

The Satisfaction and Perception of Contract Provisionally Registered Pharmacists in Kedah and Perlis towards their Internship Training

Lim Tze Yee¹, Muhammad Amin bin Abd Rahim², Nurfarhin binti Mohammed Parwaiz¹,
Nor Hafizah binti Syed Jamil³, Nur Akma Asyifa binti Othman¹, Mohd Syahmi Wafiy bin Mukhtar¹,
Tan Yee Koon¹, Gillian Shih Yen Phua¹

¹ Hospital Sultanah Bahiyah, Kedah, Ministry of Health Malaysia

² Klinik Kesihatan Langgar, Kedah, Ministry of Health Malaysia

³ Klinik Kesihatan Kuala Kedah, Kedah, Ministry of Health Malaysia

Abstract

Background: Graduate pharmacists must undergo an internship training programme in order to practice in Malaysia. The current programme was modified in 2013 to include the private sector and again in 2017 to include those hired on a contractual basis. This internship programme is also known as the Provisionally Registered Pharmacist (PRP) training programme.

Objective: To measure the job satisfactions of interns under the current internship programme and evaluate their perceptions.

Method: A voluntary cross-sectional survey was conducted using a self-administered questionnaire amongst interns practicing in both the government and private sectors in the states of Kedah and Perlis, Malaysia.

Results: The response rate was 77.0%. Most respondents (91.3%) felt that the one-year internship duration is appropriate. In terms of logbooks, 37.6% of respondents found that the logbooks were too complicated, and 43.2% felt that the logbook targets were set too high. The mean scores on job satisfaction, based on a five-point Likert scale, were above average (3.51 ± 0.51). Some of the factors which influenced job satisfaction were the perception of fairness in the workplace, perceived self-competence at the end of the training duration, satisfaction towards the salary received, as well as the placement of interns in their workplace of choice.

Conclusion: There is moderate level of job satisfaction among the respondents. Generally, the internship programme meets the PRPs' expectations in terms of its duration, training facility and logbook appropriateness.

Keywords: perception, job satisfaction, pharmacist, internship, training

NMRR ID: NMRR-17-2163-37147

Corresponding author:

Lim Tze Yee

Department of Pharmacy, Hospital Sultanah Bahiyah, KM6, Jalan Langgar, Bandar Alor Setar, 05460 Alor Setar, Kedah

Email: limtzeyee@moh.gov.my

Introduction

Pharmacist registration in Malaysia requires that pharmacy graduates enroll in the Pharmacist Internship Programme introduced in 2004(1). The initial internship programme includes a one-year internship training period in approved public hospitals and a three-year compulsory service in government health facilities. However in the year 2011, this internship programme is shortened to one year internship and one year compulsory service(2). This programme is widely known as the Provisionally Registered Pharmacist (PRP) Training Programme while graduates undertaking the internship programme are recognized as Provisionally Registered Pharmacist (PRP)(3). Through this programme, they are exposed to various pharmacy services within government health facilities, and thus gain hands-on experience(4). The PRPs will then be posted to various public health facilities for another year before receiving their full-fledge registration.

The Pharmacy Board of Malaysia (PBM) decided to include the non-public sector such as private hospitals and retail pharmacies as well as the pharmacy industry into their list of approved training sites in

2013(3). The decision was made to curb the over-congestion of public training hospitals. Under this liberalisation move, the private sector have additional requirements to be fulfilled before it can be acknowledged as a PRP training centre(3). For example, a retail pharmacist needs to be registered with the PBM and have at least four years of practicing experience. They are also required to undergo the PRP-Preceptor Training Module run by the Pharmacy Enforcement Branch.

Another measure was implemented in 2017 to address the worsening backlog situation where successful PRPs failed to secure job postings after completing their training. The pharmacy graduates were then offered posts on a contractual basis in both their PRP and compulsory service period(5). Permanent positions will only be appointed based on merit and available vacancies. These changes have managed to ease the overcrowding of pharmacy graduates.

