001), and self-efficacy (r = -0.36, p < 0.001). No other notable correlations were observed.

Table 1: Correlation and reliability coefficients of the study variables

Correlations																	
		Means	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Gender	1.70	0.46	–														
2	MS	1.31	0.47	.25**	–													
3	AgeRange	1.95	0.84	0.13	.61**	–												
4	Education	4.03	0.74	-0.05	-0.21	−.23**	–											
5	Job Position	1.06	0.25	0.06	0.05	.33***	−.44***	–										
6	Work Experience	2.77	1.23	0.08	.49***	.80***	-0.19	.31**	–									
7	Salary	3.65	1.54	-0.08	.36***	.57***	0.03	0.20	.55***	–								
8	Workload	3.65	0.77	0.12	0.18	.30**	−.23**	.32**	.27*	0.11	**[0.82]**							
9	Role Conflict	3.22	0.75	0.12	0.03	0.19	0.01	0.09	0.15	-0.08	.34**	**[0.79]**						
10	Role Ambiguity	2.72	0.66	0.00	-0.12	-0.11	0.18	-0.07	-0.03	-0.15	-0.17	-0.18	**[0.79]**					
11	Job Resources	3.85	0.41	-0.01	0.02	0.03	0.01	-0.04	-0.15	-0.01	0.21	0.05	−.54***	**[0.79]**				
12	Self-esteem	3.70	0.61	0.00	-0.10	0.11	-0.06	0.08	0.08	-0.19	.29*	.34**	-0.08	0.06	**[0.71]**			
13	Optimism	4.03	0.57	0.00	-0.17	0.01	-0.18	0.14	-0.04	-0.22	.36***	.30***	−.46***	.40***	.54***	**[0.70]**		
14	Self-efficacy	4.51	0.64	0.00	0.09	.29**	−.24*	0.20	0.20	0.04	.39***	0.22	−.36***	.39***	.45***	.54***	**[0.93]**	
15	Work Engagement	4.15	0.80	0.00	0.01	0.18	−.28**	0.13	0.12	0.14	.26**	.24**	−.49***	.37***	0.02	.30**	.29**	**[0.95]**
*. Correlation is significant at 0.05 level, **. Correlation is significant at 0.01 level, ***. Correlation is significant at 0.001 level																		
Reliability coefficients are indicated on the diagonal in bold and brackets																		

Hierarchical regression analysis

The predictive power of the antecedents of work engagement was studied by using hierarchical regression analysis. The independent variables were entered in blocks where the control variables (e.g., gender, marital status, education, age range, job position, work experience, and salary) were entered in step 1, while the predictor variables (e.g., job demands, job resources, and personal resources) were entered in step 2. In the next block, the interaction effects (between job demands and job resources and between job demands and personal resources) were entered. Work engagement was the dependent variable. The results of the analysis are presented in Table 2 below.

Table 2: Regression output for the predictors of work engagement

Variables	**β**
Step 1: Demographics	
Gender	.03
Marital Status	-.24
Age Range	.27
Education Level	-.34**
Job position	-.10
Work Experience	-.12
Monthly Salary	.17
R^2	0.14
F (*df*)	1.62 (7, 69)
Step 2: Antecedents of work engagement	
Gender	.01
Marital Status	-.26
Age Range	.13
Education Level	-.28**
Job position	-.12
Work Experience	.03
Monthly Salary	.12
Workload	.09
Role Conflict	.18
Role Ambiguity	.30**
Job Resources	.17
Self-esteem	-.15
Optimism	.02
Self-efficacy	.02
R^2	0.39
ΔR^2	0.25
F (*df*)	3.69** (7, 62)
Step 3: Interaction effects	
Gender	-.01
Marital Status	-.37**
Age Range	.14
Education Level	-.40***

Variables	β
Job position	-.20**
Work Experience	.15
Monthly Salary	.01
Workload	.19
Role Conflict	-.06
Role Ambiguity	.18
Job Resources	.26**
Self-esteem	-.12
Optimism	-.14
Self-efficacy	.11
Interaction Job resources and Workload	.06
Interaction Job resources and Role Conflict	-.04
Interaction Job resources and Role Ambiguity	-.29**
Interaction Self-esteem and Workload	-.12
Interaction Self-esteem and Role Conflict	.07
Interaction Self-esteem and Role Ambiguity	-.31
Interaction Optimism and Workload	.02
Interaction Optimism and Role Conflict	.30
Interaction Optimism and Role Ambiguity	-.27
Interaction Self-efficacy and Workload	-.35**
Interaction Self-efficacy and Role Conflict	.66**
Interaction Self-efficacy and Role Ambiguity	.43**
R^2	0.74
ΔR^2	0.35
F (*df*)	5.72*** (12, 50)

