SOCIAL SCIENCES & HUMANITIES

Psychometric Properties of the Malay Version of the Job Satisfaction Survey among Malaysian Military Personnel

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ABSTRACT

Job satisfaction is directly related to a number of positive outcomes at work and in certain other aspects of life. In the past few years, job satisfaction among the armed forces has received much attention, but the results of research have been contradictory, in view of the lack of psychometrically robust instrument. Due to its multidimensional orientation, Job Satisfaction Survey has been widely used to assess job satisfaction across different types of job. Although JSS is a promising measure, it has never been validated in the armed forces context. Thus, the aim of this study was to examine the psychometric properties of the Malay version of the Job Satisfaction Survey (Spector, 1965) using data from Malaysian military personnel . With this is mind, a group of male navy personnel from selected navy bases were recruited to be respondents. Through exploratory factor analyses (EFA), results yielded a five-subscale model with 28 items, namely: recognition, affection, fairness, expectation, and workload. In addition, the validity and stability of the five-dimensional structure of the scale were evident in this study using confirmatory factor analyses (CFA). In summary, this study confirmed the psychometric properties of the scale and can further be used to measure job satisfaction in the armed force setting.

Keywords: Confirmatory Factor Analysis, Exploratory Factor Analysis, Internal Consistency, Job Satisfaction Survey, Military Personnel

INTRODUCTION

Career development is one of the imperative tasks that all individuals need to go through when they step into adulthood (Landy & Conte, 2004). Throughout an adult's career

development, job satisfaction is an important indicator to determine the levels of career success and accomplishment (Sidek, 2002). Spector (2008) in his review, pointed that job satisfaction is a construct which was frequently studied across different types of jobs. As a result, job satisfaction is conceptualized in different ways by different researchers. For the last few decades, Locke (1976, p.1304) has defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences". In similar vein, Spector (1997) considered job satisfaction as the extent of individuals' 'likes' (satisfaction) and 'dislikes' (dissatisfaction) towards their job facets as well as general work atmosphere.

In reviewing the literature, a great deal of attention has been given to a variety of outcomes resulting from job satisfaction. Majority of the research has consistently found numerous positive outcomes as a result of positive appraisal toward overall and/ or facets of job satisfaction such as high organizational commitment (Rayton, 2006), less occupational stress (Fairbrother & Warn, 2003), internal work locus of control (Tillman et al., 2010), high motivation, mental health and life satisfaction (Sanchez et al., 2004). Additionally, previous research literature also found that job satisfaction correlates positively to overall individual well-being (Nassab, 2008), as well as employees retention (Gazioglu & Tansel, 2002).

In contrary, researchers have shown that low levels of job satisfaction can lead to a decrease in productive behavior, which in turn increased absenteeism and turnover intentions (Griffeth et al., 2000; Dupré & Day, 2007; Podsakoff et al., 2007; Spector, 1985). Clearly, job satisfaction has a meaningful impact on employees' well-being and organizational functioning. For that reason, most organizations today prefer to take account of employees' job satisfaction as a yardstick for them to manage, train, and retain valuable employees (Liu et al., 2004). Some organizations even use it to gauge work morale and diagnose potential problems among workers.

In fact, studies have shown that positive and negative feelings about jobs can be traceable to many potential factors relating to jobs (Spector, 1997). A literature search in organization psychology postulated that factors such as pay, promotion, job conditions, relationship with supervisor and/ or colleagues, and employees' welfare are critical for evaluation leading to the response of job satisfaction (Spector, 1997, 2008). For some employees, a positive reinforcement including higher wages and promotion prospects can lead to a high level of job satisfaction. Some other factors encompassing work obligation, operating procedure, workload, and additional responsibilities that are associated with given roles within the job could influence employees' satisfaction levels. Not surprisingly, job satisfaction can be seen as a multidimensional concept, in which multiple items are needed to express the different aspects of job satisfaction in a questionnaire (Spector, 1997).

In this study, job satisfaction among military personnel is of particular interest as this population has rarely been researched. Thus, empirical research to date about job satisfaction of military personnel is still lacking. More importantly, there is no measure specifically designed for measuring military-related job satisfaction either in local or western contexts. Ironically, the study of military job satisfaction is essential because military workforce is seen as a severely challenging occupation. The milieu of military setting has been regarded as one that upholds discipline and obedience in the extreme. The nature of this type of job demands a great deal of time and energy of managing multiple responsibilities and duties, whereby all armed forces staff must unremittingly maintain physical and psychological fitness through rigid training in order to perform their job duties well (Sanchez *et al.*, 2004). Moreover, being military personnel can make one overly-sensitive because one feels pressured to perform all tasks correctly at all times. Sometimes, the introduction of new army policy, reassignment to a new department, and limited job scope may lead them to experience poor job satisfaction. Evidently, this explained why military personnel were more likely to have lower job satisfaction compared to their civilian counterparts (Alpass *et al.*, 1997; Sanchez *et al.*, 2004).

In contrast, other investigations found that the British military documented a neutral job satisfaction (Limbert, 2004). In relation to the local context, Liyana and Mansor (2009) in a research on 40 male navy personnel reported majority of respondents (62.5%) were moderately satisfied with their jobs. According to the research, only 7.5% of respondents experienced job dissatisfaction due to the issues of wages, fringe benefits, recognition, and policies, and recent statistics indicated that 17.5% (n= 120) of these navy personnel reported poor job satisfaction (Liyana & Mansor, 2010). Liyana and Mansor (2010) suggested that the results of previous empirical research have been inconsistent because of the administration of different instruments for measuring job satisfaction.

