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RESEARCH ARTICLE

MEASURING JOB SATISFACTION AMONG LECTURERS IN PUBLIC UNIVERSITY USING STRUCTURAL EQUATION MODEL

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ABSTRACT

The universities in Malaysia indirectly contribute to the nation's future development by developing a pool of professionally educated and trained employees. Therefore, in general it is undeniable that the role of lecturers is really important in producing a quality graduate who will in turn brings up the nation ahead since the educated graduates are the assets of one country. The main purpose of the study is to investigate certain factors influencing on job satisfaction, namely workload, work-place environment and relationship with colleagues. The study used self administered questionnaires which were distributed to 245 lecturers from UTHM. The data was analyzed using SPSS 19 for preliminary analysis while AMOS 18 was used for Structural Equation Modeling (SEM). The study found that workload (WL) and relationship with colleagues (RC) have significantly affected to job satisfaction of lecturers.

INTRODUCTION

The most important asset of organizations and institutions is their human capital. This gains even higher significance where specialist human capital is required. Education institutional or university as the highest ranking science production institution has always been trying to elevate the level of knowledge and awareness, and train specialist human capital. In this regard, it is important to look at job satisfaction of the lecturers, as individuals who are involved in education business. The nature of educational and research environments requires the job satisfaction factor to be inspected from different aspects. Job satisfaction has been an essential topic over the years (Akfopure *et al*., 2006). It is very importance as job satisfaction is believed to contribute to job performance. An employee who is satisfied with his job would perform his duties well and indirectly improve his organization. Thus, it is essential for employers to know the factors that can affect their employees' job satisfaction level since it would affect the performance of the organization as well. Many studies have been done to see for factors that affect job satisfaction (Wu and Short, 1996). A study in Turkey shows that the factors influencing job satisfaction among lecturers are workload, facilities provided in university and management styles (Doghonadze, 2012; Victor and Maurice, 2012).

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Besides, the findings in Penang private colleges show that management support, salary and promotion opportunities are significantly correlated with job satisfaction with positive relationships. This indicates that, all the three independent variables are significant in determining the job satisfaction of lecturers (Chong, *et. al*., 2010).

Education is an important aspect in everyone's life. It is undeniable that education contributes toward ensuring development in a country. The main players in the education field are the educators, who may be termed as teachers, tutors, facilitators or lecturers. Regardless of the title, or the institutions where they work, the educators shoulder heavy responsibilities in educating the students. Narrowing down to the lecturers, their roles are broad and challenging. Lecturers not only have to give their lectures, they are also expected to provide professional consultations, to conduct academic researches and to publish their findings so that the community would benefit. They also need to keep up with new knowledge, new technologies and new techniques in order to deliver the best to their students. As humans, lecturers are also subject to problems of dissatisfaction at workplace. If they are not satisfied, they may not be committed to deliver the best. In addition, there is a possibility that their job performance may not achieve the target. This would of course lead to negative effects to the university. Thus, there is a strong need to understand the factors that contribute toward job satisfaction among lecturers so that steps can be taken by the management to create conducive working environment that is in line with their expectations. The importance of satisfaction (self-efficacy) in education is obvious. However, it has been studied mostly in student's perspective. Even in student-centered educational systems, teachers still remain important subjects of knowledge construction process whose jobs have become more sophisticated with new roles such as facilitator, thus their satisfaction and motivation should be studied if efficient education process and healthy classroom environments are the goals. Locke and Lathan (1990) define job satisfaction as pleasurable or positive emotional state resulting from the appraisal of one's job or job experience. Job satisfaction is a result of employee's perception of how well their job provides those things that are viewed as important. Educational institutes are bearing the highest cost in case of managing the human capital of faculty. Therefore, bringing high quality in program delivery necessitates the research on contributing factors of satisfaction and loyalty.

