

Do Internship Satisfaction and Career Aspiration Influence Malaysian Housemen Self-Perceived Preparedness for Independent Hospital Practice?

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Abstract

The motivational and attitudinal dispositions of housemen perhaps suggest that numerous factors influence their career aspirations. Moreover, issues relating to the working and learning environment of housemen in the medical school is always topical. Obviously, these should have implication for their self-perceived preparedness for post-medical school practice. As such, this study investigates the relationship among internship satisfaction, career aspirations and perceived preparedness for medical practice among Malaysian housemen. A survey questionnaire was administered on all 2,046 housemen in all medical schools across Malaysia as at April 30, 2008 when data was collected. Data so obtained were subjected to statistical analysis based on N=1213 using both the structural equation modelling via SPSS AMOS 18 software. Although housemen reported significant issues relating to their satisfaction with learning and working environment, their response indicate a significant positive relationship between satisfaction and career aspiration. However, while satisfaction with the internship programme significantly influence their self-perceived preparedness for medical practice especially on some specific core skills, aspiration for medical career, though positive; was statistically insignificant.

Keywords: Internship and housemanship, career aspiration, independent practice, satisfaction

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INTRODUCTION

The professional challenges that a medical practitioner faces on a rather consistent basis are indeed arduous. In a multicultural and multiracial country like Malaysia, medical doctors are faced with scores of patients who differ both in terms of medical presentations and their socio-demographic profiles. In instances like these, doctors need to appeal to their ingenuity skills learnt in their long years of medical training in order to sort through the often impassioned arguments that affect their competence.

In recent times, the frequency and magnitude of medical mistakes and the consequential negative implications for the lives and wellbeing of the patients and their families arouse suspicion. This is in relation to the preparedness of these doctors for the traditional tasks in their chosen profession (Hurwitz & Vass, 2002).

In the case of Malaysia, the Consumers' Association of Penang (CAP) estimates that more than 4,000 deaths per year are attributable to medical negligence or errors (Cruetz, 2004). Corroborating CAP, Manaf (2007) also found that the practice of quality management is lowest among physicians in Malaysian public hospitals. This is in comparison to other groups of employees, although quality improvement activities are actually aimed at reducing medical error. In fact, Azila *et al.* (2006) in a Malaysian study noted that anecdotal and empirical evidences indicate a lack of retention of, as well as inappropriate use of, basic medical knowledge previously learnt by medical students while in school.

Ideally, like any other profession, but most importantly, the medical profession is such that it is too important to be disregarded. This is in the context of the remote, immediate, and future implications of the seeming attenuation of its relative indispensability to humanity. However, it may also be logical that the humanness of the doctors and as such their fallibility should be duly acknowledged. With the benefit of hindsight, it may be safe to presuppose that the low or unsatisfactory performance of some physicians is a manifestation of their incompetence.

Nonetheless, it may also be that other reasons impede the proper preparedness of medical practitioners for a career in medicine. For instance, a recurring issue among medical schools relate to the level of job satisfaction among the house officers. This is because they are often subjected to extended work hours and sleep deprivation (Gaba & Howard, 2002). Aspiration for medical career is another factor. For instance, some interns aspire to become medical practitioners because of parental influence, prestige, 'pay' (income), peer groups, etc. rather than on personal interest. It may, therefore, be that once the causes of incompetence among the physicians can be identified and remedied, their performance would also be consistent with the expectations of all the health care stakeholders.

Based on discussions with human resource personnel at the Institute of Health Management, Ministry of Health, Malaysia, as well as issues identified in the extant literature, some research questions were developed. These include: what are the indicators of preparedness for independent medical practice? What is the relationship

between preparedness for hospital practice, and motivation and aspiration for a career in medicine?

Sequel to the forgoing, this paper aims to identify the skills that represent perceived preparedness of housemen in Malaysian medical schools. Specifically, the relative influence of aspiration for a medical career and the level of satisfaction with internship programme on perceived preparedness are also assessed.

PRE-EMPLOYMENT TRAINING (HOUSEMANSHIP)

In medical education, a period of supervised training known as ‘housemanship’, is provided for. It offers newly graduated medical officers to undergo a structured training to enable them to consolidate and extend theoretical clinical knowledge and technical skills. In certain countries, undergraduate medical education ends with housemanship. However, in Malaysia, pursuant to the Medical Act 1971, housemanship is only imposed upon after graduation. The two-year housemanship combines service and training roles. It is formulated in such a way to ensure medical practitioners gain appropriate knowledge, skill and experience as well as correct attitude rather than merely employment and provision of services.