Evidently, there are numerous assessment tools that are available in Western countries to gather information about global job satisfaction and/ or specific job satisfaction dimensions such as Index of Job Satisfaction (Brayfield & Rothe, 1951), Quality of Employment Survey (Quinn & Staines, 1978), The Job Descriptive Index (Smith *et al.*, 1969), Job Diagnostic Survey (Hackman & Oldham, 1974), Job in General Scale (Ironson *et al.*, 1989), and Minnesota Satisfaction Questionnaire (Weiss *et al.*, 1967). Of the existing scales, the Job Satisfaction Survey (JSS) has in fact been described as the most extensively used inventory for measuring job satisfaction (Liu *et al.*, 2004). This scale focused primarily on identifying various facets of satisfaction that are either satisfying or dissatisfying for individuals in their workplace. Development of the JSS began in early 1985 and was first noted in the publication of Spector (1985). Although the scale was originally designed to be used in human service organizations, it

is also applicable to different organizational sectors from different cultures (Giri & Kumar, 2010; Liu *et al.*, 2004). Thus, the instrument has been translated into eleven different languages and validated with data collected in a few countries such as United States, United Kingdom, Taiwan, Turkish, and Pakistan. All these studies showed that it was remarkably reliable and valid in detecting satisfaction of employees in different job contexts. However, we have not been able to locate any study that has validated the scale in the armed forces setting. This prevents the practicality of the instrument to identify these personnel's job satisfaction.

Therefore, this study has the following goals: (a) to translate the original scale and adapt it to the armed forces population, (b) to examine the factor structure of the JSS in a sample of male Navy personnel by means of confirmatory factor analysis and exploratory factor analysis (c) to evaluate scale reliability. This study aimed to provide evidence on the validity of the JSS on identifying the nature of military personnel and thus help researchers to better understand the nature of job satisfaction among armed organizations.

Overview of the present study

The present study reports on two studies designed to adapt the Job Satisfaction Survey (JSS) which includes nine job-related satisfaction subscales in the context of military. The purpose of Study 1 was to adapt JSS to Malay and its validity was examined using participants enrolled at the Navy bases. Study 2 was to provide an initial psychometric assessment of the Malay version JSS.

Study 1

The purpose of this first study was to adapt JSS to Malay language so that it can be used in Malaysia especially on military personnel. In this study, we aimed to confirm its factor structure, analyze its construct validity, and internal consistency.

METHOD

Sample

A total of 800 navy personnel were targeted as respondents from six regions that subsumed South, Klang Valley, East, North, Sabah/ Sarawak, and Lumut areas that were approved by the Malaysian Ministry of Defense. Unlike other types of occupation, the composition of males in military workforce still remains dominant. Thus, only male Navy personnel were involved in filling in the questionnaires in the study. At the same time, the study sample was randomly selected from different branches (engineering, seaman and supply) and different job categorization (warrant officer, petty officer, and rate) according to definition of Royal Malaysian Navy (RMN).

Measurement

The questionnaire consisted of measures of job satisfaction and personal information. The 36-item JSS (Spector, 1985) was used to measure employee attitudes about the job and aspects of the job using nine

separate facets including pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, co-workers, nature of work, and communication. Each facet contains four items. Responses were rated on Six- points Likert-scale ranging from 1= "Strongly disagree" to 6= "Strongly agree" according to their feeling on various aspects of their job. Items are written in both directions, so about half need to be reverse-scored. The reversed items that include items 2, 4, 6, 8, 10, 12, 14, 16, 18, 19, 21, 23, 24, 26, 29, 31, 32, 34, and 36 were transformed to positive items before analysis. Next, we computed a total score from all items (after reverse-coding was done) with a continuum from low (dissatisfied) to high (satisfied) score. An example item is "*Saya berasa kerja yang saya lakukan tidak dihargai*". Personal information was also obtained through items on the participant's age, marital status, race, years of service, monthly income, and education level.

Procedure

The recruitment of sample was accorded with the standard protocols of Ministry of Defense as well as ethical procedures. After obtaining permission from relevant authorities, the participants were approached in a meeting room with the help of the officer in-charge, and then they were briefed about the purpose of the present research and were assured that data will purely be used for research purpose and their identities would not be revealed. Informed consent was taken from the respondents through consent forms after each respondent had

stated willingness to participate in the study. Participants received a survey packet containing informed consent sheet and questionnaire. Upon agreement, participants completed the Malay version of the JSS, along with a measure of demographic variables. All questionnaires were collected in anonymous and confidential manner right after they had completed them. All participants and relevant authorities were then verbally thanked for their time and cooperation.

Translation process

To facilitate answering and to accurately capture the construct of job satisfaction by respondents, the scale was translated to Malay language using Brislin's method (Willgerodt *et al.*, 2005). Malay language is Malaysia's official language and is widely used in the military workplace in the country. In translation process, five steps, that encompassed forward translation, assessment of forward translation, backward translation, assessment of backward translation, and local meeting with professionals, were performed. Experts of both languages (English and Malay) were invited to participate in the translation process. With the help of these professionals, the adapted version was constructed with correct grammar and content. Upon completion, the survey instrument was pre-tested on 30 military personnel in Lumut. The face validity was then conducted with all the respondents for items revision in terms of readability, ambiguity, precision and content. Every suggestion with respect

to wording and concept of the scale had been taken into account.

Data Analysis

In this study, Confirmatory Factor Analysis (CFA) was applied using Analysis of Moment Structures (AMOS) software to determine if the Bahasa Malaysia version of JSS possessed a goodness-of-fit while replicated on a sample of Malaysian navy personnel. To assess the degree of model fit, Bryne (2001) suggested the use of chi-square test statistics (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Insignificant (set at .05) chi-square test statistics signified model fit. The value of above .90 would indicate model fit for GFI, CFI, and TLI, while a value of less than .08 would signify reasonable model fit for RMSEA (Hu & Bentler, 1998). Exploratory Factor Analysis (EFA), on the other hand, was performed to examine the valid factor structure of the scale according to the data obtained from the Malaysian participants in order to test the construct validity. Reliability of this scale was determined using internal consistency by looking at Cronbach's alpha values.

