

## The Role of Needs-Supplies Fit and Job Satisfaction in Predicting Employee Engagement

(Peranan Kesepadanan Penawaran-Keperluan dan Kepuasan Kerja dalam Meramal Keterlibatan Pekerja)

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### ABSTRACT

*Employee engagement has become a key concern for organizations as it provides value for sustainable competitive advantage. Fully engaged workforce is not only important in helping organizations flourish in good times but also relevant in helping organizations persevere during tough times. However, the main challenge for employers is to motivate and keep their employee engaged. Recent organizational behaviour studies emphasize the importance of environmental influences in understanding employees attitudes and behaviours. Consistent with this development, the present study seeks to examine the role of needs-supplies fit and job satisfaction in predicting employee engagement. Drawing from the self-in-role view and social exchange theory, it was hypothesized that needs-supplies fit predicts employee engagement, and the relationship between the two constructs is mediated by job satisfaction. Using a self-administered survey, data were obtained from 161 employees of a large public university in Malaysia. The results fully supported the hypothesized relationships. Implications for theory and practice are discussed.*

*Keywords: Employee engagement; person-job fit; needs-supplies fit; job satisfaction; self-in-role view; Malaysia*

### ABSTRAK

*Keterlibatan pekerja dianggap sebagai sesuatu yang penting dalam membantu organisasi mengekalkan daya saing. Pekerja yang mempunyai keterlibatan tinggi bukan hanya dapat membantu organisasi mencapai kecemerlangan tetapi juga dapat membantu organisasi bertahan dalam menghadapi kesukaran. Walau bagaimanapun, cabaran utama kepada organisasi adalah untuk memotivasikan dan mengekalkan keterlibatan pekerja. Kajian terkini dalam bidang kelakuan organisasi telah menyarankan kepentingan persekitaran dalam mempengaruhi sikap dan kelakuan pekerja. Konsisten dengan perkembangan tersebut, kajian ini dijalankan untuk menyiasat kesan kesepadanan penawaran-keperluan dan kepuasan kerja terhadap keterlibatan pekerja. Kesepadanan penawaran-keperluan dicadangkan meramal keterlibatan pekerja, dan kepuasan kerja dicadangkan bertindak sebagai perantara dalam hubungan tersebut. Data dikumpulkan daripada 161 pekerja sebuah universiti awam di Malaysia dengan menggunakan kaedah soal selidik. Hasil kajian menyokong hubungan yang dicadangkan, iaitu apabila pekerja merasa bahawa kerja mereka dapat memenuhi keperluan, mereka akan mengalami kepuasan kerja yang tinggi, dan sebagai hasilnya mereka dengan sukarela akan mencurahkan tenaga secara kognitif, emosi dan fizikal terhadap kerja. Hasil kajian menyokong hubungan yang dicadangkan. Implikasi kajian kepada teori dan amalan dibincangkan di akhir artikel.*

*Kata kunci: Keterlibatan pekerja; kesepadanan penawaran-keperluan; kepuasan kerja; self-in-role view; Malaysia*

### INTRODUCTION

Recent Towers Watson's *Global Workforce Study* (2014) reveals that only four out of every 10 employees worldwide are highly engaged with their work. The similar trend also takes place in Malaysia where it was reported that only 40% of employees in the workforce are highly engaged and 36% of them want to leave their organization within two years. In another development, employers in Malaysia are complaining about the shortage of skilled employees. A study conducted by Oxford Business Group (2011: 49) reported that business leaders in Kuala Lumpur find difficulties in attracting qualified staff particularly in the service sector, because potential employees either lack sufficient education and training or more qualified

employees among them are taken by foreign companies that can pay higher salaries, thus, making it hard for local businesses to recruit and retain staff. The combined effects of employees' intention to leave, shortage of skilled workforce, and growing job market point to critical challenges for Malaysian organizations in terms of retaining and keeping their employees fully engaged with their jobs.

Employee engagement has emerged as a critical driver for organizational success in modern global competition and is viewed as a key factor for achieving and sustaining competitive advantage (Albrecht, Bakker, Gruman, Macey & Saks 2015). Synthesis of quantitative research on employee engagement in various meta-analytic studies has shown that, at the individual level, employee engagement

significantly impacts job performance, organizational citizenship behaviours, job satisfaction, organizational commitment and intention to leave organization (e.g., Christian, Garza & Slaughter 2011; Halbesleben 2010; Kim, Kolb & Kim 2012). Further, at the business-unit level, research evidence reveals that employee engagement enhances customer satisfaction, productivity and profitability (Harter, Schmidt & Hayes 2002).