Basically, the housemanship period should be a time when the house officer:

- consolidates and builds on the theoretical knowledge he/she gained as an undergraduate and learns to apply it in caring for patients;
- develops the technical, clinical, personal, and professional skills that form the basis of medical practice;
- takes increasing responsibility for patient care, as his/her experience and understanding allow;
- starts to develop professional judgment in the appropriate care of patients and the use of diagnostic and consultant services;
- works within the ethical and legal framework taught at medical schools;
- contributes to a multidisciplinary health care team;
- explores personal career goals and expectations; and
- encounter and develop strategies to deal with the professional and personal pressures associated with being a medical practitioner.

PREPAREDNESS FOR MEDICAL PRACTICE

To become a medical practitioner arguably takes more training time, examinations, and practices than any other profession. This is necessitated by the need to produce competent health care practitioners capable of displaying cognitive, technical and personal skills for meeting the expectations of all stakeholders including the government, hospital management, patients and the society at large (Aggarwal, Grantcharov & Darzi, 2007). These attributes though, often than not, may be present in any medical doctor, it is the ability to combine these skills and sensitivities of an applied scientist to the reflective capabilities of a medical humanist that distinguishes a good doctor from both the poor and the bad ones (Hurwitz & Vass, 2002).

Epstein (2007) succinctly describes preparedness for practice in medicine as the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the

individuals and communities being served. This definition is most apposite for many but basically because of two reasons. First, it is comprehensive and aligns well with the current clamour for a blend of the attributes of an applied scientist and a medical humanist in the modern day 'good doctor'. Second, it reflects the relative importance of the six general competencies that to a reasonable extent frame and define the substance of medical practice independent of specialty and delivery model as championed by the Accreditation Council for Graduate Medical Education (ACGME) (Leach, 2002).

The contextual nature of competence in; or preparedness for independent medical practice presupposes that quite a plethora of indicators as its determinants exist. In fact, according to Neeraj, Burkhalter, and Cooper (2001), health workers independent of their specialty require a myriad of and harmonized set of skills, traits, knowledge and ability in order to deliver quality medical care and services. As succinctly stated by Marple (2007), the indicators of competence in medicine derive essentially from a thorough research process to evaluate the qualities necessary for a physician to function effectively. The purpose, argued further by Marple (2007) was to stimulate an introspective assessment of how adequately physicians are prepared to rise up to the challenge of the unprecedented dynamic arena of healthcare service rendering and delivery.

A survey was conducted by Hill *et al.* (1998) about the housemen working in New South Wales, Australia. The study evaluates interns' perceptions of the adequacy of their undergraduate medical training to prepare them for hospital practice. According to Hill *et al.* (1998), undergraduate medical training should adequately prepare junior doctors for practice in these eight areas: i) Interpersonal skills, ii) Confidence/coping skills, iii) Collaboration, iv) Practical skills and patient management, v) Understanding science, vi) Prevention, vii) Holistic care, and viii) Self-directed learning. Therefore, in pursuit of the first objective in this paper, the relevant question to be addressed is: what are the indicators of Malaysian medical interns' preparedness for independent practice?

SATISFACTION WITH INTERNSHIP PROGRAMME

It may be that more patient contacts in the pre-clinical phase would enhance motivation and strengthen links between knowledge and practice, leading to more robust knowledge. However, medical educators continue to evaluate and introduce innovations into their curriculum with the objective of achieving appropriate outcomes for their graduates so that they can meet the healthcare needs of the society locally and globally (Azila, *et al.*, 2005). This makes internship very stressful. Although such work pressure may enhance productivity in some instances, in junior doctors, work-related stress and anxiety have been shown to lead to low morale, poorer work performance and to affect the quality of care provided (Frank *et al.*, 1999; Firth-Cozens & Mowbray, 2001).

