

*Full Length Research Paper*

# Does work engagement mediate the relationship between job resources and job performance of employees?

Ng Ging Chung and Tay Angeline\*

Department of Business Policy and Strategy, Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur 50603, Malaysia.

Accepted 17 June, 2010

**The purpose of this study is to examine the extent to which the engagement of employees in their work mediates the relationship between their performance and the job resources that organisations provide. A primary survey of 341 working adults from the Klang Valley in Malaysia revealed the direct and indirect relationships between the availability of job resources and employee performance. Work engagement partially mediates between them. The results highlight the importance of providing employees with appropriate resources so that they would be engaged in their work and perform well in their jobs. This article also discusses some of the theoretical and managerial implications and provides suggestions for future research.**

**Key words:** Job resources, work engagement, job performance, employee in-role, extra-role behaviours.

## INTRODUCTION

Employers are sometimes baffled when their priced employees under-perform and others resign and leave for greener pastures. Management fail to understand why some employees are not engaged or involved in their work even though they have proactively implemented fair compensation policies and human resource (HR) practices to motivate and retain them. It can be costly if employees are not engaged in their jobs, and if they lack the motivation to exercise their full potentials. A Gallup study (2007) estimated that disengaged workers have low productivity and had cost the U.S. economy between USD\$334 and USD\$431 billion, as well as between S\$4.9 and S\$6.7 billion annually in Singapore.

Past studies showed among others how work environment and climate (Schneider et al., 1998), job dissatisfaction (Shore and Martin, 1989; Wong and Tay, 2010), poor organisational and supervisor support (Eisenberger et al., 2002), and organisational injustice (Greenberg, 1990; Tay, 2009) could explain such work behaviours of employees. Schaufeli and Bakker (2004), in particular,

suggest that employees' lack of work engagement could be related to their extreme job demands and the absence of job resources that hinder and sometimes make it impossible for them to perform effectively. They urge management to be reasonable in setting goals and in providing employees with resources to enable them to achieve their personal and organisational goals.

## LITERATURE REVIEW

### Employee engagement

Saks (2006) acknowledges that there are different definitions of engagement and some are nebulous. He notes that there is a slight difference between how the HR practitioners and academics define engagement. It is not surprising that an internet search by Bakker and Schaufeli (2008) for the term, "employee engagement" yielded more than two million outcomes. Comparatively, there were only 61 scientific articles and chapters when keywords like, "employee engagement" and "work engagement" were entered in PsycINFO®.

Academics initially opposed how the HR consultants define employee engagement based on the extent of

\*Corresponding author. E-mail: [angetay@um.edu.my](mailto:angetay@um.edu.my). Tel: (603) 7967 3888. Fax: (603) 7967 3980.

their commitment and extra-role behaviour (Jones and Harter, 2005). However, both parties ultimately concurred with Kahn (1990) that engaged employees tend to use their physical, cognitive, and emotional capacities fully when they work. Khan adds that psychologically, individuals would be more engaged if they find their work meaningful, and if they feel safe at work. If these positive psychological conditions are absent, employees would disengage themselves from their work and become less productive.

Past research on the work behaviours and attitudes of employees focused more on their negative (such as burnout) than their positive (such as employee engagement) psychological state of minds. Diener et al. (1999) as well as Myers (2000) report ratios of 17:1 and 14:1, respectively. When employees are burnout, they show signs of exhaustion. They have lower energy, and they become more cynical, less involved, and less productive at work (Maslach and Leiter, 1997; Wong and Tay, 2010). On the other hand, employees with positive self-efficacy and psychological state of minds are energized and totally involved and engaged in their work (Maslach and Leiter, 1997). More recent studies aptly explore the positive psychological state of minds of employees such as their work engagement. Their behaviours are examined independently instead of linking them to employee burnout (e.g., Schaufeli et al., 2002).

Schaufeli et al. (2002, p. 74) define work engagement as the, "positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption." Engaged employees therefore, have high levels of energy and are enthusiastic about their work. Saks (2006) however, refines this definition to include employees' engagement to their jobs and organisations. He explains that engagement is not an attitude but the extent to which individuals are conscientiously absorbed in their jobs and in their roles as members of organisations. Saks found that employees' engagement to both jobs and organisations are positively related to the organisational support they receive. In addition, employees' engagement to jobs also depends on the job characteristics, and engagement to their organisations depends on their perceptions of procedural justice.

