

ภาวะผู้นำเชิงปฏิรูปของหัวหน้าพยาบาลและวัฒนธรรมองค์กรของพยาบาลใน
โรงพยาบาลมหาวิทยาลัยการแพทย์ฮาร์บิน ประเทศสาธารณรัฐประชาชนจีน
Head Nurses' Transformational Leadership and Organizational
Culture among Nurses in Harbin Medical University Hospitals,
The People's Republic of China

ดู ชู	พย.ม.*	Lu Xu	M.N.S.*
อรอนงค์	วิชัยคำ พย.ค.**	Orn-Anong Wichaikhum Ph.D.**	
เรมวาล	นันท์ศุภาวัฒน์ พย.ค.***	Raymoul Nantsupawat Ph.D.***	

บทคัดย่อ

องค์กรที่มีผู้นำเชิงปฏิรูปก่อให้เกิดความพึงพอใจในงาน ความกระตือรือร้น การทำงานเป็นทีม และความ
รู้สึกถึงความสำเร็จในการพัฒนาวัฒนธรรมองค์กร วัตถุประสงค์ของการศึกษาเชิงพรรณนาหาความสัมพันธ์ครั้งนี้
คือ เพื่อศึกษาระดับของภาวะผู้นำเชิงปฏิรูปในหัวหน้าหอผู้ป่วย ประเภทของวัฒนธรรมองค์กร และความ
สัมพันธ์ระหว่างภาวะผู้นำเชิงปฏิรูปและประเภทของวัฒนธรรมองค์กรรายด้านตามการรับรู้ของพยาบาลในโรง
พยาบาลมหาวิทยาลัยการแพทย์ฮาร์บิน ประเทศสาธารณรัฐประชาชนจีน กลุ่มตัวอย่างประกอบด้วยพยาบาล
ในโรงพยาบาลมหาวิทยาลัยการแพทย์ฮาร์บิน จำนวน 410 คน เครื่องมือวิจัยประกอบด้วย 1) แบบสอบถาม
ข้อมูลส่วนบุคคล 2) แบบวัดการปฏิบัติภาวะผู้นำของผู้สังเกตแบบภาษาจีน (LPI-O) และ 3) แบบวัดวัฒนธรรม
องค์กร (OCP) ที่พัฒนาขึ้นโดยซารอสและคณะ (Sarros, Gray, Densten, & Cooper, 2005) และผู้วิจัยได้
แปลเป็นภาษาจีน ค่าสัมประสิทธิ์สหสัมพันธ์ของครอนบาคของแบบวัดการปฏิบัติภาวะผู้นำของผู้สังเกตแบบ
ภาษาจีน และแบบวัดวัฒนธรรมองค์กร เท่ากับ 0.87 และ 0.97 ตามลำดับ วิเคราะห์ข้อมูลโดยใช้สถิติเชิง
พรรณนาและสหสัมพันธ์ลำดับที่สเปียร์แมน

ผลการศึกษา พบว่า

ภาวะผู้นำเชิงปฏิรูปของหัวหน้าหอผู้ป่วยอยู่ในระดับสูง (122.96, S.D. = 19.19) วัฒนธรรมองค์กรทุก
ด้านเป็นวัฒนธรรมองค์กรประเภทเด่นได้แก่ ด้านการสนับสนุน (4.17, S.D. = 0.76) ด้านนวัตกรรม (4.02, S.D.
= 0.83) การแข่งขัน (4.04, S.D. = 0.79) การปฏิบัติแบบมุ่งที่ผลงาน (4.12, S.D. = 0.83) ความมีเสถียรภาพ

* โรงพยาบาลวิชาชีพ โรงพยาบาลมหาวิทยาลัยการแพทย์ ฮาร์บิน ประเทศสาธารณรัฐประชาชนจีน
* The Third Affiliated Hospital of Harbin Medical University, China
** Lecturer, Faculty of Nursing, Chiang Mai University, Chiang Mai, Thailand
** อาจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่
*** รองศาสตราจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยเชียงใหม่
*** Associate Professor, Faculty of Nursing, Chiang Mai University, Chiang Mai, Thailand