Evidence emerging both from consultancy reports and scientific research highlight that employee engagement plays a key role in predicting individual and organizational outcomes. Over the last two decades, researchers have identified various individual, interpersonal and organizational factors that act as predictors of employee engagement (e.g., Christian et al. 2011; Halbesleben 2010; Kim et al. 2012), empirical investigation on the underlying mechanisms of employee engagement, however, is still not exhaustive.

Drawing from previous research (e.g., Hernandez & Guarana 2016; Rich, Lepine & Crawford 2010; Shuck, Reio & Rocco 2011) and considering the engagement level of employees in the Malaysian context as noted above, it can be assumed that low level of engagement among Malaysian employees might be due to the poor needs-supplies fit, which refers to the congruence between what employees need from their jobs and what their jobs are supplying to them in return. There is a clear evidence that employees perform their best in jobs and have positive work-related behaviours and attitudes when there is a good person-environment fit (Kim et al. 2012; Kristof-Brown, Zimmerman & Johnson 2005). In the employee engagement research, researchers have found that various aspects of person-environment fit, such as person-organization fit and person-job fit, are associated with employee engagement. For instance, Rich and associates (2010) found that value congruence (or person-organization fit) was positively related to engagement, and engagement mediated the relationship between value congruence and job performance dimensions comprising task performance and organizational citizenship behaviour. In a similar vein, in a diversified sample from technology, healthcare, retail, banking, non-profit and hospitality organizations, Shuck and associates (2011) found that person-job fit was positively associated with employee engagement. More recently, using data collected from a large multinational company over multiple time periods, Hernandez and Guarana (2016) found that needs-supplies fit was positively related to employee engagement, and needs-supplies fit mediated the effect of psychological meaningfulness and availability on employee engagement.

Although the direct relationship between needs-supplies fit and employee engagement has empirical support, little is however known about the underlying mechanisms that can explain this relationship. Drawing from job satisfaction theory (Locke 1976), it can be expected that the relationship between needs-supplies fit and employee engagement might be explained by the

underlying mechanism of job satisfaction, which have not been examined in the earlier research to the best of our knowledge (Cable & DeRue 2002; Oh, Guay, Kim, Harold, Lee, Heo & Shin 2014; Yu 2016). Thus, to add to the literature, the present study will examine the effect of needs-supplies fit on employee engagement, and the role of job satisfaction in mediating this relationship.

This study is important for several reasons. First, there is an impressive advancement in job engagement research for past two decades, however, the existing engagement research is greatly skewed to the positive antithesis view of engagement that is rooted in stress, burnout, and employee well-being theories, and less attention has been paid to Kahn's (1990) three-dimensional construct of engagement that is grounded in motivation and work-design research (Basit 2016). This study will contribute to literature by advancing research on this important motivational construct of employee engagement.

Second, individuals enter the organization with certain expectations and, if these expectations are met, they will have positive attitudes toward their organization (Kristof-Brown et al. 2005). How well an individual fits the work environment can then be an effective indicator of attitudes and behaviours in the workplace. In addition, employees form and use fit perceptions as they pass through their organizational life and these perceptions predict their choices in their work activities (Cable & DeRue 2002). We contend that these choices are likely to include employee engagement because engagement involves decisions to allocate cognitive, emotional, and physical resources in work. In doing so, this study will respond to the call of Christian et al. (2011) who emphasized the need to examine the relationship between fit perceptions and employee engagement in greater depth.

Third, the construct of employee engagement has been criticized for repacking of old constructs including job satisfaction (e.g., Harter et al. 2002; Macey & Schneider 2008; Newman & Harrison 2008). It is perhaps due to this reason that researchers have ignored the satisfaction-engagement relationship and focused more on examining the distinctiveness of these constructs. Recent research has now revealed that both these constructs have distinctiveness (e.g., Christian et al. 2011; Halbesleben 2010; Mackay, Allen & Landis 2016; Rich et al. 2010), therefore the examination of satisfaction-engagement relationship will further our understanding of the proximal antecedents of employee engagement.

Fourth, most of the earlier research on engagement has focused on private-sector employees. This study will contribute to literature by examining engagement in the public sector. This is important because researchers have noted difference in the levels and drivers of engagement between public and private sector employees. For instance, Mohapatra and Sharma (2010) noted that drivers of employee engagement were different in the Indian public sector as compared to private manufacturing sector. In a related vein, Vigoda-Gadot et al. (2012) found that engagement is higher among the public sector

employees than the private sector employees, furthermore, engagement is higher among public managers than public employees.

Finally, researchers and practitioners consider employee engagement as a primary source of competitive advantage. Therefore, scientific investigation focused on examining antecedents of employee engagement and its underlying mechanisms will improve our understanding about employee engagement in organizations (Albrecht et al. 2015).