### **Job demand and job resources**

Past studies have identified several antecedents of work engagement. Demerouti et al. (2001) as well as Schaufeli and Bakker (2004) used the job demand-resource model to explain work engagement. They extended Maslach and Leiter's (1997) work on employee burnout by focusing on how job demand (e.g., physical demand, time pressure, and shift work) and job resources (e.g., performance feedback, job control, participation in making decision, and social support) are related to employees' engagement at work. They describe job demand as the

call for employees to physically and/or psychologically concentrate fully on their jobs until they are completed. Job resources, on the other hand, refer to the reservoir of energy that employees could draw from to cope with their job demands and to achieve their work objectives.

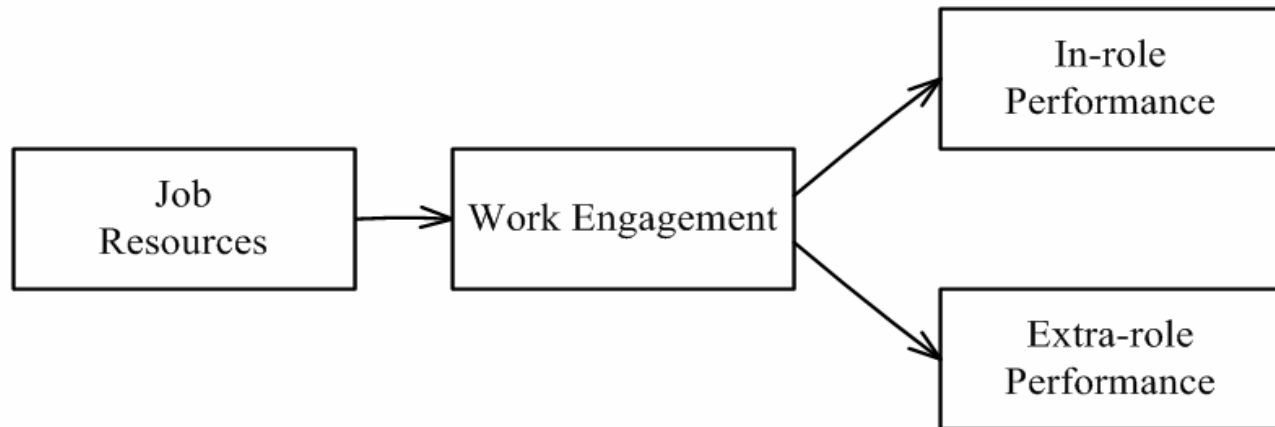
There are positive relationships between job demands and employee exhaustion as well as between employees' work engagement and job resources (Salanova and Schaufeli, 2008). According to the authors, when job demands are high, employees would experience exhaustion rather than disengagement. However, when the job resources are low, employees would be more disengaged than exhausted. Therefore, when job demands are high and job resources are at the same time low, employees are likely to be exhausted and disengaged at the same time. Johnson and Hall (1988) observe that when employees experience high job demands, low job control, low social support, and poor rewards, they risk having high psychological stress and cardiovascular disease. To get employees involved and engaged in their work, Karasek (1979) proposes that employers give them less demanding jobs, and allow them to make decisions about their work.

### **Relationship between job resources and work engagement**

Job resources that include social support from colleagues and supervisors, performance feedback, skill variety, autonomy, co-worker support, supervisor support, decision latitude, and learning opportunities are positively associated with work engagement (Bakker and Demerouti, 2007, 2008; Korunka et al., 2009; Schaufeli and Bakker, 2004). In a two-year longitudinal study of the health care personnel in Finland, Mauno et al. (2007), reveal that job resources rather than job demand relate significantly to employees' work engagement.

There are two motivational roles of job resources (Bakker and Demerouti, 2008; Schaufeli and Bakker, 2004). Intrinsically, they promote employees' growth, learning, and fulfill their basic human needs for autonomy, competence, and belongingness. Extrinsically, the presence of job resources enables employees to achieve their work goals and even allow them to complete the most difficult assignment. Therefore, employees are likely to be disengaged if they are deprived of any performance feedback, job control, participation in decision making, and social support (Demerouti et al., 2001).