Amidst all the rapid development in pharmacist registration, it is also pertinent to ensure that the quality and the requirements of the internship programme meets the expectations of all parties, since this affects the future quality of pharmacy services in Malaysia. The changes in the registration policy proved equally challenging for both the teaching institutions and the pharmacy graduates. Pharmacy teaching institutions were tasked to adopt new teaching modules to ensure that graduates are prepared for both the government and private pharmacy sectors(6). Pharmacy graduates on the other hand, have to brace themselves for the choice they have to make before they were given a chance to train in either the government or private pharmacy sector. Hence, there is a need to study the perceptions of pharmacy graduates towards these changes in the PRP training programme.

One of the important key factors to the quality of the PRP training programme would be based on quality assurance studies. Studies showed that multiple factors affect job satisfaction. Factors such as pay, the work itself, the working environment and recognition are often the major determinants identified in these studies(7,8). A study in the United States found that job satisfaction were affected by age, income and practicing site(9) while another study in Australia added two other factors, namely workload and ability to utilize pharmacy skills(10). A more recent study in Malaysia also discovered the same results(11). Young *et al*(12) found that pharmacy students specifically identified that their preceptors should be role models and should show interest in teaching. These assurance studies are valuable as they provide insights for PRP training facilitators to improve and fine-tune the programme.

To date, there are three early researches on the job satisfaction of PRP towards their training programme in Malaysia. In the northern region of Malaysia, Phua *et al*(13) identified perceived fairness at work, preceptor competency, ethnicity and place of work to affect PRP job satisfaction significantly. Abida *et al*(14) expanded on this research to include PRPs in the whole of Malaysia but had limited their respondents to PRP practicing in public hospitals only. They further narrowed down the factors affecting job satisfaction to perceived fairness at work and preceptor competency. A recent study has echoed these findings where work recognition, training quality and support as well as great career planning played major roles in affecting job satisfaction(15).

As there is no research on PRP job satisfaction of the PRPs post changes to the registration policy, this pilot study aims to assess the current job satisfaction of contract PRPs to evaluate the effect of legislation change to the internship programme from 2014 till now. This study also aims to identify the factors affecting job satisfaction and in turn, evaluate the effect of registration policy changes.

Methods

Instrument

This study was cross-sectional using a validated questionnaire which consists of four sections (Appendix A). The questionnaire itself was adopted from Phua *et al.* and was granted approval of use by the original authors. As this research aimed to investigate and compare results with the previous study, the questionnaire was slightly modified in the first section (demographics) to capture the range of salary the PRPs were receiving at their workplace.

The first section of the questionnaire is a demographic tool to collect socio-demographic information of the correspondents, such as age, gender and marital status. It also captures data on the PRPs' practicing and previous learning institution, as well as the date of PRP training commencement. Questions such as whether the specific institution was their workplace of choice were in a 'Yes/No' format. Although the questionnaire inquired about the provincial state of the PRP workplace and their learning institutions, the PRPs were not required to name the particular institutions.

The second section measures job satisfaction, using the Brayfield & Rothe(16) job satisfaction scale. The third section investigates the PRP's perception of their training. The responses in these two sections were marked on a five-point Likert Scale. Similar to Phua *et al*(13), the third section of the questionnaire was further divided into three subsections; preceptor competence from Sonthisombat(17), self-competence after training adopted from Mak *et al*(18), and also perceived fairness in the workplace. A question on whether the teaching institutions have properly readied the PRPs for future job posting was also included in the questionnaire.

Shortly after the liberalisation of the PRP training programme, the PBM published different logbooks for PRPs working in different training settings. Due to the difference in the type of logbooks, this study opted to omit the investigation on the perception of the different subsections of the logbook and will only look at the general perception of the logbooks in its entirety.

Population and data collection

The targeted population of this study was all contract PRPs undergoing the training programme in both public and private sectors.

With help from the PBM, a list of potential candidates practicing in public health institutions was obtained. The list of potential candidates training in the private sector was obtained by the researchers personally contacting preceptors listed on the Pharmacy Service Division (PSD) website. Due to the vast number of preceptors registered with the PSD and limited number of researchers available, this study has limited itself to only include contract PRPs currently practicing in Kedah and Perlis. Sampling calculation was not employed as the study aimed to include all contract PRPs in both states.

The exclusion criterion for this study was PRPs who had trained for less than three months. The three-month cut-off was specifically chosen as it was only a quarter of the planned one-year training duration; the PRPs' responses at this stage may be inaccurate during this period due to short duration of training.