## LITERATURE REVIEW

### EMPLOYEE ENGAGEMENT AND THE SELF-IN-ROLE VIEW

Employee engagement refers to the degree of one's cognitive, emotional and physical connection with work (Kahn 1990, 1992). Employees are regarded as engaged when they are cognitively vigilant, emotionally connected and physically involved in their jobs. As a core motivational construct, employee engagement has become an important area of scientific inquiry (Albrecht et al. 2015; Hernandez & Guarana 2016; Mackay et al. 2016) and human resource practice (Linley, Harrington & Garcea 2010; Watson 2014). Meta-analytic research shows that employee engagement is significantly associated with organizational commitment, job performance, organizational citizenship behaviour, turnover intention and employee health (e.g., Christian et al. 2011; Halbesleben 2010; Kim et al. 2012). Management scholars and practitioners believe that employee engagement not only drives bottom-line business outcomes (Harter et al. 2002; Macey & Schneider 2008), it is a key to competitive advantage (Albrecht 2010b; Albrecht et al. 2015).

Drawing on theories of motivation (e.g., Alderfer 1972; Locke 1968), job design (e.g., Hackman & Oldham 1980) and role performance (e.g., Goffman 1961), Kahn (1990) developed a conceptual framework, known as the self-in-role view, to explain that work, interpersonal and individual characteristics of employees influence their psychological experiences that in turn predict their engagement (or disengagement) with work. Among these psychological experiences, *psychological meaningfulness* refers to the feeling that one is receiving a return on the investment of self in work in terms of being considered by organizational members as worthwhile, useful and valuable. *Psychological safety* is feeling able to engage one's self without fearing negative consequences to self-image, status or career. Finally, *psychological availability* refers to the sense of having the physical, emotional or psychological resources to personally engage in work.

Empirical research based on the self-in-role view of employee engagement has found that engagement is associated with a wide range of antecedents relating to work design (e.g. job enrichment), social context of work (e.g., social support) and individual characteristics of employees (e.g., core self-evaluations). Moreover,

engagement is also related to various key organizational outcomes such as employee performance, discretionary effort, intention to quit and affective commitment (Albrecht et al. 2015; Bakker 2011; Christian et al. 2011; Hernandez & Guarana 2016; Kim et al. 2012; Macey, Schneider & Barbera 2009; Mackay et al. 2016; Rich et al. 2010; Saks 2006; Saks & Gruman 2011; Shuck et al. 2011).

### NEEDS-SUPPLIES FIT AND EMPLOYEE ENGAGEMENT

Needs-supplies fit refers to the match between the needs of employees and the supplies that jobs provide to meet those needs (Edwards 1991; Oh et al. 2014). Needs are the starting point of motivation because employees expect that their jobs satisfy their needs (Alderfer 1972; Locke 2000). The person-environment fit researchers argue that a basic motivation that drives people to enter the job market is to gain access to the economic, social and psychological rewards that organizations offer as inducement (Cable & DeRue 2002). Further, these researchers have found that when employees perceive that their jobs are not supplying enough to satisfy their needs, they experience decline in job satisfaction, career satisfaction and occupational commitment. Because employees enter the job market with some expectations to be met by their organizations, their perceptions of fit begin to take shape soon after they join their organizations. These fit perceptions continue to evolve over a course of time as a result of positive or negative interactions that employees have with their work environment. There is a clear evidence that a good fit between one's job and work environment is not only a source of motivation and job satisfaction, but this fit is vitally important to fully understand and modify one's attitudes and behaviour at the workplace, including employee engagement (Furnham 2005; Latham 2007). Thus, needs-supplies fit is an important perception that employees need to experience first in order to demonstrate engagement with work.

Different forms of fit perceptions have found to be associated with various employee attitudes and behaviours, indicating that good work environment affords employees the opportunity to fulfil their needs (e.g., Cable & Edwards 2004; Hernandez & Guarana 2016; Kristof-Brown et al. 2005). In particular, engagement research has shown that various forms of person-environment fit are related to engagement, such as work role fit (e.g., May, Gilson & Harter 2004; Olivier & Rothmann 2007), value congruence (e.g., Rich et al. 2010), person-job fit (e.g., Shuck et al. 2011) and current and anticipated needs-supply fit (Hernandez & Guarana 2016). Despite these studies, the relationships between needs-supplies fit, employee engagement and underlying mechanisms have not been understood as yet.

Theoretically, the relationship between needs-supplies fit and employee engagement can be understood in the light of the self-in-role view of employee engagement, which argues that the good work conditions promote engagement by enhancing meaningfulness and safety (Kahn 1990).