The level of satisfaction, which guarantees a successful educational institute, backed by the number factors like strong interactive process, inherent attraction for quality brains, likeliness to stay on job and feelings of empowerment. Satisfaction also develops high level of institutional commitment and desire to show substantial performance. The high performance do not only based on job satisfaction, but also requires satisfaction with career in education, which positively influences teaching effectiveness and resultantly, students learning. According to Truell *et al*. (1998), the faculty satisfaction always attracts the attention of academic scholars and frequently touched by social scientists and educational thinkers. The job satisfaction refers to the extent of need fulfillment of employees, which provide basis for organizational assessment and evaluation. Therefore, effectiveness is highly recommended in all stages of employees' compensation and successions planning. The decreased satisfaction and lack of commitment brings inefficiency and looseness in teachers and students (Wu and Short, 1996). The satisfied workers have a very constructive attitude about work, and adversely, dissatisfied staff workers has destructive and negative attitudes towards work. The attitude shift corresponds to a complex placement of behavioral cognitions, emotions, behavioral tendencies and overall working style (Ayan and Kocacik, 2010).

Job satisfaction is an attitude emanated from employees' perceptions of their jobs or work environments and refers to the extent to which a person likes his/her job (Pool, 1997; Spector, 1997). The level of job satisfaction reflects - and is affected by - one's work experiences as well as his/her present situation and future expectations. Job satisfaction is an attitude very sensitive to the features of the context in which it is studied. There is no model of job satisfaction applicable to all work settings as there are no general truths regarding the factors and the mechanisms accounting for such an elusive and subjective concept. The characteristics of the academic profession are not frequently met in other professions, such as autonomy, freedom and flexibility as well as the teaching/research conflict, the tenure system which provides job security, etc. (Kelly, 1989). According to Bellamy (1999, cited in Bellamy, *et. al*., 2003), academics are mostly motivated by internal motives (e.g., autonomy, showing initiative, intellectual challenges) rather than exterior motives (e.g., financial or social rewards). According to Meyer and Evans (2003), their internal motivation and the particular importance they attribute to the characteristics of the academic profession (such as autonomy and flexibility) counterbalance the multiple requirements, the strong pressures, the animadversions and the poor financial rewards. Actually, flexibility and autonomy have been considered as key factors in becoming and remaining an academic (Bellamy *et. al*., 2003). The objective of this study is to investigate factors influencing on job satisfaction, namely workload, work-place environment and relationship with colleagues. There are three hypotheses to be studied in this study. There are three hypotheses in this study, (i) the workload is significantly influence lecturers' job satisfaction, (ii) The work-place environment is significantly influence lecturers' job satisfaction and (iii) The relationship between lecturers and their colleagues is significantly influence their job satisfaction
The data used in this study is primary data. The data is obtained from self- administrative questionnaires that distributed to 245 lecturers in UTHM. The questionnaires consist of five parts which are Part A: Respondent Background, Part B: Workload, Part C: Work-place Environment, Part D: Relationship with Colleagues and Part E: Job Satisfaction. The respondents were asked to report their opinions on a Likert scale from 1 (totally disagree) to 10 (totally agree).

There are three latent exogenous constructs and one endogenous construct in the study. The latent exogenous constructs are workload (WL), work-place environment (WE) and relationship with colleagues (RC). The workload construct is measured by 11 items; *X11-X111*, the work-place environment construct is measured by 7 items; *X21- X27* and the relationship with colleagues construct is measured by 8 items; *X31-X38*. The latent endogenous construct is job satisfaction (JS). This construct is measured by 10 items; *Y1-Y10*. Hence, this study aimed to investigate the relationship between factors namely workload, work-place environment and relationship with colleagues with lecturers' job satisfaction.

MATERIALS AND METHODS

Preliminary Analysis

The first step in this study is preliminary analysis. The premilinary analysis is the initial process that determines the normality of data, reliabity and also validity of data. The normality of data can be determine by measure the skewness. The value of skewness should fall within the range of -1.0 and 1.0. The measure of skewness close to -1.0 indicates the data is distributed extremely skewed to the left, while the skewness close to 1.0 indicates the data is distributed extremely skewed to the right. The reliability of data can be measured by Cronbach alpha value. The Cronbach's alpha value must be 0.7 or higher to achieve the reliability (Zainudin, 2012).