RESULTS

Demographic Characteristics

In total, data was collected from 703 male Navy personnel who volunteered to participate in the study (age range = 20-50, M = 29.3 years, SD = 5.6). Years of service ranged from One to 30 years (M = 9.5, SD = 5.4). The gross income of participants ranged from RM650-RM6750 (M = 2224.7, SD = 860.1). Of the total sample, the ethnic composition of the sample was as follows: 95.2% Malay, 3.8% other ethnic groups, .7% Indian, and .3% Chinese. Regarding education level, most respondents were SPM/ SPM (V) (78.1%) holders, followed by Diploma (10.1%), Bachelor's degree (6.0%), STPM (5.4%), Masters degree (.4), and remaining .40% not reported. As for marital status, most respondents were married (70.7%), followed by single (28.6%), and divorced (.7%). Table 1 presents demographic characteristics of respondents.

Reliability Analysis

In the second section of our findings, Cronbach's alpha was calculated to assess the estimates of internal consistency of the scale and its nine sub-scales. Table 2 shows the internal consistency of the nine sub-scales and the overall scale. A value of .86 was obtained for overall scale that is above the satisfactory value of .70 (Nunnaly, 1978), indicating a high degree of internal consistency of the scale. Assessments of the internal consistency of nine separated sub-scales, however, indicated that a relatively lower Cronbach's alpha reading as compared with previous studies (Spector, 1997). As shown in Table 2, reliability of each dimension and total scale was then presented.

Confirmatory Factor Analysis

Thereafter, a confirmatory factor analysis was conducted to determine the goodness-

TABLE 1
Respondents' demographic characteristics (N= 703)

Variable		n (%)	M (SD)	Min-Max
Age			29.3 (5.6)	20-50
Years of service			9.5 (5.4)	1-30
Gross Income			2224.7 (860.1)	650-6750
Race	Malay	669 (95.2)		
	Chinese	2 (.3)		
	Indian	5 (.7)		
	Others	27 (3.8)		
Education Level	SPM/ SPM (V)	549 (78.1)		
	STPM	38 (5.4)		
	Diploma	71 (10.1)		
	Bachelor's degree	42 (6.0)		
	Master's degree	3 (.4)		
	Missing Data	3 (.4)		
Marital Status	Single	201 (28.6)		
	Married	496 (70.7)		
	Divorced	5 (.7)		
	Missing Data	1 (.1)		
Job Classification	Warrant officer	86 (12.2)		
	Petty officer	207 (29.4)		
	Rate	404 (57.5)		
	Missing Data	6 (.9)		
Branch	Engineering	198 (28.2)		
	Seaman	228 (32.4)		
	Supply	269 (38.3)		
	Missing Data	8 (1.1)		

Note: SPM/ SPM (V) = Completed high school;
        STPM = Completed high school + 2 years of pre-university
        n = frequency, M = Mean, SD = Standard Deviation, Min = Minimum, Max = Maximum

of-fit between priori model and the sample data. Data were analyzed by applying maximum likelihood to check how well the sample data fit with hypothesized nine-factor structure model consisting of pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, co-workers, nature of work, and communication. With regards to this, each of the four observed indicators was anticipated to load onto respective latent factors as suggested by Spector (1985). The goodness-of-fit results indicated nine-factor model was a poor fit to the data (χ^2 (558) = 2746.434, p< .001, χ^2/df = 4.922, CFI= .671, TLI= .628, RMSEA= .075 [.072, .078]) (see Table 3). Both CFI and TLI were less from the threshold of .90 (Hu & Bentler,

TABLE 2
Internal consistency of the instrument

Scale in JSS	Total items	Cronbach's alpha [a]	Cronbach's alpha [b]	Description
Pay	4	.59	.75	Pay and remuneration
Promotion	4	.50	.73	Promotion opportunities
Supervision	4	.69	.82	Immediate supervisor
Fringe benefits	4	.51	.73	Monetary and non-monetary fringe benefits
Contingent Rewards	4	.71	.76	Appreciation, recognition, and rewards for good work
Operating procedures	4	.22	.62	Operating policies and procedures
Co-workers	4	.35	.60	People you work with
Nature of work	4	.60	.78	Job tasks themselves
Communication	4	.58	.71	Communication within the organization
Total scale	36	.86	.91	Total of all facets

[a] Based on a sample of 703 (present study)

[b] Based on a sample of 2870 (Spector, 1997)

1998). Meanwhile, the large value of χ^2 with significant p-value implied mismatch between observed and expected metrics. The value of χ^2/df also showed greater general convention of 3.0 which indicated inadequate model fit (Hu & Bentler, 1998).

We next examined the factor loadings for JSS items and the results showed that the items were unevenly distributed, ranging from -.20 to .74. In addition, after associations with squared multiple correlations, each observed variable's yielded value ranged from 0.04 to .55 in explaining the variance. Obviously, some items were poorly loaded onto latent factors. As such, we concluded that the original nine-factor model with 36 items did not correspond to Malaysian military's job satisfaction dimension as it did not meet the acceptable standard of validity and reliability analysis. It is worthwhile to note that we tried to re-specify the model based

on modification indices and standardized residuals. Nevertheless, we still failed to obtain an acceptable model. Consequently, we decided to further explore the underlying factor structures of Malay JSS using exploratory factor analysis (Suhr, 2003). The overall fit of the nine-factor model is summarized in Table 3 and graphical representation is displayed in Fig.1.