When employees feel that their job supplies are fulfilling their diverse needs, they experience meaningfulness in their work and consider themselves worthwhile, useful and valuable for their organization. Meaningfulness generated through such positive experiences, thus, motivates employees to demonstrate engagement with work (Kahn 1990). Further, when jobs provide employees with opportunities to express their authentic selves in work that fit their preferred self-concept, meaningfulness is likely to enhance, leading to enhanced employee engagement (Albrecht et al. 2015; Kahn 1990; May et al. 2004). Moreover, meaningfulness indicates to employees that how past and current investments of time and energy have created a sense of return and how future circumstances will increase rewards, such as promotion and increase in salary (Hernandez & Guarana 2016).

In addition, needs-supplies fit may also lead to employee engagement through enhancing psychological safety, because needs-supplies fit signals to employees that their organization has provided them with an environment that is conducive for their engagement and there is no threat to their self-image, status and career growth. These cues make employees feel psychologically safe and motivate them to demonstrate engagement without fearing negative consequences (Kahn 1990). Thus, the following hypothesis is proposed:

H<sub>1</sub> Needs-supplies fit will be positively related to employee engagement.

#### NEEDS-SUPPLIES FIT AND JOB SATISFACTION

Needs-supplies fit is related to job satisfaction because people tend to have more positive attitudes when their needs are fulfilled (Locke 1976; Oh et al. 2014; Yu 2016). Building upon this argument and drawing on meaningfulness literature (e.g., Hackman & Oldham 1980; Kahn 1990), we further argue that when people perceive a good fit between their needs and job supplies, they infer meaningfulness because of being viewed as worthy and valuable and tend to experience satisfaction with their jobs as a consequence. Several empirical studies have found a positive relationship between needs-supplies fit and job satisfaction (Cable & DeRue 2002; Dahling & Librizzi 2015; Kristof-Brown et al. 2005; Oh et al. 2014; Yu 2016). Thus, the following hypothesis is proposed:

H<sub>2</sub> Needs-supplies fit will be positively related to job satisfaction.

#### THE MEDIATING ROLE OF JOB SATISFACTION

The distinctiveness of employee engagement from neighbouring concepts has been debated among researchers for quite some time (e.g., Albrecht 2010a; Bakker & Leiter 2010; Macey & Schneider 2008). Researchers have argued that engagement conceptually overlaps with many existing well-known constructs, such as job satisfaction, organizational commitment, job involvement and organizational citizenship behaviour

(Harter et al. 2002; Macey & Schneider 2008; Newman & Harrison 2008). This criticism probably led researchers to examine the distinctiveness of engagement from allegedly overlapping concepts and less attention was focused on the link of employee engagement with those constructs, including job satisfaction.

Many studies on employee engagement, however, have ruled out the notion of “old wine in a new bottle”. For instance, in a meta-analysis of 90 studies, Christian et al. (2011) examined engagement, job satisfaction, organizational commitment, and job involvement as mediators in the relationships between various antecedents and consequences of employee engagement. The authors found that although engagement shared some conceptual space with those attitudes, its incremental criterion-related validity over those attitudinal constructs established that engagement occupied its exclusive conceptual space as well. Several other studies have also shown that employee engagement has distinctiveness from job involvement, organizational commitment, job satisfaction, intrinsic motivation, workaholism and personal initiative (e.g., Hallberg & Schaufeli 2006; Mackay et al. 2016; Rich et al. 2010; Salanova & Schaufeli 2008; Schaufeli & Bakker 2010; Schaufeli, Taris & Van Rhenen 2008; Sonnentag 2003).

Given the fact that job satisfaction and engagement are two different constructs, it would be informative to examine how they are related. In this study, we contend that job satisfaction plays an important role in promoting one’s engagement with work for several reasons. First, job satisfaction refers to a positive emotional state resulting from the appraisal of one’s job experiences (Locke 1976: 1304), whereas engagement is the allocation of one’s cognitive, emotional and physical resources in job (Kahn 1990). Drawing on social exchange theory (Blau 1964; Cropanzano & Mitchell 2005), we argue that employees who derive satisfaction from their jobs consider it a reward contributing to their well-being and happiness, which makes them feel obligated to reciprocate with their investment of cognitive, emotional and physical energies in job. Second, job satisfaction can also be viewed as success and achievement as a result of one’s work performance and is likely to increase self-efficacy by making employees believe that they are able to master the challenges of job and life (Judge, Thoresen, Bono & Patton 2001; Srivastava, Locke, Judge & Adams 2010). It is likely that an increase in self-efficacy might motivate employees to enhance their level of engagement. At the empirical level, a handful of research has found a significant relationship between job satisfaction and employee engagement (e.g., Christian et al. 2011; Koyuncu, Burke & Fiksenbaum 2006; Rantanen, Mauno, Kinnunen & Rantanen 2011; Rich et al. 2010; Saks 2006).