Confirmatory Factor Analysis (CFA)

The next step is confirmatory factor analysis (CFA). CFA is a type of structural equation modeling (SEM) that deals specifically with measurement models which is the relationships between observed measures or *indicators* and latent variables or *factors* (Brown, 2006). The researcher runs the CFA procedure using method two, which is by running the CFA procedure simultaneously for all latent constructs. The researcher obtained factor loadings for all items in the latent constructs whereby the factor loadings which have value lower than 0.6 will be deleted from the model (Zainudin, 2012). If the all the factor loadings are greater than 0.6, unidimensionality for the model has been achieved. Evaluate the fitness of a model also required, but there is no agreement among the researchers which fitness indexes should be reported. Hair, *et al*. (2010) recommend the use of at least three fit indexes by including at least one index from each category of model fit. The three fitness categories are absolute fit, incremental fit, and parsimonious fit.

Elements of unidimensionality, validity and reliability are required before using structural model. The unidimensionality is achieved when all the measuring items in each latent construct have acceptable factor loadings. Factor loadings lower than 0.6 should be deleted from the latent constructs in the model to ensure unidimensionality is satisfied (Brown, 2006; Zainudin, *et. al*., 2012). Validity is the ability of instrument to measure what it supposed to be measured for a construct. This requirement could be achieved through the processes like convergent validity, construct validity and discriminant valididty, Average Variance Extracted (AVE) should be greater or equal to 0.5. The construct validity is achieved when the fitness indexes meet the required level. There are two requirements to achieve discriminant validity, all the redundant items are deleted and no multicollinearity problem in data set. Reliability is the extent of how reliable is the said measurement model in measuring the intended latent construct. The reliability requirement could be achieved through the processes such as internal reliability, construct reliability (CR) and Average Variance Extracted (AVE). Internal realibility is achieved when Cronbach's alpha more than 0.7 and construct reliability, CR value greater or equal to 0.6. Meanwhile, the AVE value must be greater or equal to 0.5.

Structural Equation Modeling (SEM)

The two main components of SEM are the path model and the measurement model. The path model or path analysis quantifies specific cause-and-effect relationships between observed variables (Bollen, 1989; Jöreskog, 1993). The measurement model quantifies linkages between (i) hypothetical constructs that might be known but unobservable components and (ii) observed variables that represent a specific hypothetical construct in the form of a linear combination. Structural equation model or SEM was developed as a unifying and flexible mathematical framework to specify the computer application (Byrne, 2001; Blunch, 2013). Amos (Analysis of moment structure) integrates an easy-to-use graphical interface with an advanced computing engine for this type of analysis. Amos provides very clear and easy representation of path diagrams in SEM models for students and fellow researchers. The numeric methods implemented in Amos are among the most effective and reliable available (Arbuckle, 2012). Structural Equation Modeling (SEM) is an alternative method for testing our understanding of complex ecological processes. SEM is a collection of procedures that tests hypothesized relationships among observed variables (Grace, 2008; Schumacker and Lomax, 2004; Bollen, 1989). Complex interactions are first translated into a network of directional paths linking variables and are then evaluated against multivariate data (Bollen, 1989). These paths postulate direct and indirect effects among components, as well as spurious associations between variables that may be attributable to common causes. A direct effect describes direct regulation of a response variable (effect) by a causal variable, while an indirect effect implies that the regulation is mediated through other variables. Hence, SEM is often related to causal modeling (Kenny, 1979). It is philosophically a confirmatory data analysis, but its application extends to testing alternative a priori models or to model building (Jöreskog, 1993), and can therefore be regarded as blending confirmatory and exploratory analyses (Kline, 2011). The key to successful SEM rests on the competence of a researcher to posit initial cause-and-effect models drawing from accumulated knowledge, prior experience, and published results.

Model Estimation

The structural equation model framework can be summarized into three matrix equations, two for the measurement model component and one for the path model component (Grace, 2006). For the measurement model component,

$$\mathbf{x} = \boldsymbol{\Lambda}_x\boldsymbol{\xi} + \boldsymbol{\delta} \quad (1)$$