(3.95, S.D. = 0.77) การมุ่งเน้นการให้รางวัล (\bar{X} 3.87, S.D. = 0.95) และความรับผิดชอบทางสังคม (4.25, S.D. = 0.75) ภาวะผู้นำเชิงปฏิรูปมีความสัมพันธ์ทางบวกอย่างมีนัยสำคัญทางสถิติกับประเภทของวัฒนธรรมองค์กรทุกด้าน (from $r = 0.49$ to 0.89 , $p < 0.01$) ตามการรับรู้ของพยาบาลในโรงพยาบาลมหาวิทยาลัยการแพทย์ฮาร์บิน ประเทศสาธารณรัฐประชาชนจีน ผลการวิจัยครั้งนี้อาจนำไปสู่การคงไว้ของภาวะผู้นำเชิงปฏิรูปของหัวหน้าหอผู้ป่วยและเสริมสร้างวัฒนธรรมองค์กรตามการรับรู้ของพยาบาลให้แข็งแกร่งในขณะที่สิ่งแวดล้อมการดูแลสุขภาพมีความซับซ้อน

คำสำคัญ: ภาวะผู้นำเชิงปฏิรูป วัฒนธรรมองค์กร พยาบาล โรงพยาบาลมหาวิทยาลัยการแพทย์ฮาร์บิน ประเทศสาธารณรัฐประชาชนจีน

Abstract

Organizations with transformational leaders exhibit work satisfaction, enthusiasm, team work, and sense of accomplishment. The purpose of this descriptive correlational research was to examine the level of head nurses' transformational leadership, to identify different types of organizational culture, and to explore the relationships between overall head nurses' transformational leadership and each dimension of organizational culture as perceived by nurses in Harbin Medical University Hospitals, The People's Republic of China. The subjects were 410 nurses from four affiliated hospitals of Harbin Medical University. Research instruments consisted of: 1) demographic data form; 2) Chinese version of Leadership Practice Inventory-Observer (LPI-O), and 3) Organizational Culture Profile (OCP) developed by (Sarros, Gray, Densten, & Cooper, 2005), which translated to Chinese by the researcher. The Cronbach's alpha coefficient of LPI-O was .87 and that of the OCP was 0.97. Descriptive statistics and Spearman's rank-order correlation were used to analyze data in this study.

The results of this study showed that overall head nurses' transformational leadership was at a high level (\bar{X} = 122.96, SD = 19.19) and the following dimensions of organizational culture were prominent: supportiveness (\bar{X} = 4.17, S.D. = 0.76), innovation (\bar{X} = 4.02, S.D. = 0.83), competitiveness (\bar{X} = 4.04, S.D. = 0.79), performance orientation (\bar{X} = 4.12, S.D. = 0.83), stability (\bar{X} = 3.95, S.D. = 0.77), emphasis on rewards (\bar{X} = 3.87, S.D. = 0.95), and social responsibility (\bar{X} = 4.25, S.D. = 0.75). There were significant positive relationships between head nurses' transformational leadership and each dimension of organizational culture (from $r = 0.49$ to $r = 0.89$, $p < 0.01$) as perceived by nurses in Harbin Medical University Hospitals, P. R. China. The findings of this study may lead to maintain head nurses' transformational leadership and strengthen organizational culture as perceived by nurses in a complex healthcare environment.

Key words: Transformational Leadership, Organizational culture, Nurses, Harbin Medical University Hospitals, The People's Republic of China



Introduction

In China Hospitals have been facing changing and more flexible healthcare settings that are challenging healthcare delivery systems to search for innovations in quality, and find ways to provide health services within cost-constraints. From last century 90' the healthcare system was reformed, more and more private hospitals had emerged, up to 30.8% in 2009 (Ministry of Health of The People's Republic of China, 2010) healthcare insurance reformed, and higher level of satisfaction demand from customers that all the reasons should create fierce competition among hospitals.