The self-in-role view is silent on the role of one’s satisfaction with job as an intervening mechanism in the relationship between needs-supplies fit and employee engagement, it can be assumed that the effect of needs-supplies fit on employee engagement may go through job

satisfaction for several reasons. First, it has been noted above that needs-supplies fit promotes engagement by enhancing meaningfulness and safety. We argue that these psychological conditions might also contribute to job satisfaction by activating social exchange, enabling employees to reciprocate their positive experiences of job satisfaction with their level of engagement.

Second, well-being researchers have noted that people behave positively when making progress toward goals and react negatively when failing to achieve goals (Diener, Suh, Lucas & Smith 1999). Building on this, it can be argued that job satisfaction resulting from needs-supplies fit is an indication of one's progress towards achievement of goals of happiness and well-being that enable individuals to react positively by demonstrating engagement, which itself is a positive and fulfilling experience (Bakker, Albrecht & Leiter 2011). Thus, we propose the following hypotheses:

- H<sub>3</sub> Job satisfaction will be positively related to employee engagement
- H<sub>4</sub> Job satisfaction will mediate the relationship between needs-supplies fit and employee engagement

## METHOD

### SAMPLE AND PROCEDURES

Survey method was used to obtain data at the individual level. Convenience sampling technique was used to identify and access the respondents. Three hundred questionnaires were distributed by the first author to individuals employed in business administration, economics, mathematics and engineering faculties. On the first page of the questionnaire, a brief introduction of the study was provided. Respondents were assured that their responses would be kept in strict confidentiality and only research team would use their data for academic purposes. The respondents were asked to drop their completed questionnaires in the sealed collection boxes that were placed in each of the administrative sections of the target faculty. Three weeks were given to the respondents to complete the questionnaires. In the third week, reminders were sent to the respondents through organization's e-mailing system.

After three weeks, 166 participants returned the questionnaires, yielding a response rate of 55 percent. As a result of initial screening, two incomplete questionnaires were dropped. The preliminary analysis of data revealed three cases as outliers that were dropped from the dataset. The data met the multivariate assumptions of normality, linearity and homoscedasticity. Finally, the main analysis was performed on the remaining 161 cases.

As noted in Table 1, respondents in our study predominantly belonged to the racial group of Malay. Most of them were married females working as non-academic employees. More than half of our respondents had earned secondary and diploma-level education. An average

respondent was 36 years old ( $SD = 10.7$ ) and has worked for the university for over 12 years ( $SD = 10.8$ ).

TABLE 1. Sample demography

	<i>N</i>	%
<i>Race</i>		
Malay	156	96.9
Indian	2	1.2
Foreigner	2	1.2
Chinese	1	0.7
<i>Marital status</i>		
Married	121	75.2
Single	40	24.8
<i>Gender</i>		
Female	102	63.4
Male	59	36.6
<i>Job Type</i>		
Non-academic	130	80.7
Academic	31	19.3
<i>Education</i>		
SPM/MCE	53	32.9
Certificate/diploma	36	22.4
Bachelor degree	33	20.5
Doctorate degree	17	10.6
STPM/HSC	13	8.1
Master degree	9	5.5
	Mean (SD)	Range
Age	36.4 (10.7)	18.0–63.0
Tenure	12.4 (10.8)	0.8–35.9

### MEASURES

All constructs were assessed using validated measures used commonly in previous studies. Respondents were asked to indicate their responses on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). *Needs-supplies fit* was assessed using a three-item scale of Cable and DeRue (2002). A sample item includes "There is a good fit between what my job offers me and what I am looking for in a job". The person-job fit scale of Cable and DeRue (2002) comprising needs-supplies fit and demands-abilities fit subscales has been used mostly in western settings and has shown internal consistency reliability ranging from .76 to .96 (e.g., Cable & DeRue 2002; Duffy, Autin & Bott 2015; Gabriel, Diefendorff, Chandler, Moran & Greguras 2014; Rehfuss, Gambrell & Meyer 2012). Consistent with earlier research, Cronbach's alpha for this scale was .79 in our Asian sample.

*Job satisfaction* was assessed using the three-item scale of Overall Job Satisfaction contained in the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins & Klesh 1979). This job satisfaction scale was used because it had been widely used in a variety of research settings and had shown internal consistency reliability ranging from .77 to .87 (Golden & Veiga 2005). A sample item includes "All in all, I am satisfied with my job". Cronbach's alpha for this scale was .82.

Finally, *employee engagement* was measured using the Job Engagement Scale of Rich et al. (2010). This scales was used because it was based on Kahn’s (1990) conceptualization of engagement. This eighteen-item scale comprises the three six-item subscales to measure each cognitive, emotional and physical engagement. Cronbach’s alphas for physical, emotional and cognitive subscales were .89, .89 and .91, respectively. Cronbach’s alpha for the overall job engagement scale was .95, which was consistent with Rich et al.’s (2010) internal consistency reliability of .95.