$$\mathbf{y} = \boldsymbol{\Lambda}_y\boldsymbol{\eta} + \varepsilon \quad (2)$$

where $\mathbf{x}$ is a $p\ x\ 1$ vector of observed exogenous variables, and it is a linear function of a $j\ x\ 1$vector of exogenous latent variables ξ and a $p\ x\ 1$vector of measurement error $\boldsymbol{\delta}$. $\boldsymbol{\Lambda}_x$ is a $p\ x\ j$ matrix of factor loadings relating $\mathbf{x}$ to $\boldsymbol{\xi}$. Similarly, $\mathbf{y}$ is a $q\ x\ 1$vector of observed endogenous variables, $\boldsymbol{\eta}$ is a $k\ x\ 1$ vector of endogenous latent variables, ε is a $q\ x\ 1$ vector of measurement error for the endogenous variables, and $\boldsymbol{\Lambda}_y$ is a $q\ x\ k$ matrix of factor loadings relating $\mathbf{y}$ to $\boldsymbol{\eta}$. Associated with equation 1 and equation 2, respectively, are two variance-covariance matrices, $\boldsymbol{\Theta}_\delta$ and $\boldsymbol{\Theta}_\varepsilon$. The matrix $\boldsymbol{\Theta}_\delta$ is a $p\ x\ p$ matrix of variances and covariances among measurement errors $\boldsymbol{\delta}$, and $\boldsymbol{\Theta}_\varepsilon$ is a $q\ x\ q$ matrix of variances and covariances among measurement errors, $\boldsymbol{\varepsilon}$. The path model component as relationships among latent construct variables can be written as;

$$\boldsymbol{\eta} = \mathbf{B}\boldsymbol{\eta} + \boldsymbol{\Gamma}\boldsymbol{\xi} + \boldsymbol{\zeta} \quad (3)$$

where is $\mathbf{B}$ a $k\ x\ k$ matrix of path coefficients describing the relationships among endogenous latent variables, $\boldsymbol{\Gamma}$ is a $k\ x\ j$ matrix of path coefficients describing the linear effects of exogenous variables on endogenous variables, and $\boldsymbol{\zeta}$ is a $k\ x\ 1$ vector of errors of endogenous variables. Associated with equation 3 are two variance-covariance matrices: $\boldsymbol{\Phi}$ is a $j\ x\ j$ variance-covariance matrix of latent exogenous variables, and $\boldsymbol{\Psi}$ is a $k\ x\ k$ matrix of covariances among errors of endogenous variables. With only these three equations, AMOS is a flexible mathematical framework that can accommodate any specification of a SEM model. SEM has been typically implemented through covariance structure modeling where the variance-covariance matrix is the basic statistic for modeling. Model fitting is based on a fitting function that minimizes the difference between the model-implied variance-covariance matrix $\boldsymbol{\Sigma}$ and the observed variance-covariance matrix $\mathbf{S}$,

$min\, f(\mathbf{\Sigma}, \mathbf{S})$ (4)

where **S** is estimated from observed data, **Σ** is predicted from the causal and noncausal associations specified in the model, and $f(\mathbf{\Sigma}, \mathbf{S})$ is a generic function of the difference **Σ** between and **S** based on an estimation method that follows. As Shipley (2000) concisely stated, causation implies correlation; that is, if there is a causal relationship between two variables, there must exist a systematic relationship between them. Hence, by specifying a set of theoretical causal paths, one can reconstruct the model-implied variance-covariance matrix **Σ** from total effects and unanalyzed associations. Bollen (1989) outlined a step-by-step formulation under the mathematical framework, specifying the following mathematical equation for **Σ**:

$$\mathbf{\Sigma} = \begin{bmatrix} \Lambda_y A(\Gamma\Phi\Gamma + \Psi)A'^{\Lambda_y'} + \Theta_\varepsilon & \Lambda_y A\Gamma\Phi\ \Lambda_x' \\ \Lambda_x \Phi\Gamma' A' \Lambda_y' & \Lambda_x \Phi \Lambda_x' + \Theta_\delta \end{bmatrix} \quad (5)$$