Though housemanship emphasizes more on training rather than merely employment, in a busy unit, inevitably, their learning needs may be overlooked from time to time. Growing concern has been expressed about the effects of the hospital as a working environment on junior doctors (Calman & Donaldson, 1991; Gillard *et al.*, 1993;

Roche *et al.*, 1997; Rolfe *et al.*, 1998; Bogg *et al.*, 2001). The heavy workload and long hours are particularly worrisome (Gillard *et al.*, 1993; Bogg *et al.*, 2001). Lack of preparedness for post medical school practice has been linked to stress in junior doctors (Paice *et al.*, 2002). Therefore, it is important to investigate what might help junior doctors feel better prepared. In several studies, junior doctors themselves have mentioned their rudimentary organisational skills, extreme workload, stress, depression, inadequate supervision and insufficient support from senior staff (Calman & Donaldson, 1991; Roche *et al.*, 1997; Rolfe *et al.*, 1998). Studies have also shown that there are stressors or perceived problems faced by graduating medical students going into the community (Willians, *et al.*, 1997; Fuad, *et al.*, 2000). Apparently due to dissatisfaction with their internship conditions, a number of educational researches carried out provided strong evidence that medical students retain little of what they learned in the basic disciplines during their clinical years (Bok, 1989). As such, they often do not use the knowledge they have acquired appropriately (Schmidt, 1983).

In recent years, efforts have been made in Europe to improve working conditions and training for doctors and stress counselling is becoming commonplace. It appears that unsurprisingly, the same lessons apply in India. Several European countries, including Britain, Sweden, Norway and Finland have implemented general preventative action against workplace stressors. Work-related stress can affect a doctor's health and result in poor morale and motivation, poor communication and decision-making as well as poor relationships with colleagues.

As such, it is hypothesised that:

H₁: Satisfaction with housemanship conditions positively influences perceived preparedness for independent medical practice.

ASPIRATION FOR MEDICAL CAREER

Although the medical profession should ideally be taken up as a 'calling', the motivational and attitudinal dispositions of housemen perhaps suggest that they also have career aspirations. Arguably, these aspirations influence their preparation for independent medical practice. For instance, some interns aspire to become medical practitioners because of parental influence, prestige, 'pay' (income), peer groups, personal interest etc. Ideally, the aspiration for medical career should be the pivotal factor around which other factors rotate in making the crucial career choice of becoming a physician. Quite incontrovertibly, aspiration for medical career is an important but not necessarily sufficient attribute of a medical practitioner in training. Thus, unravelling to what extent in their own perception; they aspire or are motivated for independent medical practice is apposite.

To date, the results of studies on health worker motivation in developing countries have not yet been formally compared to establish common themes. A review of the literature conducted collecting evidence of perception of health workers from both developing and developed countries' contexts concluded that theories developed in western countries need be thoroughly assessed before using them in a developing context (Dolea & Adams, 2005).

Therefore, developing countries ought to implement strategies to protect their health systems, while recognizing health professionals are autonomous people with rights. There are a growing number of studies which explore the links between incentives, motivation and retention of health workers in developing countries (Wibulpolprasert *et al.*, 2003). However, there is a dearth of studies evaluating what factors influence aspiration for a medical career and how that impact on perceived preparedness for independent practice.

As such, it is hypothesised that:

H₂: Aspiration for medical career positively influences perceived preparedness for independent medical practice.

Drawing on the synthesis of the brief literature review above, and the hypothesised relationship, the conceptual structural model tested in this paper is depicted in Figure 1 below.

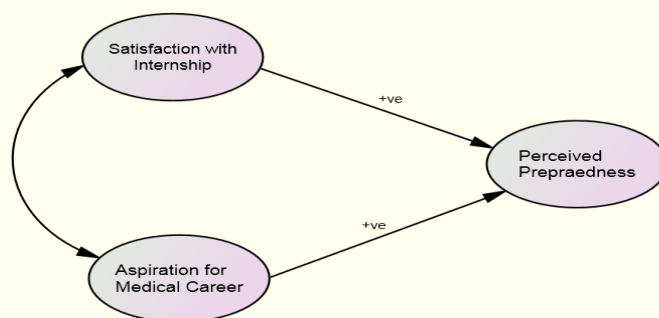


Figure 1. Hypothesised Structural Model

METHODOLOGY

Sample Size and Data Collection Method

At the point of conducting the study, the number of housemen attached to government hospitals was found to be 2,046. They were attached to government hospitals and the teaching hospitals of Universiti Malaya, Universiti Sains Malaysia and Universiti Kebangsaan Malaysia. Due to the large geographical area to be covered, it was felt that the best data collection method was by self-administered questionnaires. The list of hospitals and the number of questionnaires distributed is as in appendix 1.

