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# The Effect of the Characteristics of Work and Stress of the Registered Pharmacists in Hospitals on Job Satisfaction: A Case Study on Three Hospitals of Taiwan



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## ABSTRACT

This study aims to research job characteristics, working pressure, and job satisfaction of both hospital and community pharmacy pharmacists. This study attempts to investigate on-the-job pharmacists in three regional hospitals in the area of Tainan through literature review and questionnaire. Concrete research questions include: What is the difference of job characteristics, working stress, and job satisfaction of pharmacists working for different hospitals? Through research, suggestions containing both practices and theories are provided for academic and hospital management to serve as a reference for recruitment design or basis of hospital pharmacists and practical strategical advice for healthcare organization managers.



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## INTRODUCTION

The public is not very clear about the functions of the Department of Pharmacy and the professional roles of the pharmacists mainly because of the incomplete policy of “Separation of Dispensing Practice from Medical Practice” plus the lack of direct communication between the pharmacists and the public in the physician-owned pharmacies. Hence, the professionalism of the pharmacist is invisible. Since most of the pharmacists provide consultations passively and the information of medicinal products is asymmetrical, the interaction between the pharmacist and the public is rather limited (Chen, Lin, Hsin and Wang, 2011). However, safe medication requires the assistance of the medical staff and pharmacists are the immediate persons to consult about medicinal products. The pharmacists can prevent the patients from being hurt by the medication in clinical practice by providing the service of patient counseling (Tarn, Tsia, Wang, Li and Lai, 2016).

Hackman and Oldham (1975) pointed out that "job characteristics" referred to job nature, working environment, payroll and benefits, security, skills, opportunities to career development and learning novel knowledge, feedback, autonomy, and challenges. MacNeil (1981) indicated that working stress is usually caused by the mixed situation where the multiple internal and external variables that the employee is facing interact with personal characteristics. In other words, working stress refers to the phenomenon when the employee is upset about a threat caused by a certain situation. If the threat becomes serious, it may result in occupational burnout (physical and psychological exhaustion). Parker and Decotiliis (1983) believed that working stress referred to a person who was required to act unexpectedly while meeting with certain opportunities, limitations and requirements relevant to critical outcomes or the feeling failed to meet the self-expectations. Fleming, Baum, and Singer (1984) showed that working stress is a conceptualized process comprising the personal awareness and response to stimuli such as dangers and threats. The studies conducted by Siu,

Cheung, and Lui (2015), as well as Lu and Gursoy (2016), showed that working stress was correlated with the inclination towards resignation.

The discussion about job satisfaction initiated from the 1930s where the shortness and turnover rate of labor in the healthcare system was rather serious. The management level in the hospital thereby expected to investigate factors influencing job satisfaction and subsequently address such issues to increase the employee retention rate (Dignani and Toccaceli, 2013). Since job satisfaction refers to the satisfaction level of a person toward the job itself as well as the working environment (Huber *et al.*, 2000), and the core concept of a satisfactory job is to build personal beliefs, the person who has a higher confidence in achieving self-values and job goals will acquire higher job satisfaction. In addition, employees with higher job satisfaction often have higher working performance than those with low job satisfaction (Judge, Thoresen, Bono and Patton, 2001; Ravari, Bazargan, Vanaki, and Mirzaei, 2012). As the turnover rate and retention rate of the pharmacists have become the largest management issues in the hospital, the professional service provided by the hospital pharmacists may vary due to the differences in the working environment. Therefore, this study aimed to compare the correlations between the job characteristics, working stress and job satisfaction of the pharmacists in different types of hospitals.

## **MATERIALS AND METHODS**

### **I. Study Design and Subjects**

This study selected three different types of hospitals in Taiwan, *i.e.* a public hospital, a medical care corporation hospital and a non-profit propriety hospital. Data collection was based on structured questionnaire while hospital pharmacists were the primary respondents of the questionnaires. The questionnaire was formed based on national and international literature review and the hospital managers finalized the questions through expert validity

tests. The questionnaire was released starting in January 2018, and 90 valid copies were returned. The study design was reviewed and approved by the Institutional Review Board (IRB No. 1060810), and all respondents signed the Subject Informed Consent Forms.