Where $\mathbf{\Lambda} = (\mathbf{I} - \mathbf{B})^{-1}$. Note that in equation 5 the derivation of **Σ** does not involve the observed and latent exogenous and endogenous variables (i.e. **x**, **y**, **ξ** and **η**). A common method in SEM for estimating parameters in is maximum likelihood (ML). In ML estimation, the algorithm iteratively searches for a set of parameter values that minimizes the deviations between elements of **S** and **Σ** (Grace, 2006; Jöreskog, 1973). This minimization is accomplished by deriving a fitting function, $f(\mathbf{\Sigma}, \mathbf{S})$ based on the logarithm of a likelihood ratio, where the ratio is the likelihood of a given fitted model to the likelihood of a perfectly fitting model. The maximum likelihood procedure requires the endogenous variables to follow a multivariate normal distribution, and **S** to follow a Wishart distribution. Hayduk (1987) described the steps in the derivation and expressed the fitting function F_{ml} as

$$F_{ml} = \log|\mathbf{\Sigma}| + \mathrm{trace}(\mathbf{S}\mathbf{\Sigma}^{-1}) - \log|\mathbf{S}| - \mathrm{trace}(\mathbf{S}\mathbf{S}^{-1}) \quad (6)$$

where trace ( ) refers to the trace of a matrix **Σ** and **S** are defined as above. Proper application of equation 6 also requires that observations are independently and identically distributed and that matrices **Σ** and **S** are positive definite Hyduk (1987). After minimizing equation 6 through an iterative process of parameter estimation, the final results are the estimated variance-covariance matrices and path coefficients for the specified model.

Model Assessment

Schumacker and Lomax (2004) and Kline (2011) and provided a comprehensive listing of indices and criteria to assess model fit, but four basic fit statistics are summarized here. The goal of model assessment is to test the causal implications of a model (Kelloway, 1998; Shipley, 2000).

(i) Chi-square test: The first is the overall model chi-square test based on a test statistic that is a function of the mentioned fitting function F_{ml} in equation 6 as follows:

$$\chi_v^2 = (n - 1)F_{ml} \quad (7)$$

where n is sample size and χ_v^2 follows a chi-square distribution with degree of freedom df_v as defined above. Subsequently, a p value is estimated and evaluated against a significance level. The chi-square test is only applicable for an over identified model, that is, when $df_v > 0$. A just-identified model ($df_v = 0$), for example, a path model representation of a multiple regression, does not have the required degrees of freedom for model testing Shipley (2000). The null hypothesis associated with the test is that there is no difference between model estimates and the data, and the alternative hypothesis is otherwise. Therefore, failure to reject the null hypothesis is the ultimate objective of the modeling process. Although it may seem to be contrary to the intent of common hypothesis testing in ANOVA, this approach is consistent with the accept-support context where the null hypothesis represents a researcher's belief (Steiger and Fouladi, 1997). Nonetheless, as with common hypothesis testing, failure to reject the fitted model does not prove the specified causal relationships in the model. One should be particularly aware of existing equivalent models, that is, models that have different hypothesized causal relationships but fit the data equally well.

(ii) Root Mean Square Error of Approximation (RMSEA), which is parsimony-adjusted index that accounts for model complexity. The index approximates a non-central chi-square distribution with the estimated non-centrality parameter as

$$\hat{\delta}_v = max(\chi_v^2 - df_{v,0}) \quad (8)$$

where χ_v^2 is computed from equation 7 and df_v is defined above. The magnitude of $\hat{\delta}_v$ reflects the degree of misspecification of the fitted model. The RMSEA is then defined as

$$\mathrm{RMSEA} = \sqrt{\frac{\hat{\delta}_v}{df_{v(n-1)}}} \quad (9)$$

Thus, RMSEA measures the degree of misspecification per model degree of freedom, adjusted for sample size. RMSEA also reflects the view that the fitted model is an approximation of reality, so that RMSEA measures the error of approximation (Raykov and Marcoulides, 2000). Browne and Cudeck (1993) suggested that RMSEA ≤ 0.05 indicates a close approximation or fit, a value between 0.05 and 0.08 indicates a reasonable approximation, and a value ≥ 0.1 suggests a poor fit.

(iii) Standardized root mean square residual (SRMR), which is relatively easy to compute. Both **S** and **Σ** are transformed into correlation matrices, and the residual matrix is the difference between the two. Hence the mean square of the elements in the residual matrix is the SRMR. In general, SRMR <0.10 is considered a good fit of **S** as an approximation to **Σ**.