Given that the population under study was manageable, it was, therefore, decided for the questionnaires to be distributed to all the housemen throughout the country including Sabah and Sarawak. Since the geographical area covered is large, most of the questionnaires were sent by post. However, for some hospitals in the Klang

Valley, such as Hospital Putrajaya and Hospital Kuala Lumpur, the questionnaires were delivered personally to the Hospital Director. From a total of 2,046 questionnaires sent out, a total of 1,278 responses were received. This gave a response rate of 62.46%. Of these, 1,213 questionnaires were analysed. Questionnaires which were incomplete or considered outliers from the pattern of response were excluded from the analyses. Thus, only data from properly completed questionnaires were used for the analyses, or 59.24%. Outliers and questionnaires which were not properly filled-in made up only 5.16% of the response received. As per the outliers, with a Mahalanobis distance critical value of 13.82 for two independent variables lesser than the calculated value of 18.37, the impact should be minimal given the Cook's distance maximum value of 0.263 being lesser than 1 (Pallant, 2007).

The data was subsequently subjected to normality test to determine whether or not it was normally distributed. The normality assumption tests include P-P plot and the scatterplot. The former indicate the non-normality of the data as some points do not lie on the straight diagonal line. Based on the Kolmogorov-Smirnov test, it was found that some items are not normally distributed at significance level of 0.05. Nevertheless, this should not have any serious impact on the data given a large sample size (Pallant, 2007).

Respondents' Profile

The profile of the respondents is shown in Table 2 below.

Table 2: Demographic Distribution of Respondents

	Frequency (N)	Percentage(%)
Age		
20-25	651	53.7
26-30	534	44.1
31-35	17	1.4
Others	10	0.8
Gender		
Males	505	41.7
Females	707	58.3
Ethnic Background		
Malay	665	54.9
Chinese	309	25.5
Indian	194	16.0
Others	44	3.6
Financing Mode		
Government	669	55.2
Self-Sponsored	361	29.8
Others	182	15.0

Marital Status

Single	1,009	83.2
Married	194	16.0
Others	10	10.0

Curricula

IIUM	90	7.4
UKM	166	13.7
UPM	47	3.9
USM	175	14.4
UM	150	12.4
UNIMAS	41	3.4
Adapted UK*	159	13.1
Adapted India*	153	12.6
UK trained	55	4.5
Indonesia trained	92	7.6
Eastern Europe trained	45	3.7
Others	39	3.2

* Adapted UK and Adapted India represents medical schools in Malaysia adopting UK and Indian Medical Schools' curricula.

In terms of age, almost all of the respondents are under 30 years, and about 60 percent among them are females. Also expected of their marital status, about 80 percent indicated they were single. Based on ethnic classification, more than half of the respondents are Malays, while one-fourth are Chinese. Interns of Indian descent represent about 16 percent of respondents. Moreover, more than half of the respondents are on government loan sponsorship.

In terms of frequency, Table 2 above indicates that the leading medical schools in Malaysia do have a sort of balance in distribution. Universiti Sains Malaysia (USM) has the largest frequency of respondents with 14.4 per cent, followed by Universiti Kebangsaan Malaysia (UKM) with 13.7 per cent. Malaysian schools adopting the United Kingdom and Indian curricula have 13.1 per cent and 12.6 per cent respectively. Such UK curricula include those of Dublin, Ireland and Sheffield, Britain. The Indian curriculum is basically that of Manipal medical school. With almost equal representation with the UK and Indian curricula adopting Malaysian schools is the frequency for Universiti of Malaya (UM) which has 12.4 per cent respondents. The distribution above which, though in aggregate represent about 66 per cent of total respondents is nonetheless well distributed to avoid undue influence on the quality of analysis.

Development of the questionnaire

The questionnaire covered several key areas regarding the housemanship training of a medical officer: preparedness for hospital practice, aspirations for a medical career, and job satisfaction. Respondents were asked to indicate their response using a 5-

point Likert scale. The dimensions measured by the questionnaire were derived from the research model provided by the Institute of Health Management on the pre-employment training of medical professionals. Table 2 below shows the reliability, as well as the sources of the research instruments used in the study.