## II. Research Tools and Reliability/Validity Tests

This study employed a self-administered questionnaire comprising several domains such as personal properties, job characteristics, working stress and job satisfaction. The five-level Likert scale was adopted to measure the satisfaction of talent attractiveness, *i.e.* 5 points for strongly agree; 4 points for agreeing; 3 points for neither agree nor disagree; 2 points for disagreeing and 1 point for strongly disagree. After data collection from the returned questionnaires, the items from individual domains and the values of Cronbach's  $\alpha$  were as follows: 11 items in job characteristics domain with  $\alpha = 0.888$ ; 10 items in working stress domain with  $\alpha = 0.828$ ; 13 items in job satisfaction domain with  $\alpha = 0.903$ . The overall reliability (Cronbach's  $\alpha$ ) of the evidence-based data was 0.884, and all AVE values were greater than 0.5, suggesting that the evidence-based data in this study showed certain reliability (as shown in Table 1).

## III. Statistical Analysis

The package software version SPSS for Windows 18.0 was used for data collection and analysis. The significance level was set at  $p < 0.05$ . Descriptive statistics and screening examinations were utilized to exclude errors and perform statistical analyses. Regression analysis was adopted for inferential statistics to investigate the correlation between the job characteristics, working stress and job satisfaction of the pharmacists in three hospitals.

## RESULTS

### I. Sample Characteristics

Among valid return questionnaires, 41 respondents were males (45.5%) and 49 were females (86.1%). Most of the respondents aged less than 30 years (n=33, 36.6%), followed by those aged between 31~40 years (n=29, 32.2%) and those aged above 41 years (n=28, 31.1%). For educational background, most of the respondents graduated from universities (n=73, 81.1%) and the married respondents were 56 persons (62.2%). In addition, most of the respondents had 1~3 years of work experience (n=28, 31.1%), followed by those with more than 10 years of work experience (n=27, 30%). The statistical results of different items such as sex ( $p < 0.05$ ), age ( $p < 0.1$ ), educational background ( $p = 0.186$ ), marital status ( $p = 0.742$ ) and working experience ( $p < 0.001$ ) using Chi-square test are shown in Table 2.

### II. The Analysis of Job Characteristics, Working Stress, and Job Satisfaction

The study further analyzed the correlations between job characteristics, working stress and job satisfaction. Since collinearity occurred during the regression analysis on control variables and independent variables, variables with a variance inflation factor (VIF)  $< 10$  and condition index (CI)  $< 10$  were screened in advance to avoid collinearity. The study results are shown as follows: in the Public Hospital regression model, the F statistics was 1.143 ( $p > 0.01$ ); in the Medical Care Corporation Hospital regression model, the F statistics was 2.944 ( $p < 0.05$ ); in the Non-Profit Proprietary Hospital regression model, the F statistics was 2.55 ( $p < 0.001$ ) (See Table 3). From the regression models shown in Table 3, we concluded that work experience (length of service) and job characteristics significantly affected job satisfaction in the Medical Care Corporation Hospital; in the meantime, marital status and job characteristics also markedly affected job satisfaction in the Non-Profit Proprietary Hospital ( $p < 0.01$ ), but such influences did not reach a significance level in the Public Hospital.

## DISCUSSION

### I. Study Findings and Discussion

This study found that the job characteristics, working stress and job satisfaction of the pharmacists between the different types of hospitals were unlike indeed. Bhuian and Menguc (2002) indicated that job characteristics referred to four features including autonomy, diversity, feedback, and completeness. Previously, the primary responsibility of a pharmacist was to ensure safe medication; however, with the increase of self-awareness of the patients and the introduction of patient-centered care, the responsibilities of a pharmacist are also evolving. Therefore, the job characteristics played significant roles in the job satisfaction of the pharmacists in two hospitals.

Moreover, the marital status markedly affected the job satisfaction of the pharmacist in the Non-Profit Proprietary Hospital, suggesting that job satisfaction was correlated with marital status. Since the responsibility of a pharmacist is to be the gatekeeper of patients' health, medicine dispense shall be very strict without making any mistakes. In this case, married pharmacists significantly affected the job characteristics and the job satisfaction.