(iv) Goodness of Fit Index (GFI): GFI is a measure of relative amount of variances and covariance's jointly accounted for by the model, and it is defined as Jöreskog and Sörbom (1982)

$$GFI = 1 - \frac{\mathrm{trace}(\Sigma^{-1}S - I)^2}{\mathrm{trace}(\Sigma^{-1}S)^2} \quad (10)$$

where **I** is identity matrix. GFI ranged from 0 to 1.0 with 1.0 indicating the best fit. In general, statistical tests for the overall model fit and p values of parameter estimates are less important in SEM than in univariate regression models.

Table 1. The test for data reliability and validity

Variables	Reliability Test		Validity Test		
	Cronbach Alpa	Conclusion	KMO	Bartlett's Test of Sphericity (*p*-value)	Conclusion
WL	0.777	reliable	0.737	0.000	appropriate
WE	0.941	reliable	0.914	0.000	appropriate
RC	0.946	reliable	0.912	0.000	appropriate
JS	0.935	reliable	0.915	0.000	appropriate

Table 2. The regression weight for hypothesis in study

			Estimate	S.E	C.R	p-value	Result
JS	<---	WL	0.461	0.067	6.922	***	Significant
JS	<---	WE	0.047	0.033	1.401	0.161	Not significant
JS	<---	RC	0.274	0.064	4.278	***	Significant