Healthcare environment has been experienced downsizing, nursing shortages, challenges in productivity and quality of care in China. Meanwhile, Harbin Medical University Hospitals have been experienced increasing competition, and consumer driven changes, all of which are making the ongoing nursing care worse with increased workloads, stress, and clinical errors (Qi, 2007). The ratio of nurses to hospital beds was 0.3:1 while the standard of Ministry of Health of China was 0.4:1 (Third affiliated hospital of Harbin Medical University, 2006). The workload is now more severe than before. Usually during the day shift one nurse takes care of 15 patients, and on the night shift one nurse takes care of 40-50 patients (Third affiliated hospital of Harbin Medical University, 2011b). In Harbin Medical University Hospitals, the level of overall job stress of nurses was at a high level (\bar{X} = 3.02, S.D. = 0.19) Undertaking a consumer driven approach in the quality of nursing care, administrators of Harbin Medical

University Hospitals have emphasized improving client satisfaction to enhance competitiveness of hospital (Third Affiliated Hospital of Harbin Medical University, 2011a). In the hospital structure, head nurses play essential roles because they are charged with the responsibility of ensuring quality of patient care and quality of work life for nurses (Ma & Liu, 2004). To meet these challenges and fulfill these responsibilities, head nurses had cognitive the concepts and principles of leadership, to demonstrate competence in the role as a leader, and to show interpersonal connections needed to be successful (Krugman & Smith, 2003). Therefore, head nurses are expected to transform their own role identity and functional skills and to lead others to the vision and mission of the desired change to successfully meet organizational goals.

There has been accumulating evidence to suggest that transformational leadership is an influential form of leadership that is associated with high levels of individual and organization culture (Barling, Weber, & Kelloway, 1996; Kark & Shamir, 2002). Kouzes and Posner (2002) explained transformational leadership as a collection of practices and behaviors of leaders who can motivate followers to work beyond their expectation through five key leadership practices of modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. Head nurses' leadership role is not only essential in the development and maintenance of nursing organizational culture, but also has a direct impact on working conditions, work environment, and overall success of patient care outcomes



Additionally, managers realize that an organization's dominant philosophy and values can determine its success and be a competitive advantage. Effective organizational culture is essential in healthcare structures, competitive labor markets, and higher level of patient satisfaction. The culture of a healthcare organization can powerfully influence its ability to manage human resources and serve patients, and ultimately has a strong impact on its economic performance (Kotter & Heskett, 1992).

O'Reilly and Chatman (1996) defined organizational culture as a system of shared values and norms that define appropriate attitudes and behaviors for organizational members. Sarro et al., (2005) developed the person-organization fit model (O'Reilly, Chatman, & Caldwell, 1991), that including seven dimensions: supportiveness, innovation, competitiveness, performance orientation, stability, emphasis on reward, and social responsibility. Culture represents the trait of an organization, having a major influence on both employee satisfaction and organizational success (Kane-Urrabazo, 2006). In management field, one study done by Sarros et al., (2005), they investigated leadership, organizational culture, and innovation of Australian enterprises. The result showed that performance orientation was the prominent culture when correlate with leadership.

The China healthcare environment has been experienced downsizing, nursing shortages, challenges in productivity and quality of care. Meanwhile, Harbin Medical University Hospitals have been challenged increasing competition, and consumer driven changes, all of which were

making the ongoing nursing care worse with increased workloads and stress. Some studies showed that relationship between transformational leadership and organizational culture has been found in western countries, but no one study has been conducted in nursing field as well as in Harbin, China. Thus, considering the transformational leadership and organizational culture for nursing, it is imperative to conduct this study.

Conceptual Framework

The conceptual framework of transformational leadership was based on the Kouzes and Posner's leadership practice model (Kouzes & Posner, 2002), which included five dimensions: modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. Organizational culture was based on the Person Organization Fit Model (O'Reilly et al., 1991), developed by Sarroa et al., (2005), which included seven dimensions: supportiveness, innovation, competitiveness, performance orientation, stability, emphasis on reward, and social responsibility. In this study, the relationships between transformational leadership and each dimension of organizational culture were examined.

Methods

A descriptive correlational research was to examine the level of head nurses' transformational leadership, to identify different types of organizational culture, and to explore the relationships between overall head nurses' transformational leadership and each dimension of organizational culture.