Additionally, the working experience (length of service) significantly influenced the job satisfaction of the pharmacists serving in the Medical Care Corporation Hospital. For example, pharmacists with less than one year service had a higher job satisfaction than those with 4-7 years of service because starting from 2007, the Ministry of Health and Welfare, R.O.C. (Taiwan) initiated the program of teaching cost subsidy in individual teaching hospitals, aiming to improve the quality of medical staff training and promoted the capability of clinical practice of the fresh graduates by offering them 2 additional years of clinical training. To conduct clinical training for new medical staff in individual hospitals, the establishment of a training task force is required. Such training program not only can help the

hospitals establish various standardized models and mechanisms, but also support the new medical staff in improving their professional abilities rapidly. As a result, pharmacists with less than one-year service had a higher job satisfaction.

Furthermore, an effective hospital management is involved in job satisfaction of the internal employees plus the requirements of the external customers. To avoid tedious job contents, a diversified career development plan for employed pharmacists is strongly encouraged. Our study results, provide the information regarding job satisfaction of the employed pharmacists to the management level so that the directors may respond earlier and accordingly to reduce the personnel turnover rate, achieve the goals and missions of the hospital, eventually improve the quality of service, and create a win-win situation between the pharmacists and the employer organization.

## II. Study Limitations

With limited labor, resources and study periods, the subjects were derived from only three hospitals. In this case, the study results may not be generalized to the national situation. In addition, pharmacists serving in community pharmacies were not included in this study. Therefore, the study results cannot reflect the job characteristics and satisfaction of the pharmacists serving in the community pharmacies.

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**Table 1. Descriptive Statistics (n=90)**

Characteristics	Public Hospital		Medical Care Corporation Hospital		Non-Profit Proprietary Hospital		X <sup>2</sup>
	n	%	n	%	n	%	
<b>Gender</b>							.017**
Male	8	8.9	21	23.3	12	13.3	
Female	17	18.9	11	12.2	21	23.3	
<b>Age(years)</b>							.053*
<30	9	10.0	15	16.7	9	10.0	
31-40	4	4.4	12	13.3	13	14.4	
>41	12	13.3	5	5.6	11	12.2	
<b>Education Level</b>							.186
Bachelor	18	20.0	29	32.2	26	28.9	
Master	7	7.8	3	3.3	7	7.8	
<b>Marital Status</b>							.742
Not Married	14	15.6	21	23.3	21	23.3	
Married	11	12.2	11	12.2	12	13.3	
<b>Years of Employment</b>							0.001***
≤1 Years	2	2.2	1	1.1	6	6.7	
1~3 Years	9	10.0	13	14.4	6	6.7	
4-7 Years	0	0.0	11	12.2	2	2.2	
8-10Years	3	3.3	3	3.3	7	7.8	
>10Years	11	12.2	4	4.4	12	13.3	

**Table 2: Validity and average variable extracted**

Construct	Mean	SD	Cronbach's α	CV	AVE
Job Characteristics	4.055	0.488	0.888	0.398	0.878
Working Stress	3.104	0.569	0.828	0.385	0.569
Job Satisfaction	3.329	0.585	0.903	0.424	0.904

**Table 3: Regression model**

Measure	Job Satisfaction		
	Public Hospital	Medical Care Corporation Hospital	Non-Profit Proprietary Hospital
<b>Control variable</b>			
Gender (Reference group: Female)	.051	.464	.730
Age(years) (Reference group: >41)			
<30	1.255	.050	1.098
31-40	.173	.934	-.244
Education Level(Reference group: Bachelor )	-1.167	-1.194	-1.014
Marital Status(Reference group: Not Married)	1.182	-.500	1.990*
Years of Employment(Reference group: 4-7 Years)			
≤1 Years	.680	1.762*	.142
1~3 Years	-.829	.058	-.245
8-10Years	-.674	-.292	.193
>10Years	.120	.663	.353
<b>Independent variable</b>			
Job Characteristics	.668	4.435***	4.171***
Working Stress	-.525	-.494	-1.763
$R^2$	.502	.618	.572
Adj. $R^2$	.147	.408	.348
F values	1.143	2.944	2.550
P values	.269	.017**	.031**

Note: \*\*\* p<0.01, \*\*p<0.05, \*p<0.001