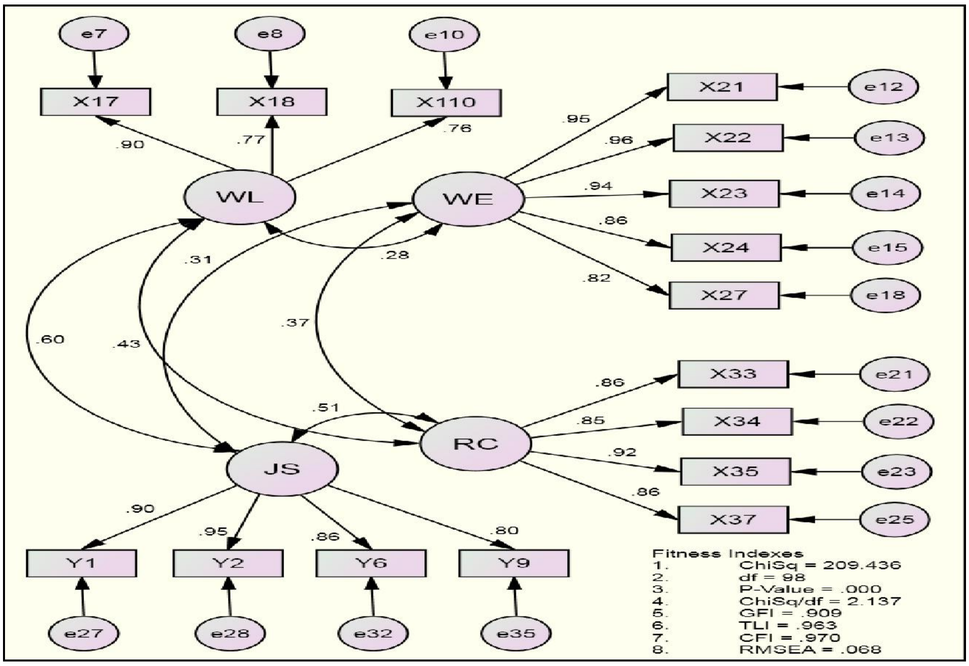

Figure 1. Measurement model after items deletion process

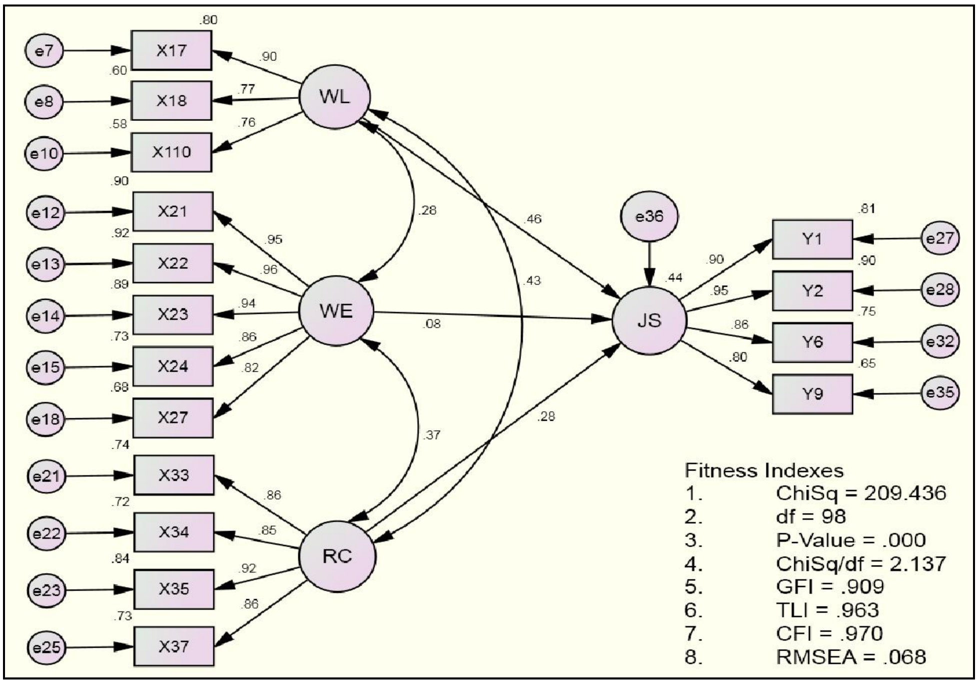

Figure 2. A standardized regression weights for every path in the model

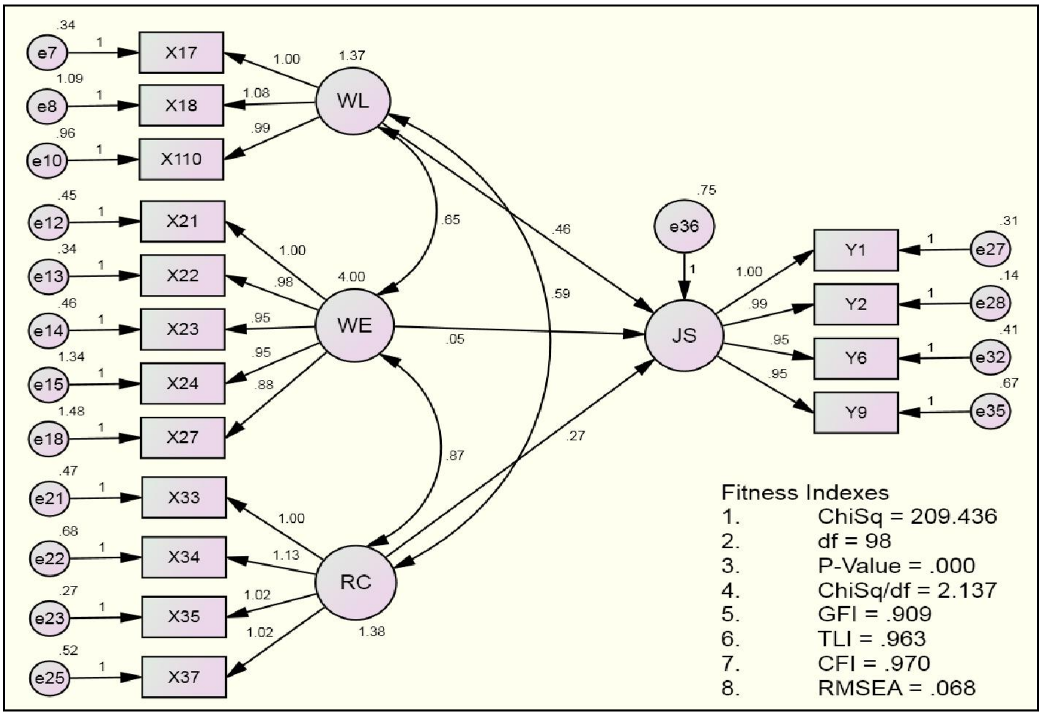

Figure 3. A unstandardized regression weights for every path in the model

One reason is that all parameters are simultaneously estimated in SEM, so the significance of a parameter estimate should be viewed in the context of the whole model. Second, the confirmatory aspect of the model is weakened if model modification is based on the significance of estimates rather than the theory behind the model structure. Finally, SEM is still a large-sample technique, and hypothesis testing is generally affected by sample size, especially the chi-square test and to a lesser extent RMSEA, SRMR and GFI.