DATA ANALYSIS

Structural equation modelling (SEM) was used to test the study hypotheses. We assessed our conceptual model in two steps following Anderson and Gerbing (1988). We first assessed the construct validity of our measurement model using confirmatory factor analysis (CFA). Afterwards, we tested the study hypotheses using structural path analysis. Parameters were estimated using the Maximum Likelihood estimation method (Bentler & Chou 1987). Goodness-of-fit for measurement and structural models were assessed using the Chi-square test, the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Residual (SRMR), the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI). According to SEM conventions, a model fit is achieved when the RMSEA and SRMR are .08 or less and the TLI and CFI are .90 or greater (Hair, Black, Babin & Anderson 2010). Further, the chi-square difference test was applied for model comparison, which provides evidence of variance if its value is statistically significant (Yu 2016).

RESULTS

Descriptive statistics and correlations among the study variables are presented in Table 2. As expected, employee engagement is positively correlated with needs-supplies fit ( $r = .55, p < .001$ ) and job satisfaction ( $r = .69, p < .001$ ).

Further, needs-supplies fit is positively correlated with job satisfaction ( $r = .54, p < .001$ ).

Results of demographic variables revealed that gender had non-significant correlation with the main variables. Education was positively correlated with employee engagement and job satisfaction, indicating that the respondents with higher level of education reported to be better engaged and more satisfied. Job type showed negative correlation with employee engagement and job satisfaction, demonstrating that the academic staff reported high engagement and job satisfaction than the non-academic staff. Tenure was positively correlated only with needs-supplies fit, showing that individual having longer tenure with the organization perceived high needs-supplies fit. Finally, age was positively correlated only with employee engagement, indicating that older employees were more engaged.

CONFIRMATORY FACTOR ANALYSIS (CFA)

In order to verify factor structure and to provide evidence of convergent and discriminant validities, CFA was performed. The goodness-of-fit statistics of the measurement model showed satisfactory model fit ( $\chi^2 = 240.31, df = 113, p < .001, CFI = .93, TLI = .92, SRMR = .07, RMSEA = .08$ ). As for the convergent validity, the results showed statistically significant factor loadings ranging from .65 to .88. The first-order cognitive, emotional and physical dimensions of engagement showed statistically significant loadings on the second-order construct of employee engagement, which were .94, .81 and .74, respectively. Furthermore, alpha reliability, construct reliability, and average variance extracted were also examined for the further evidence of convergent validity (Hair et al. 2010). The alpha (.79–.95) and construct reliabilities (.78–.87) of all constructs were above the threshold of .70, indicating internal consistency reliability of the indicators to represent their common latent constructs. Likewise, the average variance extracted results of all constructs were above the threshold of .50, indicating that the constructs accounted for the average variance in their respective indicators more than they did

TABLE 2. Means, standard deviations and intercorrelations of study variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Gender	0.64	0.48											
2. Education	2.89	1.67	-0.01										
3. Job type	0.81	0.39	-0.07	-0.61***									
4. Tenure	12.41	10.82	-0.04	-0.20*	-0.01								
5. Age	36.41	10.69	-0.03	-0.08	-0.05	0.89***							
6. EE	4.07	0.49	0.06	0.27***	-0.22**	0.15	0.17*	(0.95)					
7. PHE	4.07	0.53	0.05	0.27***	-0.16	0.13	0.16*	0.88***	(0.89)				
8. EME	4.09	0.57	0.06	0.25***	-0.23**	0.14	0.15	0.89***	0.66***	(0.89)			
9. CGE	4.06	0.56	0.05	0.22**	-0.19*	0.14	0.14	0.91***	0.70***	0.73***	(0.91)		
10. NSF	3.63	0.67	0.11	0.03	-0.10	0.19*	0.13	0.55***	0.37***	0.59***	0.49***	(0.79)	
11. JS	4.07	0.69	0.07	0.18*	-0.17*	0.09	0.06	0.69***	0.46***	0.64***	0.73***	0.54***	(.82)

Note: n=161. EE = employee engagement. PHE = physical engagement. EME = emotional engagement. CGE = cognitive engagement. NSF = needs-supplies fit. JS = job satisfaction. Alpha reliabilities of measures are indicated in parentheses on the diagonals.  
\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

in the indicators of other constructs. Thus, these results provided evidence that the measurement model achieved convergent validity.