Employees' drive, perseverance, and interest to work depend on the extent to which organisations provide them with the job resources they need. Llorens et al. (2006) empirically showed the positive relationship between job resources and the work engagement of employees in Spain and Holland. A longitudinal study by Xanthopoulou et al. (2009) corroborated their findings. In a survey of over two thousand school teachers in Finland,



**Figure 1.** Research framework.

Hakanen et al. (2006), report that job resources in the form of job control, information, supervisory support, innovative climate and social climate, are each positively related to work engagement. In addition, they observe that work engagement mediated the relationship between job resources and organisational commitment. Work engagement, according to Schaufeli and Bakker (2004), mediated the relationship between job resources and turnover intention of employees.

### Relationship between work engagement and job performance

Bakker and Demerouti (2008) explain that engaged employees perform better than those who are not because they are emotionally more positive (happy, joyful, and enthusiastic) and enjoy better health. Besides, engaged employees have the personal and job resources to motivate them to perform. Employees' performance, according to Borman and Motowidlo (1997), consists of their task or in-role behaviour and their contextual or extra-role behaviour.

The in-role performance behaviours of employees could contribute either directly or indirectly to their personal and organisational productivity. However, their discretionary behaviors or extra-role performance may not contribute directly to their personal productivity but indirectly to the effective functioning of their organisations. Bakker et al. (2004) reveal that engaged employees scored higher in extra-role performance ratings than those who were not engaged. Subsequently, Schaufeli et al. (2006) report the link between work engagement and the in-role performance of employees. When Xanthopoulou et al. (2008) surveyed the work behaviours of forty-four flight attendants, they found that work engagement mediated the relationships between self-efficacy and both their in-role and extra-role performances.

### HYPOTHESES AND RESEARCH MODEL

Figure 1 shows the research model of this study. The study hypothesized that work engagement mediates the relationships between job resources and the in-role performance of employees, as well as between job resources and the extra-role performance of employees.

### RESEARCH METHOD

#### Data collection procedure and sample size

A pilot study of 63 respondents was conducted in 2009 to assess clarity of the questionnaire and reliability of the measures. The respondents were each given a final set of the edited questionnaire in English and a cover letter to explain the purpose of the study, their voluntary participation, and the confidentiality of their responses.

The primary data collection took about six weeks to complete in 2009. A total of 481 questionnaires were personally distributed to employees around the Klang Valley in Malaysia. There are at least five major concentrations of employees around this region that include the capital city of Kuala Lumpur, Petaling Jaya, Subang Jaya, Shah Alam and Klang. The questionnaires were also distributed electronically to postgraduate students of the Graduate School of Business, University of Malaya. At the end of the survey period, some 274 completed questionnaires were personally collected from the respondents, and another 83 sets were returned electronically. Of the 357 survey forms that were returned, 16 cases with several missing values were removed, leaving a final research sample of 341 cases that were included in the final analysis. This sample size is more than the minimum requirement of the 5:1 participant-to-item ratio proposed by Nunnally and Bernstein (1994). The unit of analysis was individuals consisting of the respondents themselves.

#### Measures

There were four major constructs identified in this study namely, job resources, work engagement, in-role performance and extra-role performance behaviours of employees. The items in each of the measures were taken from valid studies. Job resources were

**Table 1.** Means, standard deviations, skewness, correlations and reliabilities of the measures.

| Variables                 | Mean | S. D. | Skewness | 1      | 2      | 3      | 4      |
|---------------------------|------|-------|----------|--------|--------|--------|--------|
| 1. Job resources          | 2.96 | 0.31  | 0.26     | (0.82) |        |        |        |
| 2. Work engagement        | 3.95 | 0.94  | -0.23    | .63**  | (0.94) |        |        |
| 3. In-role performance    | 4.37 | 0.86  | -0.15    | 0.48** | 0.52** | (0.95) |        |
| 4. Extra-role performance | 4.07 | 0.90  | 0.00     | 0.46** | 0.48** | 0.64** | (0.88) |

Notes: Figures in parentheses are  $\alpha$  reliabilities at \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; S.D. = Standard deviation.

measured by using two subscales, namely, job control and social support. The 17-item job control and social support measures were taken from Karasek's (1985) job content questionnaire (JCQ). Two examples of the items describing job resources are: "My job allows me to make a lot of decisions on my own" and "My supervisor pays attention to what I am saying." The respondents rated each item based on a four-point Likert scale anchored at 1 = strongly disagree, and 4 = strongly agree.