RESULTS AND DISCUSSION

Preliminary Analysis

The data was analyzed by using Statistical Package for the Social Sciences (SPSS 19) and AMOS 18 software. There are three steps in preliminary analysis which are checking normality of data, reliability of data and validity of data before proceed for factor analysis. For normality of data, the measures of skewness for all items fall between ranges from -1.0 to -0.149. Since the measures of skewness for all items are within the acceptable ranges, thus the researcher can conclude that the distribution of data is normal. For reliability of data, the Cronbach alpha value for all variables is greater than 0.7 (refer to Table 1). Since all the values of Cronbach alpha are greater than 0.7, all the variables are reliable for further analysis. For validity of data, all the KMO values are close to 1 and the Bartlett's test significance values are close to 0 in Table 1. Since all the KMO values are close to 1 and the Bartlett's test significance values are close to 0, the data is appropriate to proceed into Factor Analysis (Zainudin, 2012).

Confirmatory Factor Analysis (CFA)

The measurement model was run to obtain the factor loading. Factor loadings which are less than 0.6 will be deleted from the model and re-estimate the parameters or weights model (Zainudin, 2012). For WL construct, the deleted items are *X11, X12, X13, X14, X15, X16, X19* and *X111*. For WE construct, the deleted items are *X25* and *X26*. For RC construct, the deleted items are *X31, X32, X36*, and *X38*. For JS construct, the deleted items are *Y3, Y4, Y5, Y7, Y8* and *Y10*. Figure 2 shows the factor loading or weights are significance, so that the unidimensionality assumption for the model has been achieved. Figure 1 shows the measurement model after insignificance item was deleted. The weight for each variable are greater than 0.6, therefore the unidimensionality assumption is fulfilled. For validity test, the AVE value for WL, WE, RC and JS are 0.66, 0.824, 0.762 and 0.773 respectively.

Since all the value of AVE for all construct are greater than 0.5, the convergent validity is achieved. The value of RMSEA, GFI, CFI and Chisq/df is 0.068, 0.909, 0.970 and 2.137 respectively, and it indicates that the fitness indexes are satisfied. Therefore, the construct validity is achieved. The correlation between latent construct, WL to WE, WL to RC and WE to RC is 0.277, 0.432 and 0.371 and so that the discriminant validity is satisfied. The Cronbach alpha for WL, WE. RC and JS are 0.844, 0.957, 0.924 and 0.93 respectively. Since all the value of Cronbach alpha are greater than 0.7, the internal reliability is achieved. Meanwhile, the value of CR for WL, WE, RC and JS are 0.853, 0.959, 0.928 and 0.931 respectively and it indicate that the construct reliability is achieved. From the analysis we can conclude that all the requirements for unidimensionality, validity and reliability are satisfied

Structural Equation Modeling (SEM)

The standardized regression weights for every path in the model are shown in Figure 2. When WL change by 1 unit, then JS will increase by 0.46 unit. The correlation between latent construct WL and WE is estimated to be 0.28, WL and RC are 0.43, and WE and RC is 0.37. Therefore, the discriminant validity is achieved. Figure 3 shows the regression weight for WL, WE, RC in predicting JS. The path coefficient of WE to JS is 0.05. This value indicates when WE change by 1 unit; JS will increase by 0.05 unit. On the other hand, the relationship between WE and JS is not significant since the *p*-value is less than 0.05 (refer to Table 2).

Conclusion

The researcher can concludes that Hypotheses 1 and 3 are supported while Hypothesis 2 is not supported. Overall, the factors influencing job satisfaction among lecturers in UTHM are workload and relationship with colleagues. Thus, these factors need to be given due attention by the administrators and management. The workload assigned should be equal with the lecturers' competencies and remuneration scale. Since relationship with colleagues is also one of the essential factors, the programmes like team building or family day may also assist in improving and enhancing relationships among staff. It is the hope of the researcher that the findings would contribute towards developing ways to improve job satisfaction among UTHM lecturers. This would definitely benefit the education industry and the nation in the long term.

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