Data collection was conducted from June 2018 to September 2018. To achieve respondents' anonymity, each questionnaire was assigned a unique serial number before they were sent out. The questionnaires were distributed to the potential candidates via their designated liaison officer. Participation in this study was on a voluntary basis, hence those who did not submit their response within the data collection period were deemed opting out of this study. The completed questionnaires were collected and sent back to the investigators via registered post in sealed envelopes.

Data Analysis

Data were analysed using the Statistical Package for Social Sciences (SPSS) version 23.0. Questionnaires with missing data on place of training and date of training commencement were excluded, as were those with more than ten percent missing responses in the second, third and fourth sections. The item mean was used as a substitute in those with less than ten percent missing data.

Demographical data were analysed using descriptive statistics and expressed in frequencies and percentages. The Likert scale results were analysed using means and standard deviation. Univariate analyses (independent t-test, ANOVA, Pearson correlation) were employed to determine the factors which were significant in the job satisfaction construct. Multi-way ANCOVA were used to confirm the results. Statistical significance was set at 0.05.

Ethical approval was obtained from the Malaysian Research Ethics Committee, Ministry of Health Malaysia (NMRR-17-2163-37147).

Results

A total of 165 questionnaires were sent to 10 training hospitals, 9 health clinics and 8 retail pharmacies (Appendix B). Out of these, 127 questionnaires were returned, giving a response rate of 77%. However, only 126 questionnaires were analysed; one was excluded due to incomplete information. The demographics of respondents are shown in Table 1.

Table 2 shows the overall training experience. Only 11 (8.7%) respondents felt that the training period was either "too long" or "too short". More than one third of respondents (37.6%) felt that the training log books were too complicated for them, while nearly half (43.2%) thought that the logbook targets were too high. A majority of the respondents (78%) felt that they were sent to training sites that were adequately equipped for internship training.

The overall job satisfaction of the respondents was a mean of 3.51±0.51. The mean score of the perception towards self-competence after a year of training was 3.81±0.46, while the perception towards preceptor's competence was 3.90±0.55. Perceived fairness in the workplace had a mean score of 3.30±0.70 while the overall median score for university lesson adequacy is 4.00±1.00 (Table 3).

Table 1: Demographics of PRPs from Kedah and Perlis (n=126)

Variable	n (%)	Median (IQR)
Age		25 (1)
Gender		
Male	27 (21.4)	
Female	99 (78.6)	
Ethnicity*		
Malay	93 (73.8)	
Chinese	25 (19.8)	
Indian	7 (5.6)	
Siamese	1 (0.8)	
Marital status		
Single	116 (92.1)	
Married	10 (7.9)	
Graduated from		
Public university	77 (61.1)	
Private/ Overseas university	49 (38.9)	
Workplace of choice		
Yes	115 (91.3)	
No	11 (8.7)	
Training facility type		
Government hospital	120 (95.2)	
Government clinics	4 (3.2)	
Retail pharmacy	2 (1.6)	

* One respondent (Siamese) was excluded from statistical analysis of job satisfaction based on ethnicity as no statistical analysis can be done for 1 subject. The respondent was included into the statistical analysis of job satisfaction based on other variables.

Table 2: Perception of the overall training experience

Item	n (%)
The total training period of 1 year (n=126)	
Too short	7 (5.6)
Just nice	115 (91.3)
Too long	4 (3.1)
Perception towards logbooks (n=125)	
Too simple	0 (0)
Just nice	78 (62.4)
Too complicated	47 (37.6)
The target sets by logbook (n=125)	
Too low	0 (0)
Just nice	71 (56.8)
Too high	54 (43.2)
The facilities available at the place of training (n=123)	
Not adequate	27 (22)
Adequate	96 (78)

Table 3: Overall job satisfaction perceptions of contract PRP towards their training

Domain	Mean (SD)
Job satisfaction	3.51 (0.51)
Perceived fairness in the workplace	3.30 (0.70)
Perception on self-competence after 1 year of training	3.81 (0.46)
Perception towards preceptors' competence	3.90 (0.55)
University lesson adequacy	4 (1) ¥
Salary satisfaction	3.94 (0.64)

¥ median score (IQR)

