Job Characteristics and Job Performance among Professional Nurses in the University Hospitals of People's Republic of China

Pu Yuxiu[1], Wipada Kunaviktikul[2*] and Petsunee Thungjaroenkul[2]

[1]The Second Affiliated Hospital of Kunming Medical University, Kunming, Yunnan 650031, China
[2]Faculty of Nursing, Chiang Mai University, Chiang Mai 50200, Thailand

*Corresponding author: E-mail: wipada@mail.nurse.cmu.ac.th

ABSTRACT

This descriptive correlational study aimed to describe the level of job characteristics and job performance and to examine the relationship between job characteristics and job performance among professional nurses in two randomly- selected university hospitals in China. Data were collected from 328 professional nurses from a total population of 1,672, using stratified random sampling. Research instrument was composed of three parts: Demographic Data Form, Job Diagnostic Survey (JDS) and the Six-Dimension Scale of Nursing Performance (Six-D Scale). Reliabilities of the JDS and the Six-D Scale were .86 and .96, respectively. Descriptive statistics and Pearson's product moment were used for data analysis. Findings showed that: 1) the level of overall job characteristics as perceived by professional nurses was at a moderate level. Among the seven dimensions of job characteristics, the level of job characteristics for dealing with others, task significance, feedback from agents and feedback from job itself were at a high level. The other dimensions, i.e., task identity, skill variety and autonomy were at a moderate level; 2) The quality of job performance in each dimension and overall job performance were at a moderate level and; 3) Among the subjects, a significant relationship was found between job characteristics and job performance that was at a moderate level (r=.36, p< .01). The results of this study can be used in planning work and training programs for professional nurses to ensure high level of job performance.

Key words: Job characteristics, Job performance, Professional nurses, University hospitals

INTRODUCTION

Healthcare organizations are changing amid economic development and the rapid reforms of healthcare systems, combined with scientific advances and consumers' demand for better care (Lawler and Mohrman, 2000). Providing cost-effective and high quality healthcare is a key to achieving the goals of healthcare organizations (Hamilton et al., 2007) and is reliant on effective job performance by healthcare professionals.

As the Chinese healthcare delivery system reform strategies are implemented to increase overall cost-effectiveness (MOH, China, 2005), one reform method is to shorten patient's hospital stay. Quality healthcare relies on the maintenance of a sufficient and qualified health care workforce, including nurses who form the second largest work group in healthcare. Job performance of nurses is defined as the level of effectiveness of a nurse in carrying out his or her roles and responsibilities related to direct nursing care and quality of healthcare services (Schwirian, 1978). Schwirian (1978) developed the six-dimension scale to measure aspects of nursing job performance which are: leadership, critical care, planning/evaluation, teaching/cooperation, interpersonal relationship/communication and professional development.

Nursing leadership is an important dimension of job performance. However, Chinese nurses generally have a low perception of the value of leadership and management skills which are not taught (Lu et al., 2007). The critical care dimension was perceived to be higher than the other dimensions of job performance among Chinese nurses (Yang et al., 2006). However, reports from the general public have rated nursing critical care as unsatisfactory, particularly among long-term and elderly patients (Ma, 2008). Chen and Huang (2006) studied the problems of quality of care in annual hospital inspection and reported that noted Chinese nurses did not perceive that planning and evaluation were important in nursing care. Teaching and collaboration generally have a low priority in Chinese hospitals, compared with critical care. Chinese nurses lack skills and the ability to effectively communicate with others (Jiang, 2008), however, interpersonal relationship and communication skills are vital to effective job performance. The employment of new medical technology and instruments requires continuous educational training for nurses to maintain and improve their level of job performance (Ma and Jiang, 2007). Professional development among nurses is restricted in contemporary China. Nurses have less opportunity to be trained and to develop new knowledge compared to physicians.

Job characteristics are all factors of the job and are directly associated with employee attitudes and behaviors at work (Hackman and Oldham, 1976). Hackman and Oldham stated that jobs with more challenges and variety inspired employees to improve their job skills and attitudes. This inferred a link between job characteristics and job performance. Edgar (1999) perceived that job characteristics affected nurses' attitude, which, in turn, affected work outcomes, i.e., job performance. In China, the nursing work environment evolved with the change to patient-centered care (MOH, China, 2008) multiplying the role of nurses, thus affecting the design of nursing work.

Moreover, the university hospitals have implemented an annual assessment of job performance for all staff following the general national performance evaluation criterion (SAH, 2006, November). However, the hospital job performance appraisal form is too subjective to assess job performance of professional nurses. Furthermore, nurses stated that there was little feedback from nurse administrators on their performances (SAH, 2008, November).