The three work engagement subscales consisting of vigor, dedication, and absorption measures were taken from the Utrecht work engagement scale (UWES) as suggested by Schaufeli et al. (2002). Some items in the work engagement measure include, "At my work, I am bursting with energy," "I find the work that I do full of meaning and purpose," and "When I am working, I forget everything else around me." The respondents rated their perceptions based on a seven-point Likert scale with end points of 0 = never, and 6 = every day.

This study, adopted Goodman and Svyantek's (1999) 9-item in-role performance and 7-item extra-role performance measures. "I perform well in the overall job by carrying out tasks as expected," is an example of an item measuring employees' in-role performance behaviour. "I assist others with their duties," is one of the 7 items describing the extra-role performance of employees. All the job performance items were scored on a seven-point Likert scale, whereby, 0 = not at all characteristic, 6 = totally characteristic.

## RESULTS

This study used, descriptive statistics to summarize the demographic characteristics of the respondents, Pearson's correlation to show the inter-correlations between the constructs, and regression analysis to confirm the research hypotheses was used. The following explains the research results.

### Demographic characteristics of respondents

There was almost a fair balance of male (49.6%) and female (50.4%) respondents who had participated in this survey. In addition, 43 and 41% of the 341 respondents comprised of Malaysian Malays and Chinese, respectively, and the rest were from other ethnic groups. About 84% of the respondents were between 21 and 40 years of age, and slightly more than half of them (51%) were married. Most of the respondents (80%) were executives and managers with at least a first degree (74%) while the rest were support or administration staff. The gross incomes of majority (84%) of the respondents were about

RM6000 (equivalent to USD\$2000) or less a month. The respondents were all full-time employees and about 33% had served more than 5 years in their organisations.

### Reliability of measures

The internal reliabilities of the measures used in this study are summarized in the parentheses of Table 1. Each of the have exceeded the minimum suggestion of 0.70 by Nunnally and Bernstein (1994). The Cronbach's alpha for the combined job control and social support subscales that measured job resources was 0.82. This was slightly higher than the 0.81 reported by Karasek and Theorell (1990). The Cronbach's alpha for work engagement was 0.94 and it was higher than the typical reports of between 0.80 and 0.90 (Schaufeli et al., 2006). The internal reliabilities for in-role performance and extra-role performance measures were 0.95 and 0.88, respectively. They were fairly consistent with past reports of 0.90 and 0.88 by Goodman and Svyantek (1999), respectively.

### Correlations

The descriptive statistics in Table 1 shows the mean scores, standard deviations, skewness, correlations, and Cronbach's alphas of each measure and they are self-explanatory.

### Mediation

This study use regressions to test the research hypotheses and their results are summarised in Table 2. The study proposed that work engagement mediates between job resources and the in-role and extra-role performance behaviours of employees. Table 2 shows that job resources were significantly related to work engagement. It accounted for 39.2% ( $\beta = .626$ ,  $p < 0.01$ ) of the variation in work engagement. Work engagement was also significantly related to the in-role performance of employees and it described 26.2% ( $\beta = .512$ ,  $p < 0.01$ ) of the variation. In addition, job resources were significantly related to the in-role performance of employees, accounting for 22.8% ( $\beta = .477$ ,  $p < 0.01$ ) of the variation.

**Table 2.** Results of mediated regression analysis for job resources, work engagement, in-role performance and extra-role performance behaviours of employees.