Table 4: Univariate analysis of factors affecting job satisfaction

Variable	n	Mean (SD)	Correlation (r)	F statistic (df)	P-value
Gender					0.684 [§]
Male	27	3.55 (0.50)			
Female	99	3.50 (0.51)			
Ethnicity					0.510 [¶]
Malay	93	3.49 (0.51)			
Chinese	25	3.54 (0.54)			
Indian	7	3.71 (0.38)			
Marital status					0.391 [§]
Single	116	3.52 (0.51)			
Married	10	3.38 (0.48)			
Graduated from					0.092 [§]
Public university	77	3.45 (0.48)			
Private/Oversea university	49	3.60 (0.54)			
Workplace of choice					0.005 [§]
Yes	115	3.55 (0.51)			
No	11	3.11 (0.24)			
Training facility type				3.45 (2, 123)	0.035 [¶]
Government hospital	120	3.49 (0.48)			0.083 ^Ω
Government clinics	4	4.05 (0.75)			0.452 ^Ω
Retail pharmacy	2	4.00 (1.13)			1.000 ^Ω
University lesson adequacy				2.81 (4, 121)	0.029 [¶]
Strongly Agree	12	3.87 (0.62)			0.438 ^Φ
Agree	57	3.55 (0.49)			0.163 ^Φ
Neutral	38	3.47 (0.51)			0.165 ^Φ
Disagree	13	3.28 (0.44)			0.034 ^Φ
Strongly Disagree	6	3.27 (0.21)			0.771 ^Φ
Age	126		0.011		0.906 ^Ψ
Perceived fairness in the workplace	126		0.350		<0.001 ^Ψ
Perceived self-competence after 1-year training	126		0.396		<0.001 ^Ψ
Perceived preceptors' competence	126		0.401		<0.001 ^Ψ
Salary satisfaction	126		0.408		<0.001 ^Ψ

§ independent T test

¶ One-way Anova

Ω Post-hoc test using Bonferroni correction, alpha= 0.05 or 1-[1-(0.05/3)³]

Φ Post hoc test using Bonferroni correction, alpha= 0.049 or 1-[1-(0.05/5)⁵]

Ψ Spearman's Rank Order

Table 5: Multivariate analysis of factors affecting job satisfaction

Variable	F-stat	P-value ^Δ
Workplace of choice	11.178	0.001
Training facility type	0.358	0.7
Perceived fairness in the workplace	6.426	0.013
Perception on self-competence after 1 year of training	7.753	0.006
Perception towards preceptors' competence	0.258	0.612
University lesson adequacy	0.211	0.647
Salary satisfaction	5.838	0.017

Δ Model = Two-way ANCOVA ($R^2 = 0.404$)

After subjecting the job satisfaction scores to univariate analysis, the factors that significantly affect job satisfactions were place of choice, training facilities, university lesson adequacy, salary satisfaction, perceived fairness in the workplace, perceived self-competency after training completion and perception towards preceptor's competence (Table 4). Interestingly, the perception of university lesson adequacy had a significant effect on job satisfaction, $F=(4,121)$ 2.81, $p=0.029$. Respondents who felt that university lessons were inadequate had lower job satisfaction scores when compared with other respondents using the Bonferroni post-hoc test ($p=0.034$).

However, multivariable analysis on these factors showed that factors which significantly determined PRP job satisfaction levels were a combination of place of choice, perceived self-competence after training completion, perceived fairness at the workplace and salary satisfaction (Table 5).

Discussion

The PRPs in the current training system were moderately satisfied, with a mean job satisfaction score of 3.51 ± 0.51 . This is comparable to the job satisfaction levels before the aforementioned changes were made to the PRP training system where Phua *et al.* (13) and Adiba *et al.* (14) both found similar mean job satisfaction scores of 3.27 ± 0.54 and 3.32 ± 0.54 respectively.

Similar to previous studies, factors that significantly affect job satisfaction in this study were perceived fairness in the workplace as well as perceived self-competency after one year of PRP training (13,14). In addition, this study found that workplaces of choice and salary satisfaction also contributed to job satisfaction levels during PRP training which correlates with Chang *et al.* (15).