Although many studies related to the job performance and job characteristics of nurses have been carried out worldwide (Hackman and Oldham, 1976; Edgar, 1999; Ang and Slaughter, 2001; Chua, 2006), no studies have been conducted in China. There is limited information on the effectiveness of nurses in carrying out their roles and responsibilities and how job characteristics influence job performance. The relationship between job characteristics and job performance among Chinese nurses remains undefined, and thus, is the rationale for this study.

MATERIALS AND METHODS

This descriptive correlational research aimed to examine the level of job characteristics and the level of job performance, and to determine the relationships between job characteristics and job performance among professional nurses in the university hospitals of Yunnan Province, P. R. China. The samples were 355 subjects from 1,672 professional nurses from two university hospitals in Yunnan Province, P. R. China.

Instrument used included three parts, the Demographic Data Form (DDF), the Job Diagnostic Survey (JDS) and the Chinese version of Six-Dimension Scale (Chinese Six-D Scale). The DDF was used to gather basic demographic information of each participant. It consisted of gender, age, marital status, educational level, present position, working experience as a registered nurse, department/section, professional title and employment type. The job characteristics were measured by the JDS which was originally developed by Hackman and Oldham (1975). The JDS consisted of 21 items in 7 dimensions: skill variety, task identity, autonomy, task significance, feedback from job itself, feedback from agents and dealing with others. Job performance was measured by the Chinese version of Six-Dimension Scale of nursing performance by Yang et al., (2006) which was based on Schwirian's Six-Dimension Scale of nursing performance. This consisted of 52 items grouped into six dimensions which included: leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relationship/communication and professional development. The average score of nursing job performance in each dimension was categorized into three levels: low, moderate and high.

The Job Diagnostic Survey (JDS) was translated into Chinese by the researcher and back translated into English by two independent bilingual experts. The internal consistency and reliability of the instruments were pretested with 20 nurses within one of the university hospitals used in the study with the same criteria as the subjects at the study settings. In terms of job characteristics and job performance, the internal consistency of Cronbach's alpha was calculated as .86 and .96, respectively.

After receiving the approval from the ethics committee of Faculty of Nursing, Chiang Mai University and the permissions from the administrative authorities at the university hospitals of Yunnan Province in China for data collection, the researcher distributed 355 questionnaires to the participants with consent forms. Three weeks after dissemination, the questionnaires were returned with a response rate of 100%, with 92.4% (328) completed and were used for data analysis.

The level of job characteristics and job performance were summarized, using descriptive statistics by the frequency, percentage, mean and standard deviation. The relationship between job characteristics and job performance was analyzed by using Pearson's Product-Moment Correlation Coefficient.

RESULTS

The age of 328 professional nurses ranged from 21 to 54, with the majority of subjects being married (65.2%) and were female (97.6%). Most subjects held a bachelor's degree of nursing qualification, only three (1.0%) held a master's degree. The majority of the respondents were working as staff nurses and the remainder as managers. The largest group of participants held senior nurse (Hu Li Shi) professional title with an average length of work experience of 11.50 years (SD=8.25). Most participants worked in the surgical (43.0%) or medical (32.3%) departments, a small proportion in OB-GYN (4.3%) and pediatric (2.4%) departments and the remaining (18.0%) worked in other clinical departments. The largest group of subjects (54.0%) worked on rotating shifts and 50.3% worked in a permanent position.

The results indicated that the overall level of job characteristics in the university hospitals of Yunnan Province as perceived by professional nurses was at a moderate level with a mean score of 4.97 (SD= .83). Among the seven dimensions of job characteristics, the levels of job characteristics for dealing with others, task significance, feedback from agents and feedback from job itself were at a high level. The other dimensions including task identity, skill variety and autonomy were at a moderate level (Table 1).

Table 1. Mean, standard deviation and the level of job characteristics as perceived by professional nurses overall and in each dimension (n=328)

Dimension of job characteristics	Mean ($x\square$)	SD	Level
Skill variety	4.55	1.32	Moderate
Task identity	4.60	1.22	Moderate
Task significance	5.23	1.18	High
Autonomy	4.42	1.27	Moderate
Feedback from job itself	5.08	1.21	High
Feedback from agents	5.20	1.19	High
Dealing with others	5.70	1.13	High
Overall job characteristics	4.97	.83	Moderate

As shown in Table 2, the average scores were calculated on each of the 4-point rating subscales. The results indicated that the level of job performance of professional nurses in each dimension and overall was at a moderate level.

Table 2. Mean standard deviation and level of quality of job performance in each dimension as perceived by professional nurses

Dimension of job performance	Number of cases(n)	Mean	SD	Level
Leadership	325	2.81	.53	Moderate
Critical care	326	2.87	.57	Moderate
Teaching/collaboration	322	2.56	.51	Moderate
Planning/evaluation	319	2.67	.53	Moderate
Interpersonal relationship/communication	327	2.84	.46	Moderate
Overall job performance	328	2.82	.42	Moderate

The results also indicated that job characteristics were significantly associated with overall and each dimension of job performance among professional nurses (Table 3).