Results of the hierarchical regression analyses concluded that control variables explained 14% of the variance in work engagement. After the entry of the predictor variables in step 2, the total variance explained by the model was 39%. Of the variables representing the job demands, role ambiguity explained an additional 25% of variance in work engagement after controlling for the demographics. At step 2, the final model explained 74% of the variance in the dependent variable. The interactions explained a unique 35% of variance. In this model, job resources (β = 0.26, $p < 0.01$) was the sole predictor of engagement. This supported the hypothesized relationship between job resources and work engagement (H2). Apart from this main effect, some interaction effects were also significant. Job resources moderated the relationship between role ambiguity and work engagement (β = -0.29, $p < 0.01$).

Moreover, the personal resource variable, self-efficacy, moderated the relationship between all three job demands and work engagement ($\beta = 0.35$, $p < 0.01$ for workload, $\beta = 0.66$, $p < 0.01$ for role conflict, and $\beta = 0.43$, $p < 0.01$ for role ambiguity). Hence, the results of the hierarchical regression analyses also supported the hypothesized moderation of job and personal resources in the relationship between job demands and work engagement (H4). In conclusion, out of the eight hypothesized relationships from the job demands resources model, the data provided statistically significant support to only two hypotheses.

4. Discussion and managerial implications

Hierarchical regression analysis was used to test the role job demands, job resources and personal resources as predictors of work engagement in Thai employees. The results suggested a partial support for the current sample of respondents. These findings indicate the significance of both job and personal resources in predicting work engagement. Based on the findings of the current study, the managerial implications are discussed in the following section.

Hackman and Oldham (1976) refer to the job resources are five core dimensions of job that lead to the desirable psychological states of meaningfulness, responsibility, and knowledge of work. Job resources are those physical, social, or organizational aspects of the job that: (1) help reduce job demands: (2) are useful in achieving work goals; or (3) encourage personal growth, learning, and development (Schaufeli & Bakker, 2004). The current study findings support that in the current sample of respondents from the manufacturing company, job resources facilitate work engagement (Bakker, 2011; Hakanen, Bakker, & Schaufeli, 2006; Bakker & Demerouti, 2007). Managers need to focus on those resources that can motivate employees intrinsically including job redesign techniques such as enlargement and enrichment. The idea of balancing established and emergent task elements by Ilgen and Hollenbeck (1991) can be a useful tool for achieving person-job fit at the same time reducing role conflict. In addition, managers can encourage job crafting (Tims at al., 2013).

This study also found that for the current sample from the manufacturing company, personal resources such as self-efficacy moderated the relationship between challenge and hindrance job demands and work engagement. Managers need to take into account that self-efficacious individuals are more engaged at work depicting better performance, well-being, and stress appraisals (Luszczynska, Gutiérrez-Doña, & Schwarzer, 2005). Self-efficacy has been associated with positive stress appraisals and well-being (Bandura, 1991). Therefore, self-efficacy as a personality trait can be assessed at the time of recruitment and selection, job interviews, promotions, and performance management. Also, trainings can be devoted to improving this personality trait so that employees can be motivated to think positively and perceive job demands as challenges not hindrances (Xanthopoulou, Bakker, & Fishbach, 2013).

In addition, managers need to rethink of compensation systems as support mechanisms to promote mastery, growth and gains instead of being only a basis for evaluations of performance as effective or lacking. Working on the similar line of thought as Crawford et al., (2010), managers can design jobs, which promote the employees to view their job as “opportunities to learn, achieve, and demonstrate the type of competence that tends to get rewarded” (p.836).

Limitations and future research directions

The first limitation of this study was the small sample size. For the sake of generalizing the results of this study, the sample should be representative. With the low sample size, it is plausible that the results of the analysis only apply to the manufacturing company in consideration. Future research studies should employ larger samples and non-probability sampling techniques to ensure generalizability of findings. Secondly, it is important to note that quantitative cross-sectional survey based research has dominated the overall engagement

research. Whereas Kahn (1990) stressed the contribution of work context in personal engagement or disengagement, not many studies have been taken up afterwards covering contexts. Cross-sectional studies are abundant, thus highlighting the common limitations that here the association between antecedents and engagement cannot be interpreted in terms of cause and effect. Future studies should employ data triangulation and longitudinal research designs to study the application of the model. Lastly, it is notable this study was conducted in a multinational firm employing people from multiple nationalities and cultures. Referring to the work value dimensions developed by Schwatrz (1999), Thailand is categorized as high in hierarchy, moderate in harmony, and conservatism dimensions, and low in autonomy and egalitarianism.