Sample and Procedure

The population of this study was 5,443 nurses working at least one year in the four affiliated hospitals of Harbin Medical University, The People's Republic of China. The proportionate stratified sampling method and simple random sampling method were employed to recruit subjects. Yamane's (1973) formula was used to calculate the sample size, with the level of 0.05. The sample size was 373, considering the possible loss of subjects, 20 % of the sample, the total number of sample size was 448. After getting permissions from directors and nursing managers of those hospitals, the researcher asked for one coordinator of the nursing departments in each hospital to explain the objectives and benefits of the study, and to distribute the questionnaires to the subjects. After two weeks, the researcher received 410 questionnaires which represented 91% of the whole sample.

The research proposal was submitted to the Research Ethics Review Committee, the Faculty of Nursing, Chiang Mai University, Thailand to obtain approval before data collection. Then, approvals to collect data were also taken from four hospital directors. Subjects were selected from the nurses in all four affiliated hospitals of Harbin Medical University. A research consent form was given to the subjects. The subjects were free to refuse to participate or withdraw from the study at any time prior to completion of this study without any punishment. Confidentiality and anonymity of individual responses were guaranteed by a statement included in the cover letter. The

information gotten from the subjects would be used only for the purpose of the study and remain confidential.

Research Instrument

The instruments were used in this study including 3 parts as follows: 1) Demographic data form was developed by the researcher. It consists of information about gender, age, marital status, education level, professional title, working department, monthly income, years of working as a nurse, and years of working with current head nurse. 2) Transformational leadership was measured by Chinese version of the leadership practice inventory-observer (LPI-O) translated by Chen (2005) in Taiwan based on Kouzes and Posner' (1995) leadership practice inventory. Chen (2005) got permission from original author to translate instrument of the LPI-O, and no items were deleted. The instrument consists of 30-items, six items to measure each of five behaviors: modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. This questionnaire is a 5-point Likert scale ranging from 1 = rarely, 2 = once in a while, 3 = sometimes, 4 = fairly often, 5 = very frequently. The possible overall scores for the LPI-O were ranged from 30 to 150 and were categorized into three levels: low level (30.00-70.00), moderate level (70.01-111.00) and high level (111.01-150.00); and the subscale score was categorized into three levels: low level (6.00-14.00), moderate level (14.01-22.00), and high level (22.01-30.00). 3) The Organizational Culture Profile (OCP) developed by Sarros *et al.*, (2005), the OCP consists 28 items including seven



dimensions: supportiveness, innovation, competitiveness, performance orientation, stability, emphasis on reward, and social responsibility. Each of the OCP items is rated on a five-point Likert scale ranging from 1 = not at all, 2 = minimally, 3 = moderately, 4 = considerably, 5 = very much. Lower the score, the less prominent is that culture type of organization. The norms for the seven dimensions are: supportiveness (3.70), innovation (3.37), competitiveness (3.37), performance orientation (4.02), stability (3.46), emphasis on rewards (3.61), social responsibility (3.93) respectively.

Data Analysis

Descriptive statistic was used to analyze the data by frequency, percentage, mean and standard deviation, and Spearman's rank-order correlation was used to analyze the relationships between variables since the normality assumption was not met.

Results

The majority of subjects were female (95.37%). Among the subjects, the age was ranged from 20-55, 74.15% were in the age group of 20-30 years, and majority of subjects (52.68%) were married. Among the subjects, 45.37% were in the group of staff nurse, most of subjects (58.78%) had bachelor degree. Monthly income of subjects (18.05%) was 3501-4000 RMB and 17.32% was 2001-2500 RMB. Majority of subjects (50.98%) worked less than five years work, and 69.51% worked with current head nurse less than five years.

Transformational Leadership

As shown in the table 1, the overall mean score of transformational leadership as perceived by subjects was at a high level (\bar{X} = 122.96, S.D. = 19.19). Each of subscale was at a high level.

Organizational Culture

As shown in the table 2, each dimension of organizational culture as perceived by subjects was prominent.

Relationships between Transformational Leadership and Organizational Culture

As shown in the table 3, significant positive relationships between overall transformational leadership and each dimension of organizational culture (from $r = 0.49$ to $r = 0.89$, $p < 0.01$).