Exploratory Factor Analysis

We further analyzed factorability of data by using exploratory factor analysis. A principal component factor (PCA) analysis was adopted on the 36 items of the JSS without specifying number of factors in the first run. Analysis of Kaiser-Meyer-Olkin measure of sampling adequacy and Barlett's test of sphericity were used to explore the correlation pattern and test the null hypothesis of identity matrix on the correlation between variables respectively

TABLE 3
Measure of goodness-of-fit for the nine-factor model of Malay version job satisfaction survey

CFA fit indices:			
χ^2	2746.434	CFI	.671
df	558	TLI	.628
χ^2/df (p)	4.922 (.000)	RMSEA	.075

Factor/ Item	Factor loadings	Squared multiple correlation
Pay		
1	.57	.33
10	.31	.09
19	.58	.34
28	.61	.38
Promotion		
2	.26	.07
11	.50	.25
20	.39	.15
33	.64	.41
Supervision		
3	.52	.27
12	.70	.48
21	.65	.42
30	.52	.26
Fringe benefits		
4	.33	.11
13	.42	.18
22	.65	.42
29	.44	.20
Contingent rewards		
5	.44	.20
14	.70	.50
23	.66	.44
32	.73	.53
Operating procedure		
6	.47	.21
15	-.20	.04
24	.66	.43
31	.37	.14
Co-worker		
7	.25	.06
16	.31	.09
25	.30	.09
34	.56	.31

TABLE 3 (*continued*)

| Factor/ Item	Factor loadings	Squared multiple correlation
Nature of work		
8	.25	.06
17	.63	.39
27	.74	.55
35	.70	.49
Communication		
9	.41	.17
18	.58	.33
26	.55	.30
36	.52	.27

Note: CFA= confirmatory factor analysis; χ^2= chi square; df= degree of freedom;
CFI= comparative-fit index; TLI= Tucker Lewis index; CFI= comparative fit index;
RMSEA= root mean square error of approximation.

(Hair *et al.*, 2010). Results yielded KMO statistics value of .90 which is above acceptable value and falls in the group of being superb (Hutcheson & Sofroniou, 1999). Also, the significant value of Barlett's test measure produced a chi-square of 12990 ($\chi^2(630) = 7144$; p< .001) that connoted the items shared common factors. In light of this, it was considered as suitable to factor analysis with all 36 items.

With PCA extraction method, components with Eigenvalue over 1.0 were retained (Hair *et al.*, 2010). The output successfully extracted nine components that accounted for 55.408% of total variance (Table 4). Nevertheless, the Eigenvalue's rule in this study was challenged as this scale consists of 36 variables, and communalities after extraction were less than .70. Based on Field (2005), Eigenvalue's rule is proper to apply when there are less than 30 variables and communalities are more than .70 after extraction. In regard to this, we then looked

at scree plot (Cattell, 1978). A diagnose Scree Plot (refer Fig.2) demonstrated the inflexion at first four or five factors solution before it begins to straighten out, suggesting it is able to generate four or five factors. Hence, the second time, we tried several different models (three, four, five, and six factor solutions) before deciding on the final model using varimax rotation or direct oblimin rotations.

Direct oblimin rotation supports that the final model was a five-factor solution because it provides the best interpretability. A total of eight items were removed from original measure on the basis of primary factor loading of at least .40 or cross-factor loading greater than .30 (Bryant, & Yarnold, 1995; Wang *et al.*, 2009). Specifically, the items *"Terdapat imbuhan yang sepatutnya kami terima tidak diberikan oleh organisasi ini"*, *"Kehendak birokrasi dalam organisasi jarang menghalang usaha saya untuk melakukan kerja dengan baik"*,
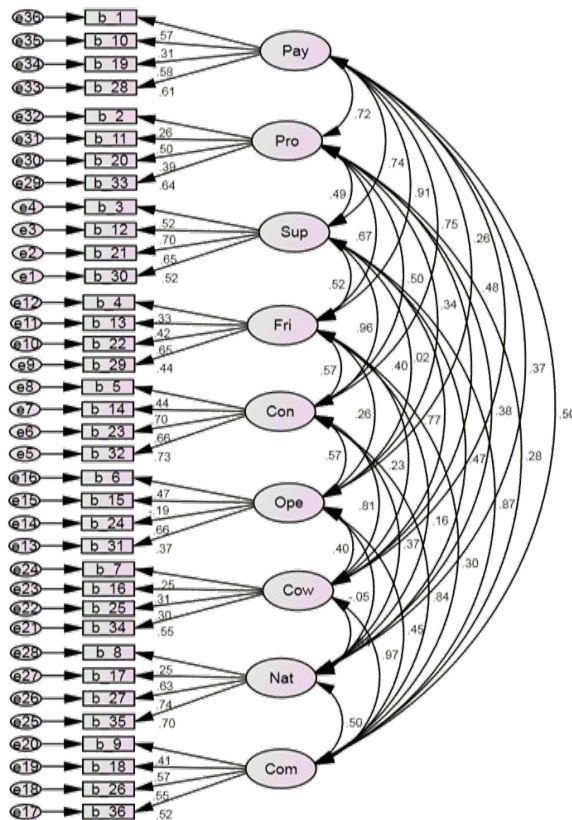
Note: Pro= promotion, Sup= supervision, Fri= fringe benefits, Con= contingent reward,
Ope= operating procedure, Cow= Co-worker, Nat= nature of work, Com = communication

Item 1- Item 36 represent observed variables, e1-e36 represent error variances, double headed arrows depict correlations among factors, and single headed arrows from factors depict factor loadings.