| DV                     | IV | B       | $\beta$ | R     | R <sup>2</sup> | Adjus-ted R <sup>2</sup> | S.E. | $\Delta R^2$ | F        |
|------------------------|----|---------|---------|-------|----------------|--------------------------|------|--------------|----------|
| Work engage            | JR | 1.875** | 0.626** | 0.626 | 0.392          | 0.390                    | 0.73 | 0.390        | 217.91** |
| In-role performance    | JR | 1.313** | 0.477** | 0.477 | 0.228          | 0.225                    | 0.76 | 0.225        | 99.59**  |
| Extra-role performance | JR | 1.327** | 0.463** | 0.463 | 0.215          | 0.212                    | 0.80 | 0.212        | 92.45**  |
| In-role performance    | WE | 0.469** | 0.512** | 0.512 | 0.262          | 0.260                    | 0.74 | 0.260        | 120.50** |
| Extra-role performance | WE | 0.460** | 0.482** | 0.482 | 0.233          | 0.230                    | 0.78 | 0.230        | 102.81** |
| In-role performance    | WE | 0.327** | 0.356** | 0.552 | 0.305          | 0.300                    | 0.72 | 0.300        | 73.80**  |
| Extra-role performance | JR | 0.700** | 0.254** |       |                |                          |      |              |          |
|                        | WE | 0.303** | 0.316** | 0.525 | 0.276          | 0.271                    | 0.76 | 0.271        | 64.10**  |
|                        | JR | 0.760** | 0.265** |       |                |                          |      |              |          |

Notes: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; IV = Independent variable; DV = Dependent variable; JB = Job resources; WE = Work engagement; Engage = engagement.

However, the significant relationship between job resources and employees' in-role performance decreased from  $\beta = .477$  (at  $p < 0.01$ ) to  $\beta = .254$  (at  $p < 0.01$ ) when work engagement was added to the model. Work engagement therefore partially mediated the relationship between job resources and the in-role performance of employees.

Similarly, work engagement was significantly related to the extra-role performance of the employees, accounting for 23.3% ( $\beta = .482$ ,  $p < 0.01$ ) of the variation. Job resources were also significantly related to the extra-role performance of employees, accounting for 21.5% ( $\beta = .463$ ,  $p < 0.01$ ) of the variation. However, the significant relationship between job resources and the extra-role performance of employees decreased from  $\beta = .463$  (at  $p < 0.01$ ) to  $\beta = 0.265$  (at  $p < 0.01$ ) when work engagement was added to the model. The results therefore, showed that work engagement partially mediated the relationship between job resources and employees' extra-role performance.

To be more accurate, the study also used the Sobel (1982) test to confirm the mediated or indirect relationships between the constructs. Sobel recommends two steps by multiplying two regression coefficients to achieve this. The first step was to obtain the unstandardised regression coefficient ( $a$ ) and the related standard error ( $s_a$ ) of job resources from a simple regression, that is, by regressing work engagement on job resources. The second step was to obtain the unstandardised regression coefficient ( $b$ ) and the related standard error ( $s_b$ ) of work engagement from a multiple regression analysis, that is, by regressing the in-role performance on both the job resources and work engagement. As there were two dependent variables in the research model, the study also obtained the unstandardised regression coefficient ( $b$ ) and the standard error ( $s_b$ ) of work engagement by regressing the extra-role performance on both the job resources and work engagement.

The Sobel test results are summarised in Table 3. It showed that the standardised regression analysis with in-role performance as the criteria yielded the following results:  $a = 1.875$ ,  $s_a = 0.127$ ,  $b = 0.327$ , and  $s_b = 0.054$ . On the other hand, the standardised regression analysis with extra-role performance as the criteria yielded these results:  $a = 0.875$ ,  $s_a = 0.127$ ,  $b = 0.303$ , and  $s_b = 0.057$ . These values were then entered into the Sobel test calculator obtained electronically from <http://www.people.ku.edu/~preacher/sobel/sobel.htm>.

The observed p-value of less than 0.05 as shown in Table 3 confirmed that work engagement has a significant mediating effect on both the in-role performance ( $z = 5.60$ ,  $p < 0.01$ ) and the extra-role performance ( $z = 5.00$ ,  $p < 0.01$ ) of employees. The Sobel test results therefore, reaffirmed that work engagement indeed mediated the relationships between job resources and the in-role and extra-role performances of employees.

## DISCUSSION AND IMPLICATIONS

The purpose of this study was to determine the extent to which work engagement mediated the relationship between job resources and the job performance (in-role and extra role behaviours) of employees. The findings showed that job resources were not only directly related to employees' job performance but also indirectly through their work engagement. The positive link between job resources and work engagement of employees concur with past studies (Bakker and Demerouti, 2007, 2008; Bakker et al., 2004; Demerouti et al., 2001; Schaufeli and Bakker, 2004; Schaufeli et al., 2006).