There is a positive correlation between perceived fairness at the workplace and job satisfaction, which was consistent with various other studies conducted (13–15,19). It is worth noting that fairness measurements in this study leaned towards distributive justice. Distributive justice is usually defined as the perception of equality in distributing workload and recognition (19). Respondents in this study felt that fairness at the workplace were moderately just (mean= 3.30 ± 0.7), as compared to perceived fairness before the policy change (mean= 2.90 ± 0.7 and 3.04 ± 0.74 in Phua *et al.* (13) and Abida *et al.* (14) respectively). This slightly improved level in the perception of fairness may stem from increased numbers of PRP intake and proper training logbook after the change in policy and thus, reduced the incidence of receiving unwanted duties or receiving no work recognition. Ultimately, it would seem that the policy change resulted in increased PRP job satisfaction ($r= 0.350$, $p<0.001$).

High job satisfaction oftentimes indicate high self-competence in undertaking a work task (20,21). In this study, self-competence was defined as the PRPs' self-assessment of their ability to complete tasks such as medication dispensing, providing patient care and medicine information, as well as working as part of a multidisciplinary team. Perceived self-competence of respondents in this study was rated at 3.81 ± 0.46 , which was similar to previous studies (mean 3.65 ± 0.53 and 3.70 ± 0.57 in Phua *et al.* (13) and Abida *et al.* (14) respectively). It showed a positive correlation with job satisfaction ($r= 0.396$, $p<0.001$). This coincided with the majority of respondents (91.3%) who opined that the one-year training duration was appropriate. Hence, we could postulate that the year of training period was sufficient to prepare a PRP to confidently take up the responsibilities of a full-fledge pharmacist.

In many studies, it was shown that perceived self-competence and fairness at work were linked to perceived preceptor (manager) competence (12–14,19,22). The respondents felt that their preceptors were competent in guiding their trainees (mean 3.90 ± 0.55) This study hypothesised that preceptors' capabilities

in handling interns such as through their work experience, teaching abilities, being a role model and providing opportunities to discuss and exchange opinions would be the determining factors in the respondents' job satisfaction. However, this was not observed. A possible reason behind this finding may be partly due to the merit selection system recently implemented to select full-time pharmacists (23). Current PRPs compete amongst themselves for permanent job positions; hence this policy had inadvertently served as a driving force for them to improve their learning and talents, independent of their preceptors' competence. Our study did not investigate this line of inquiry as the current questionnaire lacks in depth items to further explore in that direction.

The training site placement of choice was an unexpected factor found to affect job satisfaction. Both Phua *et al.* (13) and Abida *et al.* (14) did not note that the placement of graduates to their preferred training sites would significantly affect the job satisfaction. In this questionnaire, the preferred training site required a nominal response of "Yes" or "No" only. On further analysis, the mean job satisfaction measured was 3.55 ± 0.51 and 3.11 ± 0.24 for the "Yes" and "No" groups respectively. When all factors determining job satisfaction were cross-checked with each other, the placement of choice was found to be the highest determinant of job satisfaction ($f = 11.178, p = 0.001$)

We reasoned that this phenomenon may have originated from the streamlined graduates' recruitment process, along with the changes in the pharmacist recruitment policy in 2016. Graduates were allowed to pick their preferred training sites from the list of expanded training facilities (23). This step appeared to "declutter" and reduced the training burden on the major training sites. However, graduate applications were dependent on available vacancies at the training sites. There may have been some graduates who were not able to secure their preferred site and the potential disappointment which follows may in turn affect their job satisfaction. Since our respondent number is small ($n=126$) future studies are required to explore this coincidental discovery.

Our study also showed that salary was another major determinant of job satisfaction ($f = 5.838, p = 0.017$). The mean salary satisfaction of our respondents was scored at 3.94 ± 0.64 . In addition, we showed that when the respondents were satisfied with their salary, their job satisfaction was scored at improved levels ($r = 0.408, p < 0.001$). This finding was consistent with Phua *et al.* (13), where the discussion about the cost of living in various cities where the training sites were situated might have played a role in salary satisfaction. Our findings complemented their results in that the demand for increased pay was more likely when there was increased workload. Spearman correlation test between perceived workload towards salary satisfaction shows an *r-value* of 0.898 ($p < 0.001$). Although salary satisfaction was listed as one of the factors affecting job satisfaction, the study did not pursue further into this area. As the relationship between job and salary satisfaction is complex and complicated (24), a more focused study may be required to investigate the factors linking income satisfaction, remuneration and job satisfaction.