In Thai context, conflict and uncertainty avoidance, emotional control, modesty, and politeness is viewed as important and Thais rank lower in assertiveness and competitiveness amongst other Asian countries (Pimpa, 2012). It is plausible that the findings of this study cannot be generalized to other manufacturing firms, which employ Thais and have a different organizational culture. It is advisable that future studies employ Thais working in a Thai organization. Concurrently, based on the conceptualization of engagement, it would be worthwhile for future studies to explore this difference in work engagement due to the difference in organizational culture.

5. Conclusion

In the current study, the data partially supported the application of job demands resources model in this cohort of Thai employees. Job resources were positively related to work engagement and were viewed as important by employees. In addition, self-efficacy emerged as a significant personal resource in countering the challenges and hindrances as job demands. Overall, the analysis depicted agreement with some of the hypothesized relationships between the antecedents of engagement.

By taking into context the historical foundations of the concept (Kahn, 1990; Schaufeli et al., 2002), it becomes clear that employee engagement is rooted in the psychology of the employee and observed through behavior (Rich et al, 2010). Several studies indicate the significance of engagement at the workplace. Schaufeli and Salanova (2007) stated that engagement is “essential” for contemporary organizations given the many challenges they face (p.156) and Macey and Schneider (2008) argued that organizations can gain a competitive advantage through employee engagement. Jack Welch, the former General Electric CEO and business consultant, listed engagement as the number one measure of a company’s health (Vance, 2006). Consequently, research will see an uproar in the study of engagement and of the factors leading to engagement.

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Appendix - Figure 1

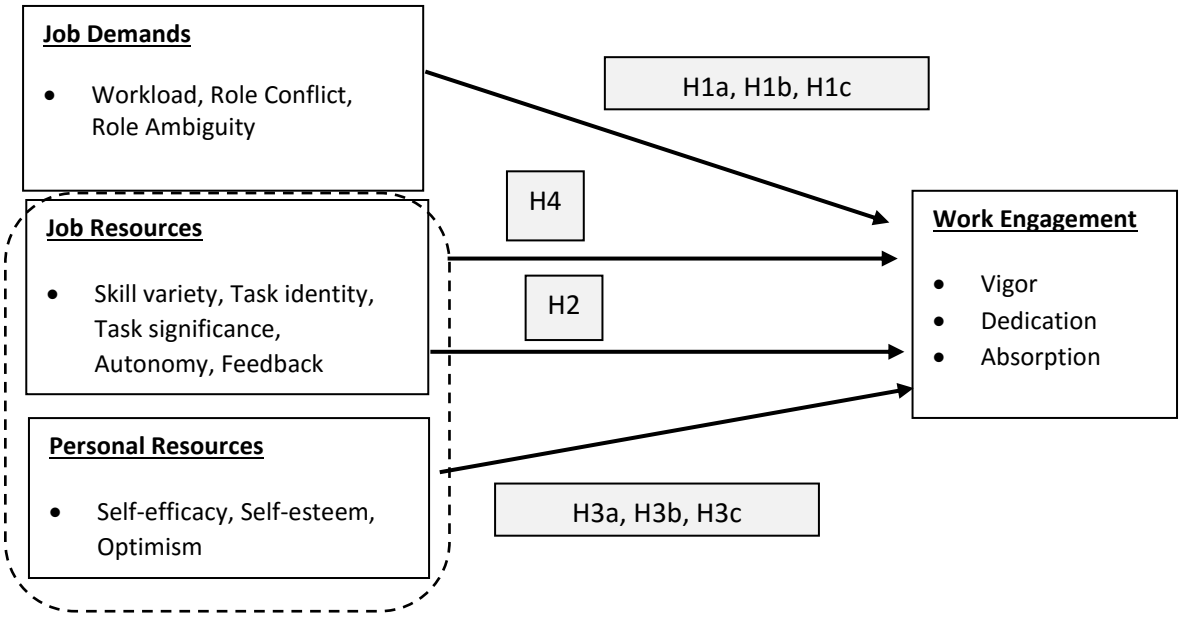

Figure 1: Framework for the study