Fig.1: Measurement model for original nine-factor model

"Saya suka bekerja dengan pihak atasan saya", *"Pihak atasan saya agak cekap dalam mengendalikan kerja mereka"*, *"Saya berpuas hati dengan peluang kenaikan pangkat saya"*, *"Perhubungan (interpersonal) dalam organisasi ini agak bagus"*, *"Peluang kenaikan pangkat di sini adalah sama seperti di pasukan keselamatan lain"*, and *"Imbuhan yang diterima adalah sepertimana yang ditawarkan oleh kebanyakan pasukan keselamatan lain"* were dropped from the scale.

After elimination, data showed that 11 items loaded on first factor, five items for second factor, five items for third factor, four items for fourth factor, and finally three items for fifth factor. Then, each factor was interpreted through assessment of item content. Items loading on first factor were 'assessing need for appreciation' and 'recognition in workplace'. Therefore we labeled this factor as 'recognition'. Items loading on second factor were relating to aspects of fondness to work, which was

TABLE 4
PCA extraction method on Malay version job satisfaction survey

Item/ Component	I	II	III	IV	V	VI	VII	VIII	VIIII
b_32 : Saya berasa usaha saya tidak dihargai seperti yang sepatutnya.	.713								
b_14 : Saya berasa kerja yang saya lakukan tidak dihargai.	.697								
b_12 : Pihak pengurusan atasan tidak berlaku adil terhadap saya.	.679								
b_23 : Kurang penghargaan kepada anggota di sini.	.653								
b_21 : Pihak pengurusan atasan kurang memberikan perhatian terhadap anggota bawahan mereka.	.637								
b_19 : Saya berasa kurang dihargai oleh organisasi berdasarkan skala gaji saya.	.609							-.331	
b_3 : Pihak atasan saya agak cekap dalam mengendalikan kerja mereka.	.534	.318		-.425					
b_30 : Saya suka bekerja dengan pihak atasan saya.	.534	.341							
b_8 : Kadangkala berasa kerja saya tidak bermakna.	.526								
b_34 : Terlalu perselisihan faham di tempat kerja saya.	.525								-.304
b_18 : Saya masih kurang faham mengenai matlamat organisasi.	.513								
b_5 : Saya mendapat penghargaan yang sewajarnya apabila melakukan kerja dengan baik.	.492	.338							
b_36 : Tugasan yang diamanahkan kepada saya tidak diterangkan dengan sempurna.	.482								
b_28 : Saya berpuas hati dengan kenaikan gaji.	.469	.347	.309						
b_26 : Saya sering tidak tahu mengenai perkembangan organisasi.	.462		-.392						
b_1 : Skim emolumen yang diberikan adalah setimpal dengan tanggungjawab/ peranan (pengalaman/kepakaran, kelayakan akademik, tempoh perkhidmatan) sebagai seorang tentera.	.460	.363							
b_9 : Perhubungan (interpersonal) dalam organisasi ini agak bagus.	.439	.349		-.331					
b_29 : Terdapat imbuhan yang sepatutnya kami terima tidak diberikan oleh organisasi ini.	.437							-.333	
b_35 : Saya berpuas hati dengan kerja saya.	.417	.364	-.397				.334		

TABLE 4 (*continued*)

Item/ Component	I	II	III	IV	V	VI	VII	VIII	VIIII
b_4 : Saya tidak berpuas hati dengan faedah/ kemudahan disedia.	.386								
b_7 : Saya suka bekerja dengan orang yang bekerja bersama saya.		.429	-.318						
b_24 : Terlalu banyak kerja yang perlu dilakukan di tempat kerja.		-.386			.358			.349	.374
b_17 : Saya suka kepakaran saya.		.381	-.375	.360					
b_11 : Peluang kenaikan pangkat diberi kepada mereka yang melakukan kerja dengan baik.	.333	.352					-.321		
b_13 : Imbuhan yang diterima adalah sepertimana yang ditawarkan oleh kebanyakan pasukan keselamatan lain. organisasi lain		.368	.512						
b_22 : Pakej imbuhan yang diterima adalah adil.	.402	.318	.506						
b_27 : Saya berasa bangga dengan kerja yang saya lakukan.	.345	.455	-.481						
b_25 : Saya selesa dengan rakan sepasukan saya.		.382	-.403						
b_2 : Terdapat ruang dan peluang yang terhad untuk peningkatan kerjaya.	.320			.451					
b_31 : Saya mempunyai terlalu banyak kerja-kerja dokumentasi.		-.354			.584				
b_15 : Kehendak birokrasi dalam organisasi jarang menghalang usaha saya untuk melakukan kerja dengan baik.						.612			
b_16 : Saya perlu bekerja lebih keras kerana ketidakcekapan rakan.		-.356				-.373			
b_33 : Saya berpuas hati dengan peluang kenaikan pangkat saya.	.382	.311		.352			-.417		
b_6 : Saya sukar untuk melakukan kerja dengan baik kerana terlalu banyak peraturan dan prosedur organisasi.	.389	-.359					.393	.308	
b_20 : Peluang kenaikan pangkat di sini adalah sama seperti di pasukan keselamatan lain.									-.542
b_10 : Perbezaan gaji adalah terlalu ketara dengan organisasi kerajaan yang lain.	.316	-.337	.309						-.344

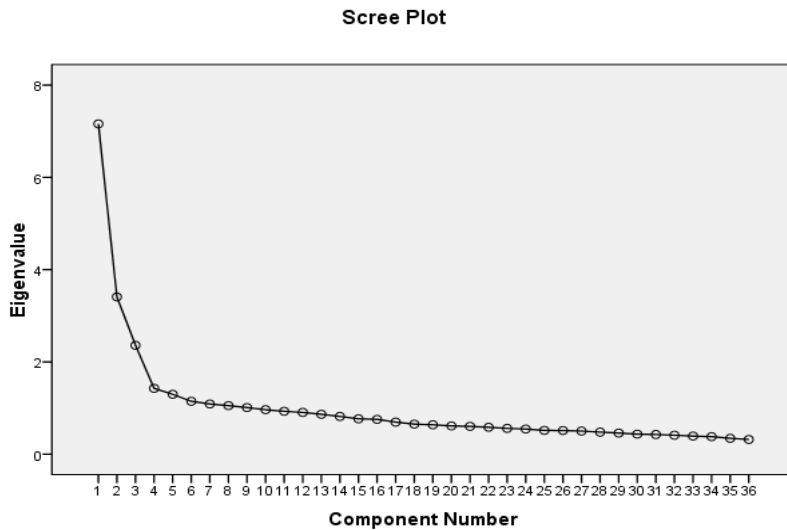Note: only factor loadings greater than .30 are shown.