Discriminant validity of the measurement model was examined using the chi-square difference test and the comparison of average variance extracted with squared correlations (Kim et al. 2012; Yu 2016). In the first test, following Anderson and Gerbing (1988) recommendations, the original three-factor unconstrained measurement model was compared with several alternative (or competing) constrained models. In each alternative model, the estimated correlation parameters for two or more constructs were constrained to the value of 1 and then the chi-square difference test was performed on the values obtained from the constrained and unconstrained

measurement models to assess which model had the better discriminant validity. As shown in Table 3, the results reveal that the change in the chi-square values of the three-factor model over each of the alternative models is significant ( $p < .001$ ), suggesting that the hypothesized three-factor measurement model is the best among the other measurement models. In the second test, the values of average variance extracted for all pairs of constructs were compared against the squared correlation values of those pairs. The results showed that the value of average variance extracted of each of the constructs was greater than its squared correlations with other constructs. These results showed that all constructs had distinctiveness, providing evidence for the discriminant validity of the measurement model.

TABLE 3. Discriminant validity with comparison of alternative measurement models

Model	$\chi^2$	<i>Df</i>	$\Delta\chi^2$	$\Delta df$	RMSEA	SRMR	TLI	CFI
Three-factor (default)	240.31	113	–	–	.08	.07	.92	.93
Two-factor (combines JS and EE)	325.54	116	85.2***	3	.11	.20	.87	.89
Two-factor (combines NSF and JS)	348.35	116	108.1***	3	.11	.19	.85	.87
Two-factor (combines NSF and EE)	352.39	116	112.1***	3	.11	.20	.85	.87
One-factor (combines all constructs)	381.83	119	141.5***	6	.12	.22	.84	.86

Note: JS = job satisfaction, EE = employee engagement, NSF = needs-supplies fit. \*\*\* $p < .001$ .

HYPOTHESIS TESTING

In keeping with the proposed conceptual model to test the hypotheses, a structural model was developed ( $\chi^2 = 240.32$ ,  $df = 113$ ,  $p < .001$ , CFI = .93, TLI = .92, SRMR = .07, RMSEA = .08). The baseline partially-mediated structural model was compared with alternative models to examine which model represents the adequate explanation of the relationship between needs-supplies fit and employee engagement (Yu 2016). This procedure is also recommended when the hypothesized model has mediators (e.g., Hernandez & Guarana 2016; Kelloway 1995).

It can be noted in Table 4 that the fully-mediated model, in which a path from needs-supplies fit to employee engagement was constrained to zero, shows a non-significant increment in the chi-square value ( $\Delta\chi^2 = 2.8$ ,  $\Delta df = 1$ ,  $p > .05$ ) over the baseline partially-mediated model. The reason is that the relationship between needs-supplies fit and employee engagement was non-significant in the partially-mediated model, indicating no notable difference between the two models. Nevertheless, the non-mediated model ( $\Delta\chi^2 = 120.8$ ,  $\Delta df = 2$ ,  $p < .001$ ) shows significant increments over the baseline partially-mediated model, indicating that it is not better than the other two models.

TABLE 4. The Chi-square difference test of structural models

Structural model	$\chi^2$	<i>Df</i>	$\Delta\chi^2$	$\Delta df$	RMSEA	SRMR	TLI	CFI
Partially-mediated (hypothesized)	240.32	113	–	–	.08	.046	.92	.93
Fully-mediated	243.13	114	2.8	1	.08	.046	.92	.93
Non-mediated	361.07	115	120.8***	2	.12	.242	.84	.87

Note: \*\*\* $p < .001$ .

The standardized path estimates of the proposed relationships are shown in Figure 1. Needs-supplies fit is significantly related to employee engagement ( $b = .59$ ,  $p < .001$ ), thus lending support to Hypothesis 1. Needs-supplies fit is significantly related to job satisfaction ( $b = .68$ ,  $p < .001$ ), thus supporting Hypothesis 2. Job satisfaction is significantly related to employee engagement, ( $b = .71$ ,  $p < .001$ ), thus lending support to Hypothesis 3. Finally,

the mediating effect of job satisfaction was assessed based on 5,000 bias-corrected bootstrap samples at 95 percent level of confidence for confidence intervals. An effect is considered significant if the value of zero does not fall within the lower and upper limits of its confidence interval (Preacher & Kelley 2011). Results showed the direct effect of needs-supplies fit on engagement was non-significant when job satisfaction was accounted for as a mediating

variable (effect size = .20, 95% CI [-.06, .47]), indicating that needs-supplies fit had no direct effect on engagement in the presence of job satisfaction as a mediator. Thus, it can be concluded that job satisfaction fully mediated the effect of needs-supplies fit on engagement. Finally, the indirect effect of needs-supplies fit on engagement via job satisfaction was significant (effect size = .48, 95% CI [.46, .77]), which demonstrates that job satisfaction significantly mediated the effect of needs-supplies fit on engagement. Thus, Hypothesis 4 was also supported.