Our results also add to the dearth of literature on the significant relationship between work engagement and the job performance of employees. The findings suggest that employees are likely to perform well if they have control over their jobs and if they receive social support from their supervisors and peers. Likewise, if employees have these resources, they would be more engaged in

**Table 3.** Sobel test results of mediated relationships.

| Indirect effect  | <i>a</i> | <i>s<sub>a</sub></i> | <i>b</i> | <i>s<sub>b</sub></i> | <i>z</i> |
|--|----------|----------------------|----------|----------------------|----------|
| Job resources → Work engagement → In-role performance    | 1.875    | 0.127                | 0.327    | 0.054                | 5.60**   |
| Job resources → Work engagement → Extra-role performance | 1.875    | 0.127                | 0.303    | 0.057                | 5.00**   |

Note: Figures in parentheses are  $\alpha$  reliabilities at \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

their work and achieve their personal and organisational goals.

One of the managerial implications from the findings is the need for organisations to provide employees with the job resources such as job control and social support to enable them to perform. With the resources, employees would be able to meet deadlines, fulfill their job requirements competently, do more, and take the initiative to help others with their duties. In addition, employees would be able to perform if management empower them and provide opportunities for them to learn new things, and to discover their talents. The presence of such resources would enable employees to achieve their personal and organisational goals efficiently and effectively.

The results from this study confirmed past intuition of some employers that if employees are engaged in their work, they would be able to contribute more towards the organisation. Indeed, when employees find their work meaningful and interesting, they would be enthusiastic and happy to immerse themselves in their work and persevere to complete even the most difficult assignment. Engaged employees would be bursting with energy to complete any job that inspires them. In summary, employers should provide employees with the appropriate job resources and to engage them if they want employees to perform.

### LIMITATIONS AND FUTURE RESEARCH

This study has similar limitations as most cross-sectional studies. The findings cannot be generalised over a wider population of employees because the data was collected at a specific point of time. As a result, the observed significant relationships between the constructs should be interpreted with caution and no causal inferences should be made. Future research should address this limitation by conducting a longitudinally study instead.

The convenience sampling method that was adopted in this study had included employees with different job designations and varied job responsibilities in the sample. Each of them perhaps had different levels of engagement and requirements of job resources. Therefore, in future, a more homogeneous group of respondents should be selected by focusing on either individuals from a particular job designation or those doing similar jobs.

Future research should allow the immediate supervisors or peers to evaluate the extra-role performance

behaviours of employees to remove the proverbial one source response biasness due to judgment error. It is also recommended that in future, work engagement should be examined as a moderator instead of as a mediator in the relationship between job resources and job performance of employees. Prospective studies could use other antecedents of work engagement and employee performance such as job embeddedness, organisational justice, and organisational politics.

### Conclusion

This study revealed that work engagement mediates the relationship between job resources and job performance of employees. It also contributes to literature by suggesting that regardless whether employees are engaged or not in their work, they could still perform and contribute towards organisational effectiveness if they have the relevant job resources. Therefore, when employees have control over decisions that affect them and their work, and when they have good social support from their peers and superiors, they would invariably reciprocate by engaging and performing well in their work.

### REFERENCES

- Bakker AB, Demerouti E (2007). The job demands-resources model: state of the art. *J. Manage Psychol.*, 22(3): 309-328.
- Bakker AB, Demerouti E (2008). Towards a model of work engagement. *Career. Dev. Int.*, 13(3): 209-223.
- Bakker AB, Schaufeli WB (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *J. Org. Behav.*, 29: 147-154.
- Bakker AB, Demerouti E, Verbeke W (2004). Using the job demands-resources model to predict burnout and performance. *Hum. Res. Manage.*, 43(1): 83-104.
- Borman WC, Motowidlo SJ (1997). Task performance and contextual performance: the meaning for personnel selection research. *Hum. Perform.*, 10(2): 99-109.
- Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB (2001). The job demands-resources model of burnout. *J. App. Psychol.*, 86(3): 499-512.
- Diener E, Suh EM, Lucas RE, Smith HL (1999). Subjective well-being: three decades of progress. *Psychol. Bull.*, 125(2): 276-302.
- Eisenberger R, Stinglhamber F, Vandenberghe C, Sucharski I, Rhoades L (2002). Perceived supervisor support: contributions to perceived organisational support and employee retention. *J. App. Psychol.*, 87(3): 565-573.
- Gallup Management Journal (2007). Many employees would fire their boss. <http://gmj.gallup.com/content/28867/many-employees-would-fire-their-boss.aspx>.
- Greenberg J (1990). Organisational justice: Yesterday, today and tomorrow. *J. Manage.*, 16(2): 399-432.