Scree Plot

Fig.2: Screen Plot for Malay Version Job Satisfaction Survey

labeled as 'affection'. In addition, the third factor was labeled 'fairness' as the items loading were assessing even-handedness and competent ability within workforce. The labeling of fourth factor ('expectation') is attributed to the content of anticipation for pay, promotion, and belief. The final factor contained items that reflected the amount of work at the workplace, was labeled as 'workload'. Cumulatively, the EFA was drawn from 28 items to form a five-factor model comprising recognition, attachment, fairness, expectation, and workload which accounted for 42.91% of the share variance in the administrative group. The final solution is presented in Table 5.

Study 2

In the second study, we further examined the validity of the five-factor model of JSS scores. Participants were recruited from the Lumut naval base which is the biggest naval base in Malaysia.

METHOD

Three hundred and twenty-nine male navy personnel aged from 20 to 50 (M = 29.9 years, SD = 6.1), completed the 28-item JSS for study 2. Majority of the respondents were Malay (93.8%), married (71.3%), and SPM/ SPM (V) (74.5%) holders. In terms of years of service, respondents ranged from 1 to 30 years (M = 10.3, SD = 5.8). The gross income of participants ranged from RM1000-RM6300 (M = 2354.8, SD = 901.9).

RESULTS

Reliability Analyses

As seen in Table 6, the total coefficient value for final version was .86, maintaining the high internal consistency. The reliability estimates of the five sub-scales also reported values which ranged from .50 to .86. The values did not increase if deletion of any item was performed.

TABLE 5
Direct oblimin rotation on Malay version job satisfaction survey

Item/ Component	I	II	III	IV	V
b_21 : Pihak pengurusan atasan kurang memberikan perhatian terhadap anggota bawahan mereka.	.680				
b_18 : Saya masih kurang faham mengenai matlamat organisasi.	.667				
b_12 : Pihak pengurusan atasan tidak berlaku adil terhadap saya.	.621				
b_14 : Saya berasa kerja yang saya lakukan tidak dihargai.	.610				
b_26 : Saya sering tidak tahu mengenai perkembangan organisasi.	.586				
b_19 : Saya berasa kurang dihargai oleh organisasi berdasarkan skala gaji saya.	.581				
b_32 : Saya berasa usaha saya tidak dihargai seperti yang sepatutnya.	.559				
b_23 : Kurang penghargaan kepada anggota di sini.	.550				
b_3 : Pihak atasan saya agak cekap dalam mengendalikan kerja mereka.	.487		.421	-.337	
b_34 : Terlalu perselisihan faham di tempat kerja saya.	.481				
b_36 : Tugasan yang diamanahkan kepada saya tidak diterangkan dengan sempurna.	.480				
b_8 : Kadangkala berasa kerja saya tidak bermakna.	.467				
b_30 : Saya suka bekerja dengan pihak atasan saya.	.392				
b_9 : Perhubungan (interpersonal) dalam organisasi ini agak bagus.	.366				
b_27 : Saya berasa bangga dengan kerja yang saya lakukan.		.745			
b_17 : Saya suka kepakaran saya.		.742			
b_35 : Saya berpuas hati dengan kerja saya.		.667			
b_25 : Saya selesa dengan rakan sepasukan saya.		.614			
b_7 : Saya suka bekerja dengan orang yang bekerja bersama saya.		.420			
b_22 : Pakej imbuhan yang diterima adalah adil.			.707		
b_13 : Imbuhan yang diterima adalah sepertimana yang ditawarkan oleh kebanyakan pasukan keselamatan lain.		.402	.672		
b_1: Skim emolumen yang diberikan adalah setimpal dengan tanggungjawab/peranan (pengalaman/kepakaran, kelayakan akademik, tempoh perkhidmatan) sebagai seorang tentera.			.589		
b_28 : Saya berpuas hati dengan kenaikan gaji.			.578		
b_5 : Saya mendapat penghargaan yang sewajarnya apabila melakukan kerja dengan baik.			.564		
b_11 : Peluang kenaikan pangkat diberi kepada mereka yang melakukan kerja dengan baik.			.535		
b_20 : Peluang kenaikan pangkat di sini adalah sama seperti di pasukan keselamatan lain.			.389		
b_29 : Terdapat imbuhan yang sepatutnya kami terima tidak diberikan oleh organisasi ini.			.309		

TABLE 5 (*continued*)

Item/ Component	I	II	III	IV	V
b_2 : Terdapat ruang dan peluang yang terhad untuk peningkatan kerjaya.				.646	
b_4 : Saya tidak berpuas hati dengan faedah/ kemudahan disedia.				.523	
b_33 : Saya berpuas hati dengan peluang kenaikan pangkat saya.			.406	.433	
b_10 : Perbezaan gaji adalah terlalu ketara dengan organisasi kerajaan yang lain.				.431	
b_6 : Saya sukar untuk melakukan kerja dengan baik kerana terlalu banyak peraturan dan prosedur organisasi.				.423	
b_31 : Saya mempunyai terlalu banyak kerja-kerja dokumentasi.					.802
b_24 : Terlalu banyak kerja yang perlu dilakukan di tempat kerja.					.597
b_16 : Saya perlu bekerja lebih keras kerana ketidakcekapan rakan.					.501
b_15 : Kehendak birokrasi dalam organisasi jarang menghalang usaha saya untuk melakukan kerja dengan baik.					
Eigenvalue	5.887	3.247	4.090	2.471	2.375
Percentage of variance explained	19.438	9.786	6.135	3.991	3.56
Cumulative percentage of variance explained	19.438	29.224	35.359	39.35	42.910