A majority of study respondents were practicing in the public sector (government hospitals and health clinics). The disparity between the number of PRPs working in the government (149) and non-government sectors (16) selected for this study were due to the identification process of potential candidates. The list of government PRPs were provided by the PBM with consent. However, PRPs working in the private sector were identified after the investigators personally contacted their preceptors. Some preceptors opted not to allow their PRPs to participate in this study due to unknown reasons. Hence, potential candidates from non-government institutions were far less recruited into the study, leading to the poor response rate (3) in the non-government PRPs. Thus, the comparison of job satisfaction levels of PRPs working in public and non-public setting was not permissible due to insufficient data.

Due to the voluntary nature of this study, any respondents from either public sector or private sector who did not send in their response during the data collection period was treated as not agree to participate in the study. No further actions were taken to increase the response rate. As a consequence, the completed questionnaire returned was a limiting factor as the power of the study may be compromised. It is also possible that the cross-sectional questionnaire method may have produced some level of bias. Intrinsic factors of the respondents such as stress levels, coping capabilities, co-worker relationships to name a few, may have an effect on job satisfaction and these factors were not considered in this study. This study also assumed that all PRPs received the same amount of training in their respective training sites. Therefore, any attempt to apply findings of this study to the general PRP population needs to be considered with caution.

Conclusion

The level of job satisfaction among PRPs working in Kedah and Perlis after the policy change in their training system was moderate (mean= 3.51±0.51 out of possible 5.00). This result is comparable to previously measured satisfaction levels. Factors found to influence job satisfaction were the workplace of choice, perceived fairness at the workplace, salary satisfaction and perceived self-competence upon training completion. Some possible suggestions to improve the level of job satisfaction among the PRPs would be to monitor their work progress from time to time, coupled with guidance on improving their shortcomings and reinforcing their strengths. Further focused studies may be required to explore the full range of possible reasons, intrinsic or extrinsic factors affecting job satisfaction.

Acknowledgement

The authors would like to thank the Director-General of Health Malaysia for permission to publish this paper. We would also like to thank the State Directors of Health of Kedah and Perlis, chief pharmacists of all participating government facilities and preceptors from non-government facilities for their assistance in this study.

Conflict of Interest Statement

This study did not receive any funding from public, commercial or non-profit organisations. The authors declared no conflict of interest.

References

1. Registration of Pharmacist Act 1951 (Revised-1989) [Internet]. 371 Malaysia; 1951. Available from: https://www.pharmacy.gov.my/v2/en/system/files/registration-pharmacists-act-1951-act-371_0.pdf
2. Bahagian Perkhidmatan Farmasi. Panduan liberalisasi latihan provisionally registered pharmacist (PRP) di sektor swasta kepada pemilik premis latihan PRP. 2013;(September):1–12. Available from: <https://www.pharmacy.gov.my/v2/sites/default/files/document-upload/panduan-majikan-lib-prp.pdf>
3. Pharmacy Service Division. Guidelines on Liberalisation of PRP (Provisionally Registered Pharmacist) Training in Liberalisation Premises for Graduates of Pharmacy Degree Programme Recognised by Pharmacy Board Malaysia [Internet]. Kuala Lumpur; 2018. Available from: <https://www.pharmacy.gov.my/v2/sites/default/files/document-upload/guidelines-liberalisation-prp-english-edit-1-jan-2018.pdf>
4. Pharmacy Service Division. Record of Training & Experience for Provisionally Registered Pharmacist (PRP Log Book) [Internet]. 2015. Available from: <http://www.pharmacy.gov.my/v2/en/documents/record-trainingexperience-%0aprovisionally-registered-pharmacist-prp-log-book-clinical-unit.html.%0A>
5. Ministry of Finance. Bajet 2017: Menjamin Perpaduan & Pertumbuhan Ekonomi, Menghemah Perbelanjaan Inklusif, Mensejahtera Kehidupan Rakyat Seluruh. 9 Malaysia; 2016.
6. SuhaimiAM. Pharmacy Graduates' Chronicle in Malaysia: Balancing CGPA and Soft Skills. Asian J Univ Educ [Internet]. 2017;72–7. Available from: http://education.uitm.edu.my/ajue/wp-content/uploads/2018/02/5.-PHARMACY-GRADUATES_-CHRONICLE.pdf
7. SmithPC, KendallLM, HulinCL. The Measurement of Satisfaction in Work and Retirement: A Strategy for the Study of Attitudes [Internet]. Rand McNally; 1969. (Rand McNally psychology series). Available from: <https://books.google.com.my/books?id=sMi-wAEACAAJ>
8. LockeE. The Nature and Causes of Job Satisfaction. Handb Ind Organ Psychol. 1976;31.
9. HardiganP, CarvajalM. Job Satisfaction Among Practicing Pharmacists: A Rasch Analysis. Internet J Allied Heal Sci Pract. 2007;5(4):1–8.
10. LiuCS, WhiteL. Key determinants of hospital pharmacy staff's job satisfaction. Res Soc Adm Pharm [Internet]. 2011;7(1):51–63. Available from: <http://dx.doi.org/10.1016/j.sapharm.2010.02.003>
11. MananMM, AzmiY, LimZ, NeohCF, KhanTM, MingLC. Predictors of job satisfaction amongst pharmacists in Malaysian public hospitals and healthcare clinics. J Pharm Pract Res. 2015;45(4):404–11.
12. YoungS, VosSS, CantrellM, ShawR. Factors associated with students' perception of preceptor excellence. Am J Pharm Educ. 2014;78(3):1–6.
13. PhuaGSY, TeohCJ, KhongLB, BabaB, LimCW, KohWL, et al. The satisfaction and perception of intern pharmacists towards their training in government hospitals in the northern region of Malaysia. Pharm Educ. 2017;17(1):15–23.
14. AbidaAH, FaridahFA, ChanPL, ChokMCF, PhuaGSY, TeohCJ, et al. The satisfaction and perception of