Table 2. Scale development, source and reliability

Construct	Scale/Source	Reliability	CFA Results
Preparedness for Independent Practice	Australian study (Hill <i>et al.</i> 1998), Paolo and Bonaminio (2003)	>0.80	$\chi^2/df = 4.750$; CFI = .960 and RMSEA = .079
Aspiration for medical career	Strength of Motivation for Medical School (SMMS) questionnaire.	>0.80	$\chi^2/df = 3.099$; CFI = .989 P= 0.15, and RMSEA = .059
Satisfaction with internship program	Survey on Career Preferences and Experiences of Doctors Qualifying in 2000, conducted by Goldacre <i>et al.</i> (2003).	>0.80	$\chi^2/df = 3.274$; CFI = .994 P= 0.038, and RMSEA = .061

Source: Authors' computation

Statistical Tool of Analysis

Structural Equation Modeling (SEM) is used to analyse the data for this study. SEM is a multivariate technique used to analyze hypothesized relationship specified on theoretical or empirical evidences, and transformed into path diagrams (Mueller and Hancock, 2008). As stated in Adewale (2010), SEM's graphical features not only allow for the analyses of latent factors just like in the regression analysis but also permit modification of theoretical models to capture varying interrelationships (Hair, et al, 2006). The choice of SEM in this research, therefore, stemmed from its relevance to accommodating the multiple latent constructs.¹ Moreover, following Adewale (2010), SEM's focus on theoretical explanation rather than prediction, albeit it also captures the latter, suited well the objectives of this study.

The data was divided into two. As suggested by Hsu (2010), the first part was used to estimate the measurement model, while the other part was used for the structural model. In some instances, a summated scale was used to arrive at the indicator variables. Following Adewale (2010), a partial aggregation method was used to arrive at the summated scales.²

¹ Each latent construct is represented by several measured variables as used in this study, thereby, permitting the measurement of latent constructs and inclusion of measurement errors for each indicator (Blunch, 2008)

² Items related to a latent construct was subjected to an exploratory factor analysis. The average score of the items that have significant factor loadings was used to represent respective construct as an indicator in both the measurement and structural models.

RESULTS

Measurement Model

We used the SEM software SPSS AMOS 18 to perform a confirmatory factor analysis, CFA. Data so analysed was based on responses from 607³ medical interns attending medical schools in Malaysia as April 30, 2008. Given the large sample size and the mild deviation from normal distribution of the data, maximum likelihood estimation was chosen. The data was obtained from four different scales to capture three latent constructs viz. Perceived preparedness for independent practice, aspiration for a medical career, and satisfaction with internship conditions.

A review of the measurement model based on the various criteria in SEM shows that there are no offending estimates⁴ and that the model fits well. The earrings⁵ showing correlation between the measurement errors for coping and ethic skills, as suggested by the modification indices is also justified. This is because it is likely that interns may cope quite well with challenges to the extent that ethics of their profession demands so.

The model was evaluated by three fit measures: a) the chi-square, b) the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) as per Meyers et al. (2006) and Mueller and Hancock (2008). Results of all three fit indexes support the proposed model. The chi-square had a value of 503.514 (130, N=302), $p=0.000$, indicating a statistical significance. Model fit based on chi-square in SEM should not be statistically significant in order to indicate a good fit. However, given that the chi-square is highly susceptible to sample sizes, Mueller and Hancock (2008), suggested the normed chi-square (CMIN) should be used instead.⁶ With a CMIN value of 3.873, this is within the maximum point of 5.0 indicating a fit of the measurement model. Other fit indices are the CFI =0.923, and RMSEA =0.069.

Table 3 Results of Confirmatory Factor Analysis

Model	χ^2/DF	CFI	RMSEA
Cut-off point	< 5	>.90	<.08
CFA of Perceived Preparedness	4.750	0.960	0.079
CFA Aspiration for medical career (Motiv)	3.099	0.989	0.0559
CFA of Satisfaction with Internship conditions (satis)	3.274	0.994	0.061

³ A total of 1,213 usable questionnaires were collected. However, as suggested by Hsu (2010), the data was divided into two with each part used for the CFA and the structural model respectively.

⁴ A direct path coefficient or regression coefficient with a value greater than 1.00. This is considered unacceptable in an SEM analysis.

⁵ Earring is a double-headed arrow showing the correlated error terms. Although, a violation of multivariate assumptions, it is needed for model fit as suggested by the modification indices in an SEM output (Byrne, 1998).

⁶ A normed chi-square is denoted by χ^2/df . That is, chi-square value divided by degrees of freedom. It is a goodness of fit (GOF) measure in SEM. According to Hair et al. (2006:748), generally, $\chi^2:df$ ratios on the order of 3:1 or less are associated with better fitting models except when sample size is greater than 750.