Table 3. Pearson's Correlation matrix of job characteristics and each dimension of job performance and overall job performance

Job performance	Job characteristics	
	n	r
Leadership	325	.31**
Critical care	326	.28**
Teaching/collaboration	322	.33**
Planning/evaluation	319	.33**
Interpersonal relationship/communication(IPR)	327	.37**
Professional development	328	.28**
Overall job performance	314	.36**

Note. r=Pearson's coefficient between job characteristics and each dimension of job performance.
**.p<0.01

DISCUSSION AND CONCLUSION

The findings of this study indicated that the current job characteristics provided the respondents with a moderate level of motivation in carrying out their duties. When compared to the results of previous studies, there was consistency with in the study by Peng and Li (2008). However, they were not congruent with prior studies in Macao (Guo, 2007) and from western countries where the job characteristics were perceived at a "high level" (Edgar, 1999; Hall and Pallas, 2000). These findings may be due to different settings, ethnic composition and socio-economic environments and the different evolutions of hospital management structures and care models. One possible explanation for the results of the study is that as China embarks on a new round of health-care reforms, effective policies are needed to better manage nursing. Most nursing jobs are designed to improve effectiveness, however, many policies from the central authority are not implemented satisfactorily in remote provinces (Peng and Li, 2008). In addition, Yunnan province is located in southwest of China and is perceived as one of the developed province when compared to nationwide China (YPBH, 2008 May), hence, proper attention has not been paid to developing effective job characteristics. The job description for professional nurses in the university hospitals may be perceived by nurses as being poorly designed, and the jobs were regarded as being simple and repetitive (YPBH, 2008 May).

This study found that job performance was perceived at a moderate level by professional nurses (Table 2). This may be due to work experience, education level and professional title. In the study, most of the professional nurses (32.9%)

had work experience from one to five years. New nurses may lack the experience to provide effective nursing care for patients, since their job performance was based on work experience and still continuing to develop nursing skills (Li et al., 2001).

The study found that job characteristics were positively related to overall and to each of the six dimensions of job performance: leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relationship/communication, and professional development (Table 3). The relationship between job characteristics and job performance among professional nurses in this study was congruent with the findings from previous studies conducted by Hackman and Oldham (1976) and Panzano et al., (2006). Job performance is expected to be increased when the job provides employees with an opportunity to make decisions about how and when to do tasks (Yang et al., 2006). Thus, if professional nurses are motivated to provide an efficient and quality nursing care service, the productivity and performance of the hospital will be improved.

Job characteristics were positively related to leadership in the six dimensions of performance that demonstrated a positive link between leadership and professional nurses' perception of their job. This may be because professional nurses who perceived their job as more challenging, meaningful and significant were engaged in significant leadership responsibilities (Edgar, 1999). The study also found that job characteristics were positively related to the critical care and planning/evaluation dimensions. The results could be explained that professional nurses who provide critical care must use nursing processes, with planning/ evaluation is integral responsibility. A simple and routine job reduces motivation to perform well whereas a challenging job increases motivation (Ramlall, 2004). The relationship between teaching/cooperation, interpersonal relationship/ communication and the characteristics of job was significantly correlated. This suggested that when professional nurses perceived a high level of feedback from the job and when the hospital's administration and nurse managers have the well-established performance criteria, this would enable professional nurses to evaluate themselves and create good work outcomes. Hence, the more feedback from the job and agents, the more the effectiveness of cooperation and communication among professional nurses increased.

The findings also showed that there were a positive relationship between job characteristics and professional development dimension of job performance. It might be explained as, when professional nurses understand the characteristics of the nursing job, they may develop a strong positive attitude towards their work. This may contribute to the development of the hospital services and nursing profession (Lu et al., 2007). The quantity of enrollments in professional development programs by nurses will increase further, boosting nursing skills. Autonomy, significance and meaningfulness in nursing work play an important role in the nurses' perception of their jobs (Edgar, 1999; Peng and Li, 2008). This may result in more meaningful rewards and recognition of the nursing profession from the hospital administration and China society, thus a more significant perception of the value of professional nurses.

The study findings have demonstrated a general consistency with previous studies in terms of the level of job characteristics (Peng and Li, 2008). The level of job performance was also found to be generally consistent with previous studies, with critical care at a moderate level (Yang et al., 2006). The relationship between job characteristics and job performance as reported by Edgar (1999) was found to exist at a moderate level in four of the six job performance dimensions. Maintaining a high level of job performance is vital to maintaining the effectiveness of the healthcare provided by professional nurses.