Note: I - Recognition, II- Affection, III- Fairness, IV- Expectation, and V- Workload

TABLE 6
Reliability analyses for the five-factor model (N=321)

Factor	No of item	α
Recognition	11	.86
Affection	5	.75
Fairness	5	.73
Expectation	4	.58
Workload	3	.50
Total	28	.86

α = composite reliability

Confirmatory factor Analyses

The five-factor model with 28 items (recognition was represented by items 21, 18, 12, 14, 26, 19, 32, 23, 34, 36, and 8; affection was represented by items 27, 17, 35, 25, and 7; fairness was represented by items 22, 1, 28, 5, and 11; expectation was represented by items 2, 4, 10, and 6; and workload was represented by items 31, 24, and 16) was analyzed. Fit indices for the five-factor model exhibited significantly better fit than nine-factor model (χ^2 (336) = 632.852, p< .001, χ^2/df = 1.861, CFI= .877, TLI= .864, RMSEA= .52 [CI= .046, .058]). The modification indices indicated re-specification might still be possible
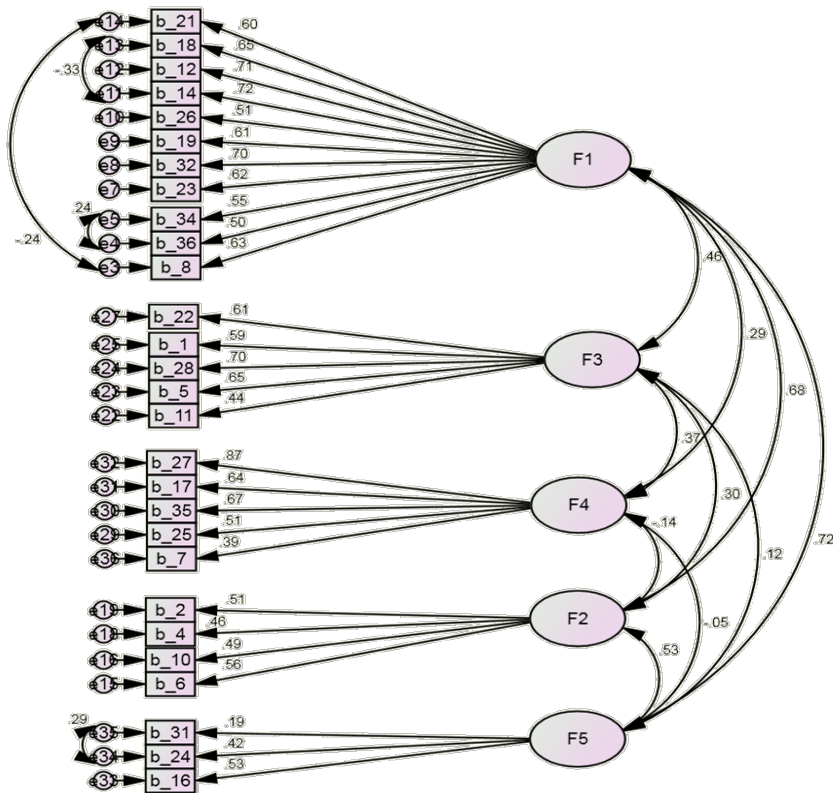
Note: F1= Recognition, F2= Affection, F3= Fairness, F4= Expectation, F5= Workload.

Rectangles represent observed variables, Circles represent error variances, double headed arrows depict correlations among factors, and single headed arrows from factors depict factor loadings.

Fig.3: Measurement model for five-factor model

by allowing some residual error terms that co-varied each other. The goodness of fit of revised model showed adequate and much better fit (χ^2 (336) = 554.184, p< .001, χ^2/df = 1.649, CFI= .909, TLI= .897, RMSEA= .45 [CI= .038, .052]) (see Fig.3). CFI was successfully met while TLI marginally reached the threshold of .90 (Hu & Bentler, 1998). Although the result yielded significant p-value, this could be attributed to the large sample size. The value of χ^2/df was also less than value of 3.0

which indicated adequate model fit (Hu & Bentler, 1998).

DISCUSSION

Up to now, available documented studies concerning issue of military job satisfaction in Malaysian context is still scarce (Liyana & Mansor, 2009; 2010). Thus, the current study was undertaken on account of researchers' interest to provide evidence of initial reliability and validity of Job Satisfaction Survey on assessing job satisfaction among

Malaysian military members. Initially, the study used the comprehensive Job Satisfaction Survey (Spector, 1985) which was translated to Malay language to determine its psychometric appropriateness in evaluating military job satisfaction in Malaysia. In our empirical analysis, the original nine-factor solutions on the basis of facets: pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, co-workers, nature of work, and communication (Spector, 1985) were tested. Statistically, the results of the confirmatory factor analysis for nine-factor solution showed a poor model fit. Additionally, results regarding the internal consistency for the model demonstrated poor to moderate levels as Cronbach alpha values were of .22 to .71. In the light of our findings, we contended that military jobs and workplace are significantly different from that of other types of organizations due to its work nature in hardship and challenging environments (Sanchez *et al.*, 2004). Not surprisingly, the findings indicated that the nine-factor first-order model is not suitable to assess Malaysian military personnel job satisfaction. Seemingly most previous studies administered this instrument in English (Spector, 1985; 1997, 2008). However the current study which made use of the same instrument in Malay language yielded conflicting findings.