CFA of all variables	3.873	0.923	0.069
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Structural Model

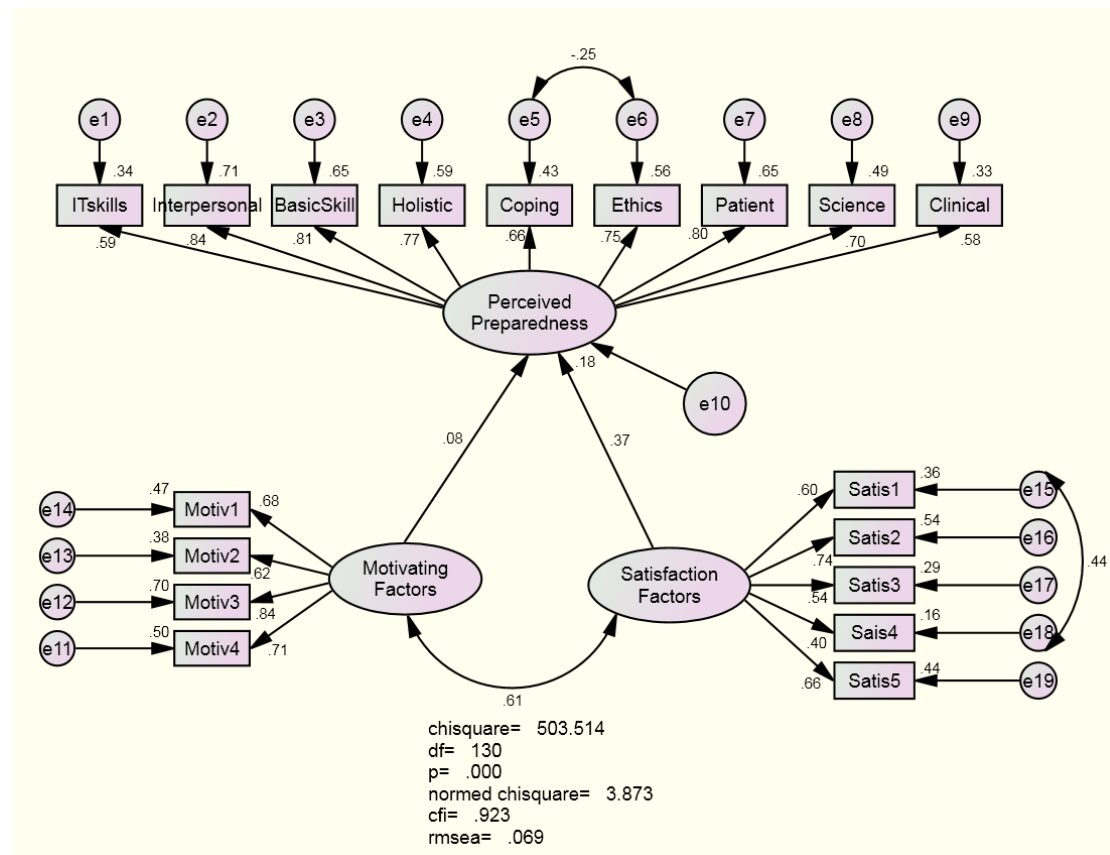


Figure 2 Full Fledged Structural Model.

Analysis of the Structural Model

The hypothesized model in Figure 2 above was evaluated using AMOS version 18.0 based on the following indexes: the chi-square test, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). In addition, the path coefficients were assessed for statistical significance at $p < .05$.

As indicated in Figure 2 above, the chi-square test was significant, χ^2 (503.514, $N=606$) = 130, $p = 0.000$,⁷ nonetheless, the results yielded acceptably high goodness-of-fit indexes. This indicated that the hypothesized model fits the observed data well. This was established with a normed chi-square (CMIN) value of 3.873 which is well below the value of 5 often indicated as the benchmark in SEM literature. The CFI also yielded an impressive index of 0.923, whereas the RMSEA value of 0.069 is below the 0.08 cut-off point. These indicate a good fit of the model. However, only one of the two path coefficients demonstrated both statistical significance ($p < .05$) and practical significance (standardized $\beta > .2$). That is, the path

⁷ This indicates a bad fit. In SEM, Chi square test non-significance is expected, i.e., $p > .05$. However, Mueller and Hancock (2008) noting the susceptibility of chi-square to sample size, recommended the use of the CMIN instead.

from satisfaction to preparedness for independent practice. The other path from aspiration for medical practice to preparedness for independent medical practice was not significant. Table 4 below shows the result of the structural model.