IMPLICATIONS

The findings of this study support the job characteristics model and found a linkage between job characteristics and job performance among professional nurses. The results have implications for nursing administration, nursing practice and for hospital policy makers in planning work and training programs for professional nurses

RECOMMENDATIONS FOR FURTHER STUDY

The study of job performance of professional nurses by using other methods, such as patients and peers evaluation or observed study should be conducted. Moreover, intervention study of job performance improvement should be carried out in future research.

ACKNOWLEDGEMENTS

REFERENCES

Ang, S., and S.A. Slaughter. 2001. Work outcomes and job design for contract versus permanent information systems professional on software development teams. MIS Quarterly 25(3): 321–350.

Chen, W. J., and H. G. Huang. 2006. The problems of quality of care in annually hospital inspection. Journal of Nursing (China) 13(8): 92–93.

Chua, I. 2006. The effects of goal setting and job characteristics on the job performance selected manufacturing firms in Taiwan. Unpublished master dissertation. National Cheng Kung University, Taiwan.

Edgar, L. 1999. Nurses' motivation and its relationship to the characteristics of Nursing care delivery systems: a test of the job characteristics model. The Canadian Journal of Nursing Leadership (CJNL) 12 (1): 14–22.

Guo, B. D. 2007. Relationship between job characteristics, job satisfaction, and turnover intention among nurses in Macau. Unpublished Master's thesis, South China Normal University, Guangzhou Province, China. (In Chinese)

Hackman, J. R., and G.R. Oldham. 1975. Development of the job diagnostic survey. Journal of Applied Psychology 60: 159–170.

Hackman, J. R. and G.R. Oldham. 1976. Motivation through the design of work: Test of a theory. Organizational Behavior and Human Performance 16: 250–279.

Hall, L. M., and L.O. Pallas. 2000. Redesigning nursing work in long-term care environments. Nursing Economics 18 (2): 79–88.

Hamilton, K. E., V. Coates, B. Kelly, J.R. Boore, J.H. Cundell, J. Gracey, B. McFetridge, M. McGonigle, and M. Sinclair. 2007. Performance assessment in health care providers: a critical review of evidence and current practice. Journal of nursing management 15: 773–791.

Jiang, Y. X. 2008. Enhancing communication, improving quality of care. Retrieved June, 20, 2010 from: http://qkzz.net/article/c11e7256-887d-4169-9de5-c6cfb3306619.htm

Lawler, E. E., and S.A. Mohrman. 2000. Beyond the vision: What makes HR effective? Human Resource Planning 23(4): 10–20.

Li, J. P., Y.J. Cheng, and H.Q. Li. 2001. The status and role of performance assessment on new nursing development. Chinese Journal of Practical Nursing 17(11): 49–50.

Lu, H., A.E. While, and K.L. Barriball. 2007. Job satisfaction and its related factors: A questionnaire survey of hospital nurses in Mainland China. International Journal of Nursing Studies 44: 574–588.

Ma, H., and A.L. Jiang. 2007. Literature review of nursing leadership. Chinese Nursing Management, 7(8): 36–38.

Ma, X. W. 2008. International Nurse's Day: Our country promulgates "Nurse Regulations" to solve prominent problems in nursing. Retrieved July, 30, 2008 from: http://www.gov.cn/jrzg/2008-05/12/content_968127.htm (in Chinese)

Ministry of Health China. (MOH). 2005. Development compendium of Chinese nursing enterprise (2005–2010). Retrieved May, 1, 2009 from: http://www.cnabx.org.cncommon_content.asp?common_id=23 (in Chinese)

Ministry of Health China. (MOH). 2008. Nursing regulation implementation conference. Retrieved July, 31, 2009 from: http//www.gov.cn/gzdt/2008 5/12/content_968011.htm.

Panzano, P. C., B.A. Seffrin, and S.C. Jones. 2006. Examining the value of the job characteristics model for improving the experience of work and work-related outcomes for adults with severe and persistent mental illness. Decision Support Services, Inc.

Peng, W. T., and J.P. Li. 2008. Cross-sectional investigation on job characteristics among nursing staff. Modern Preventative Medicine 35(5): 823–825.

Ramlall, S. 2004. A review of employee motivation theories and their implications for employee retention within organization. Journal of American Academy of Business 5(2): 52–64.

Second Affiliated Hospital (SAH). 2006, November. Hospital Annual Review Kunming.

Second Affiliated Hospital (SAH). 2008, November. Hospital Annual Report. Kunming.

Schwirian, P. M. 1978. Evaluation the performance of nurses: A multidimensional approach. Nursing Research 27: 347–351.

Yang, X. L., X.Y. Su, and J.E. Zhang. 2006. Evaluation on work performance of nurses and its influencing factors. Nursing Research 20(3): 631–633.

Yunnan Provincial Bureau of Health 2008, May. Committee meeting minutes, Kunming: Yunnan Provincial Bureau of Health (YPBH)