- Provisionally Registered Pharmacists (PRP) towards their internship training in the Ministry of Health, Malaysia facilities: A national survey. *Curr Pharm Teach Learn*. 2018;10(7):854–74.
15. ChangCT, HassaliMA, HssAS, LeeJCY, ChanHK. Perceived motivators, training supports and challenges to career advancement among pharmacists in the Malaysian public healthcare system. *Int J Pharm Pract*. 2019;27(6):555–64.
 16. BrayfieldAH, RotheHF. An index of job satisfaction. *J Appl Psychol*. 1951;35(5):307–11.
 17. SonthisombatP. Pharmacy student and preceptor perceptions of preceptor teaching behaviors. *Am J Pharm Educ*. 2008;72(5).
 18. MakV, MarchG, ClarkA, Gilbert. Australian intern pharmacists’s perceived preparedness for practice, and their expectations and experiences of the internship year and future career intentions. *Integr Pharm Res Pract*. 2013;25.
 19. CarvajalMJ, Popovicil. Gender, age, and pharmacists’ job satisfaction. *Pharm Pract (Granada)*. 2018;16(4):1–11.
 20. YoussefCM, LuthansF. Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *J Manage*. 2007;33(5):774–800.
 21. YakınM, ErdilO. Relationships Between Self-Efficacy and Work Engagement and the Effects on Job Satisfaction: A Survey on Certified Public Accountants. *Procedia - Soc Behav Sci*. 2012;58:370–8.
 22. QureshiMA, AbhamidK. Impact of Supervisor Support on Job Satisfaction: A Moderating role of Fairness Perception. *Int J Acad Res Bus Soc Sci*. 2017;7(3):235–42.
 23. Ministry of Health. Lampiran kepada Surat Pekeliling Ketua Setiausaha Bilangan 4 Tahun 2016 [Internet]. Kuala Lumpur; 2016. Available from: file:///C:/Users/ASUS/Downloads/2. LAMPIRAN A-F-Syarat Pelantikan Kontrak & Tetap, Tanggungjawab Ketua Jabatan dan Tatacara Pelantikan1 (1).pdf
 24. JudgeTA, PiccoloRF, PodsakoffNP, ShawJC, RichBL. The relationship between pay and job satisfaction: A meta-analysis of the literature. *J Vocat Behav [Internet]*. 2010;77(2):157–67. Available from: <http://dx.doi.org/10.1016/j.jvb.2010.04.002>