- Goodman SA, Svyantek DJ (1999). Person–organization fit and contextual performance: Do shared values matter. *J. Voc. Behav.*, 55: 254-275.
- Hakanen JJ, Bakker AB, Schaufeli WB (2006). Burnout and work engagement among teachers. *J. Sch. Psychol.*, 43: 495-513.
- Johnson JV, Hall EM (1988). Job strain, work place social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *Am. J. Pub. Health*, 78(10): 1336-1342.
- Jones JR, Harter JK (2005). Race effects on the employee engagement-turnover intention relationship. *J. Leader Org. Stud.*, 11(2): 78-88.
- Kahn WA (1990). Psychological conditions of personal engagement and disengagement at work. *Acad. Manage. J.*, 33(4): 692-724.
- Karasek RA (1985). Job content questionnaire and user's guide. Lowell, Massachusetts: Department of Work Environment, University of Massachusetts Lowell.
- Karasek RA (1979). Job demands, job decision latitude, and mental strain: implications for job redesign. *Admin. Sci. Quart.* 24: 285-308.
- Karasek RA, Theorell T (1990). *Healthy work: stress, productivity and the reconstruction of working life*. New York: Basic Books.
- Korunka C, Kubicek B, Schaufeli WB, Hoonakker P (2009). Work engagement and burnout: testing the robustness of the Job Demands-Resources model. *J. Positive. Psychol.*, 4(3): 243-255.
- Llorens S, Bakker AB, Schaufeli W, Salanova M (2006). Testing the robustness of the job demands–resources model. *Int. J. Stress. Manage.*, 13(3): 378-391.
- Maslach C, Leiter MP (1997). The truth about burnout: How organizations cause personal stress and what to do about it. San Francisco: Jossey-Bass.
- Maslach C, Schaufeli WB, Leiter MP (2001). Job burnout. *Annual. Rev. Psychol.*, 52: 397-422.
- Mauno S, Kinnunen U, Ruokolainen M (2007). Job demands and resources as antecedents of work engagement: A longitudinal study. *J. Voc. Behav.*, 70: 149 -171.
- Myers DG (2000). The funds, friends, and faith of happy people. *American Psychol.*, 55(1): 56-67.
- Nunnally JC, Bernstein IH (1994). *Psychometric theory* (3 ed.). New York: McGraw-Hill.
- Saks AM (2006). Antecedents and consequences of employee engagement. *J. Manage. Psychol.* 21(7): 600-619.
- Salanova M, Schaufeli WB (2008). A cross-national study of work engagement as a mediator between job resources and proactive behaviour. *Int. J. Hum. Res. Manage.* 19(1): 116-131.
- Schaufeli WB, Bakker AB (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *J. Org. Behav.* 25: 293-315.
- Schaufeli WB, Bakker AB, Salanova M (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educ. Psychol. Measure.*, 66(4): 701-716.
- Schaufeli WB, Salanova M, González-Romá V, Bakker AB (2002). The measurement of engagement and burnout: A two sample confirmative analytic approach. *J. Happ. Stud.*, 3: 71-92.
- Shore LM, Martin HJ (1989). Job satisfaction and organisational commitment in relation to work performance and turnover intentions. *Hum. Relat.*, 42(7): 625-638.
- Sobel ME (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological Methodology*. San Francisco: Jossey-Bass pp. 290-312.
- Tay A (2009). Employees' perceptions of organisational justice: Does it really matter? *Manage. Malaysian Institute of Management* 44(3): 68-72.
- Wong CF, Tay A (2010). Turnover intention and job hopping behaviour of music teachers in Malaysia. *Afr. J. Bus. Manage.* 4(4): 425-434.
- Xanthopoulou D, Bakker AB, Heuven E, Demerouti E, Schaufeli WB (2008). Working in the sky: A diary study on work engagement among flight attendants. *J. Occup. Health Psychol.* 13(4): 345-356.
- Xanthopoulou D, Bakker AB, Demerouti E, Schaufeli WB (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *J. Voc. Behav.*, 74: 235-244.