Evidently, the poor statistical fit of previous theoretical model illustrated that the testing of underlying factor structure was required. Therefore, items were reexamined using the Principal Components factor

Analysis and followed by direct oblimin rotation to elucidate dimensionality for military job satisfaction. Based on factor loadings, the best model in the present study was a five-factor solution for assessing military job satisfaction. Inspection of the Scree Plot also revealed a five-factor solution to be appropriate for military personnel, particularly Malaysian Navy. As a result, a five-subscale model with 28 items was produced. The subscales were renamed as recognition, affection, fairness, expectation, and workload. All the sub-scales accumulative denoted variation was at 42.91%.

In our solution, the first factor, recognition is characterized by the perception of being acknowledged by others on effort devoted by the personnel. The sample item includes *"Pihak pengurusan atasan kurang memberikan perhatian terhadap anggota bawahan mereka"*. Recalling Sanchez and his colleagues' (2004) study, both physical and mental training among armed forces staff are not easy to endure, thus they really need to retain a certain degree of adulation and recognition. Like any normal human being, they too, hope for appreciation by others for the efforts they make and the pride they hold in their jobs. Consequently, appreciation given to those who perform well in their jobs could lead to enhanced self-confidence in military duties (Liyana & Mansor, 2009). Hence, recognition should be placed as top priority to retain the soldiers to continually serve the nation. The second factor, affection highlights the degree to which an individual feels loved,

meaningful, and enjoyable with the nature of the job itself. Previous research suggests that higher levels of supportive work environment are associated with greater levels of happiness and satisfaction (Spector, 1997). As aforementioned, the military places strong emphasis on teamwork and commitment. Employees who have strong desires towards work are effectively connected to organization and display willing to perform job responsibilities. An example of this item is *"Saya berasa bangga dengan kerja yang saya lakukan".*

The third factor, fairness is characterized as the emotional reactions to jobs regarding the levels of justice in workforce. Hence, the item that related to this situation was for example, *"Pakej imbuhan yang diterima adalah adil".* Logically, employees want to experience that they receive reasonable treatment in the workplace. The same condition applied to military personnel who have a right to focus on adequate justifications and concern whether they were being fairly treated by the organization such as on matters pertaining to pay, promotion opportunity, and incentives. Understandably, military organizations are big institutions which can encompass millions of employees. Without question, military personnel highly emphasized the importance of fairness and equity to ensure their levels of job satisfaction (Liyana & Mansor, 2009). When organizations make decisions about staffs' welfare and remuneration, it is tremendously vital that the decisions taken are seen to be fair and equally commensurate with each staff's expertise and skills.

Item *"Terdapat ruang dan peluang yang terhad untuk peningkatan kerjaya"* was included in the fourth factor, expectation because it assesses belief of personal expectations from the job in gaining extrinsic objects. The fifth factor, workload subsumes item "*Saya mempunyai terlalu banyak kerja-kerja dokumentasi"* that assesses amount and quantity of work or tasks to be completed. Usually, heavy workload could be a part of job satisfaction determinants as some military personnel reported that too much paperwork jeopardized their levels of satisfaction (Liyana & Mansor, 2009). Nevertheless, high workload tends to occur among military personnel as personnel need to handle a great amount of military-related tasks arising from factors such as to be on call 24 hours, the need for outstation work and frequent changing of department or squads, besides undergoing heavy army training. Hence, it reflected some job facets that had significant roles in explaining job satisfaction among military personnel.

We then tested the revised scale on a new sample. Using data from the new collected sample, the statistical analysis was able to produce a model which was a good fit to the data. The confirmatory factor analysis revealed that the final model with 28 items had a good fit as all the goodness-of-fit indices support the model fit (Byrne, 2001). The internal consistency analysis also suggested that the final revised model of the Malay version JSS exhibited a reliable measure that could be used in the future to identify level of job satisfaction and facets associated to it among military personnel. In short, analyses of internal consistency and

validity on our proposed factors indicated that the five factors JSS is more reliable to be used by researchers in determining job satisfaction of military personnel in Malaysia.

IMPLICATION AND FUTURE DIRECTION

As its objectives, this research has translated and validated Malay JSS. Using a large sample of subjects whose service in armed forces organizations, this paper provides preliminary reliability and validity evidence for the Malay JSS that captures job satisfaction among military personnel. As discussed earlier, armed forces are specific service areas as compared to other types of occupation. These distinctions result in a more parsimonious five-factor model was produced that more relevant and applicable to armed forces personnel. With a greater understanding of the construct of job satisfaction in this understudied population, this research assists managerial body, for instance RMN to gauge the extent to which personnel satisfy towards their job; and the information may be of assistance in improving personnel's job satisfaction. Furthermore, current findings are potentially useful to further the research on job satisfaction. Through our findings, this scale appears to have certain advantages for researchers who wish to collect data related to job satisfaction among armed forces personnel.

However, some limitations of present study were noted. First, this paper was pioneered to revise original nine-factor model of JSS to five-factor model while assessing military job satisfaction. Concerning this, it is recommended that multinational or intercultural validation studies should be undertaken to assess its practicality and investigate measurement properties of the scale as well. Second, this scale is specified to military personnel, thus further studies need to be cautioned of this fact so as not to generalize the current findings to different job contexts. We strongly encourage future efforts to consider longitudinal design to identify ongoing assessment job satisfaction of navy personnel at different times. We also encourage more studies that can expand upon the present findings. In summary, this study was beneficial as it helped identify varying degrees to which military personnel are experiencing job satisfaction or otherwise.

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