Table 4. Results of the structural model

Hypotheses	Causal Path	Estimate	Standard Error	t-Value	P	Results
H1	Satis → Preparedness	.08	.0036	1,311	0.190	Not Supported
H2	Motiv → Preparedness	.37	.071	5.113	***	Supported

Source: Authors' computation

DISCUSSION

The first research question on the indicators of preparedness for independent medical practice was answered based on the measurement model output. All the indicators have factor loadings higher than the 0.5 threshold mentioned in most SEM literature. Moreover, as indicated in the table 5 below, all the indicators have critical ratios greater than 1,96, therefore, making them statistically significant.

Regression Weights: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
Perceived_Preparedness	<--- Motivating_Factors	.047	.036	1.311	.190	
Perceived_Preparedness	<--- Satisfaction_Factors	.364	.071	5.113	***	
ITskills	<--- Perceived_Preparedness	1.000				
Interpersonal	<--- Perceived_Preparedness	1.241	.080	15.436	***	
BasicSkill	<--- Perceived_Preparedness	1.029	.068	15.055	***	
Holistic	<--- Perceived_Preparedness	1.015	.070	14.542	***	
Coping	<--- Perceived_Preparedness	1.159	.089	13.067	***	
Ethics	<--- Perceived_Preparedness	1.162	.081	14.281	***	
Patient	<--- Perceived_Preparedness	1.174	.078	15.003	***	
Science	<--- Perceived_Preparedness	.993	.072	13.738	***	
Clinical	<--- Perceived_Preparedness	.985	.083	11.930	***	
Motiv4	<--- Motivating_Factors	1.000				
Motiv3	<--- Motivating_Factors	1.278	.075	16.957	***	
Motiv2	<--- Motivating_Factors	.983	.073	13.501	***	
Motiv1	<--- Motivating_Factors	.997	.067	14.841	***	
Satis1	<--- Satisfaction_Factors	1.000				
Satis2	<--- Satisfaction_Factors	1.349	.109	12.331	***	
Satis3	<--- Satisfaction_Factors	1.276	.125	10.224	***	
Sais4	<--- Satisfaction_Factors	.651	.063	10.295	***	
Satis5	<--- Satisfaction_Factors	1.535	.131	11.745	***	

Source: Authors' computation

Without being prejudicial to the relevance of other indicators of preparedness for medical practice, interpersonal, basic and patient management skills had the highest factor loadings in that order. From figure 2 above, it should be observed that the indicator with highest factor loading is interpersonal skill. In this study, such skill relates to how physicians relate or communicate with their patients or family members. The relative importance of such skill is well captured by Janicik *et al.*

(2007). They noted that the physicians need to demonstrate communicative competence to deal with difficult patients like alcoholics, patients with terminal diseases, patients from different cultures and religion. This is even more important in worst scenarios such as announcing the demise of a patient to his relatives. This finding also confirms Alexander (2007) who argue that the interns are expected to demonstrate interpersonal and communication skills in a very scholarly manner (listening, non-verbal, explanatory, writing etc). This is most important in order to create a therapeutic and ethically sound relationship with patients and their families, and team members.

In relative terms, the nest important indicator of preparedness for medical practice as per the model in figure 2 above is basic medical skills. The relative importance of this skill perhaps explains the long years of medical training and the changing trens in medical education curriculum towards problem based learning. According to Alexander (2007) such skills ideally should reflect housemen's ability to apply knowledge they had acquired from their graduate programmes to identify, diagnose and analyse medical presentations with relative ease. The strong factor loading of this skill in the present study is consistent with Marple (2007:1219) who stated that "residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (eg, epidemiological and social-behavioural) sciences and the application of this knowledge to patient care." Perhaps, this offers a plausible reason why supervisors accentuate on their interns' basic medical knowledge as an indicator of competence albeit at varying degrees reflecting specialization requirements.

Patient management had the third highest factor loading. This perhaps underscores its relative relevance. Showing adequate and timely empathy towards a patient's plight is an important attribute of a good doctor (Woolfe *et al.*, 2007). This is because it has a positive link to the outcome of treatments in patients. According to Janicik *et al.* (2007), housemen are faced with the herculean task of attending to patients who vary in their demographical attributes and medical presentations. When this archetypical challenges exist in a multicultural and multi-religious nation like Malaysia, it goes without saying that the interns need to demonstrate a blend of adequate diagnostic acumen and competence, as well as a refined sense of humanity.