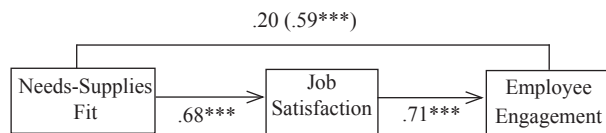


FIGURE 1. Conceptual model of employee engagement

Note: Results showing that job satisfaction fully mediates the relationship between needs-supplies fit and employee engagement. Standardized coefficients are shown. The number in parenthesis indicates the standardized coefficient value after including the mediator in the model.  
\*\*\*  $p < .001$ .

## DISCUSSION

The purpose of this study was to examine the effect of needs-supplies fit on Kahn's (1990) construct of engagement represented by investment of cognitive, emotional and physical energies in work. Furthermore, the study aimed to examine the mediating role of job satisfaction in the relationship between needs-supplies fit and employee engagement. The sample of our study consisted of 161 employees of a Malaysian public university. The data fully supported our assertion that needs-supplies fit is related to employee engagement, and job satisfaction mediates this relationship.

The findings of the study show that when employees perceive a good fit between what they need from their jobs and what their jobs supply in return, they tend to demonstrate engagement in job. This is consistent with Kahn's (1990) assertion that work-role fit promotes meaningfulness by indicating to employees that they are worthwhile and valuable for their organization. Similarly, needs-supplies fit promotes psychological safety, which signals to the employees that their work environment is conducive for engagement and there is no risk to their self-image, status and professional growth. Our finding is in line with the recent study of Hernandez and Guarana (2016), who found a significant positive relationship between needs-supplies fit and employee engagement.

The specific focus of the study was to examine the mediating role of job satisfaction in the relationship between needs-supplies fit and employee engagement. Job satisfaction was found to be fully mediating this relationship. This finding can be understood in light of the self-in-view of employee engagement (Kahn 1990) and social exchange theory (Cropanzano & Mitchell 2005). Needs-supplies fit enhances job satisfaction by developing perceptions of meaningfulness and safety. As

a result, satisfied employees feel that their organization is contributing toward their goals of happiness and well-being that motivates them to reciprocate these rewards with their level of engagement in job.

## MANAGERIAL IMPLICATIONS

This study has several implications for managers. First, human resource practices aimed at promoting needs-supplies fit can provide practical benefits in terms of enhanced employee engagement and job satisfaction. As noted earlier that employees form and use fit perceptions as they pass through their organizational life and these perceptions influence their choices in their work activities (Cable & DeRue 2002), therefore, managers seeking to increase job satisfaction and employee engagement should regularly survey the degree of needs-supplies fit and job satisfaction. The survey results will help managers in identifying the levels of needs-supplies fit and job satisfaction in different departments, which will guide them to improve human resource management policies and practices.

Second, researchers recommend managers to assess person-environment fit variables during interviewing process to compare applicants across their levels of fit (Cable & DeRue 2002; Carless 2005), which can help to design interventions to promote engagement. Third, leaders should create healthy work cultures by providing autonomy, performance feedback and opportunities for social interactions that would enable employees to satisfy their economic and social needs and, thus, facilitate enhancement in their engagement level (Greguras & Diefendorff 2009). In sum, our results combined with those of past research can be used to effectively address the employee engagement challenges that companies are currently facing in the Malaysian labour market.

## LIMITATIONS AND FUTURE RESEARCH

The present study has some limitations, thus caution is required while interpreting our findings. First, it is difficult to infer the proposed causality among variables with absolute certainty in our cross-sectional data, therefore longitudinal or experimental research is suggested to establish causality in the fit-satisfaction-engagement relationships. Second, we cannot rule out the possibility of the common method bias due to our self-reported data. Nevertheless, we ensured to minimize the impact of common method bias and increase the accuracy of responses by following procedural remedies, such as ensuring language clarity, labelling all scale points, providing detailed instructions, maintaining anonymity, ensuring confidentiality of responses, explaining benefits of research to the respondents, showing endorsement by senior management and giving freedom to withdraw participation in the survey without providing any reasons (Podsakoff, MacKenzie & Podsakoff 2012). Finally, due to the homogeneous nature of our sample, particularly in terms of race and education, it was not meaningful



to analyse employee engagement with different levels of these variables. In addition, results revealed that the academic employees reported higher needs-supplies fit, job satisfaction and employee engagement as compared to the non-academic employees. Due to the number of such respondents being insufficient ( $n = 31$ ) to generate reliable results in SEM, separate structural path analyses for these two groups were not possible. Replication of this study is suggested on a diverse sample with larger sample size taken from more than one organization.

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