In terms of the motivating factors, items related to support from the medical supervisors and other medical and auxiliary staff had the highest loading. This is followed by items related to the working environment. Items related to remuneration had the lowest loading and was only retained in the model for two reasons. That is, the fact that its inclusion does not affect model fit, and that it is always an issue in the relation between the interns and management of medical schools.

In terms of the path coefficients, the link between satisfaction and preparedness was statistically significant. This is consistent with empirical findings that the extent to which the interns are satisfied with their housemanship conditions, the more they can internalize and become a good doctor. This finding is consistent with those of Gaba & Howard (2002) and Goldacre et al. (2003). They noted that satisfaction with working conditions have a positive impact on learning and knowledge retention of medical interns during their independent practice. However, with a path coefficient of 0.08, the link between aspiration for medical practice and preparedness for independent practice was not statistically significant. The implication may be that the interns'

intention to pursue a career in medicine is influenced by other P-factors other than personal interest. Such other P-factors include: prestige, pay, parental influence, peer group pressure, and public image. In general, the squared multiple correlation of 0.18 is apparently small. It is likely that the small variation in the dependent variable by changes in the independent variables may be due to the non-significance of the aspiration variable.

CONCLUSION

The main objective of this study was to assess the influence of aspiration for medical career and satisfaction with the housemanship conditions on the perceived preparedness of Malaysian medical interns for independent practice. Based on the discussion of findings, factors those proxies for such preparedness are all statistically significant as per the responses of the interns in the study sample. As such, in isolation, it may be concluded that interns perceived themselves as being prepared for their post-medical school career challenges. Notwithstanding, the three most significant indicators are the interpersonal, basic, and patient management skills.

The interns are generally satisfied with their internship program conditions. Although, issues like being overworked, and remuneration related issues have very low factor loadings, the statistical significance of the path coefficient between satisfaction and perceived preparedness for medical practice indicate otherwise. Furthermore, a notable conclusion is that support from supervisors and other medical personnel give the strongest motivation to the interns in the sample.

A result that was rather unexpected is the statistical insignificance of the path between aspiration for medical practice and perceived preparedness for independent medical practices. As such, a plausible conclusion may be that physicians may not necessarily have to be motivated to pursue a career in medicine for them to do well in independent practice. However, against the backdrop of the fact that the medical profession requires a blend of the attributes of an applied scientist and a medical humanist, the relative importance of aspiration cannot be discountenanced.

Finally, the findings in this study and the conclusion reached, therefore, may be subjected to further studies. For instance, the authors are not claiming this is the only model that can be tested using the same set of data. Also, quite apparently, other factors exist that influence the preparedness of medical practice. Moreover, the invariance analysis of this study along demographic divides may indicate how well the model fits say between male and female interns, or across curricula.

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Appendix 1

List of Training Hospitals Approved by the Medical Qualifying Board for
Housemanship Training as of 31st April 2008

	Hospitals	Maximum Numbers of Housemen Allocated
1	Hospital Alor Setar, Kedah	71
2	Hospital Ipoh, Perak	95
3	Hospital Kajang	37
4	Hospital Kangar	47
5	Hospital Kota Bharu	80
6	Hospital Kuala Lumpur	179
7	Hospital Kuala Pilah	40
8	Hospital Kuala Terengganu	76
9	Hospital Melaka	78
10	Hospital Muar	52
11	Hospital Putrajaya	31
12	Hospital Queen Elizabeth	80
13	Hospital Seberang Jaya	39
14	Hospital Selayang	53
15	Hospital Seremban	82
16	Hospital Seri Manjung	35
17	Hospital Sibu	51
18	Hospital Sultanah Aminah, Johor Bahru	98
19	Hospital Sungai Petani	49
20	Hospital Taiping	58
21	Hospital Tawau	25
22	Hospital Teluk Intan	55
23	Hospital Temerloh	38
24	Hospital Tengku Ampuan Afzan, Pahang	68
25	Hospital Tengku Ampuan Rahimah Klang	88
26	Hospital Pulau Pinang	90
27	Hospital Umum Sarawak	57
28	Hospital Universiti Kebangsaan Malaysia	72
29	Hospital Universiti Sains Malaysia	63
30	Pusat Perubatan Universiti Malaya	82
31	Hospital Batu Pahat	37
32	Hospital Serdang	40
	TOTAL	2046

(Source: <http://mmc.gov.my/v1/docs/LIST%20OF%20TRAINING.PDF>)