Discussion

Transformational Leadership In this study, the result showed that mean score of overall transformational leadership as perceived by the subjects was at a high level (\bar{X} = 122.96, S.D. = 19.19) (Table 1). The result was consistent with study by Li (2011) who examined the relationship between transformational leadership and emotional intelligence of head nurses in Kunming Medical University Hospitals in P. R. China. The result was also agreement with other studies in western countries (McNeese-Smith, 1992, 1995; Medley & Larochelle, 1995; Bowles & N. B. Bowles, 2000; (Donna, McNeese-Smith, Hu & Yang, 2000); Janne, 2000; Leach, 2005; Kim & Jaynelle, 2008). However, this study result was different with a study by Wang (2006) who investigated the relationship between nurse managers' transformational leadership and staff nurses' job satisfaction in Harbin Medical University Hospital, which revealed that nurse



managers' transformational leadership was at a moderate level that compared this study, head nurses' transformational leadership may have been improved after six years in Harbin Medical University Hospitals.

This may be due to head nurses realized that transformational leadership is most effective leadership when they considered quality of nursing care and quality of nurses' work life. Head nurses has been trying to meet these challenges and fulfill these responsibilities, they have changed the administrative method from traditional productivity focus to people orientation. Most head nurses had cognitive the

concepts and principles of leadership, to demonstrate competence in the role as a leader, and to show interpersonal connections needed to be successful (Krugman & Smith, 2003).

Additionally, head nurses are positioned to collective sense of nursing that maintain a professional connection to the patient. Head nurses always give them rewards according to their contribution, and oral prize to appreciate their hard work. This can inform practice and guides the contribution and involvement of nurses in their values and beliefs amidst pervasive organizational change (Leach, 2005).

Organizational Culture

Table 1 Mean, standard deviation, and the level of transformational leadership as by perceived by the subjects (n=410)

Transformational leadership	\bar{x}	S.D.	Level
Modeling the way	26.27	4.29	High
Inspiring a shared vision	26.16	3.88	High
Challenging the process	24.22	4.81	High
Enabling others to act	26.00	4.41	High
Encouraging the heart	24.12	4.77	High
Overall	122.96	19.19	High

The result of organizational culture showed that each dimension was prominent (Table 2). One reason may be caused by standard of tertiary hospital in China, committee of each Harbin Medical University Hospital has set up integral missions and definite vision that is corporate identify system (CIS), behaviors standard, rights and obligations that are comprehensible and clear for all levels of staff

within hospital.

Another reason may be caused by that Harbin Medical University hospitals have implemented a five-P system to improve the quality of nursing care, which including programming system, performance system, position system, personnel's system and payment system of human resource management

Table 2 Mean, standard deviation, and the types of organizational culture as perceived by the subjects (n=410)

Organizational culture	\bar{x}	Norms	Level
Supportiveness	4.17	3.70	Prominent
Innovation	4.02	3.37	Prominent
Competitiveness	4.04	3.37	Prominent
Performance orientation	4.12	4.02	Prominent
Stability	3.95	3.46	Prominent
Emphasis of rewards	3.87	3.61	Prominent
Social responsibility	4.25	3.93	Prominent

Table 3 Relationship between overall transformational leadership and each dimension of organizational culture as perceived by the subjects (n=410)

Organizational culture	Transformational leadership
	r
Supportiveness	.54*
Innovation	.53*
Competitiveness	.55*
Performance orientation	.57*
Stability	.50*
Emphasis of rewards	.49*
Social responsibility	.89*

* $p < 0.01$

Relationships between overall transformational leadership and each dimension of organizational culture

There was a significant positive relationships between overall transformational leadership and each dimension of organizational culture

(from $r = 0.49$ to $r = 0.89$) (Table 3). The finding of this study was consistent with Jaskyte's (2004) who studied in transformational leadership, organizational culture, and innovativeness in nonprofit organizations, the result showed that cultural consensus was significant positively



correlated with overall transformational leadership ($r = 0.783, p < 0.01$). And also was consistent with study by Casida (2008), the result showed that positive relationship between transformational leadership and organizational culture. Additionally, it was consistent with study done by (Sarros, Cooper, & Santora, 2008), the result showed that transformational leadership was strongly related to organizational culture. In addition, the findings were also consistent with study done by Gheith (2010), the results showed high level of transformational leadership of head nurses who succeed in raising staff nurses perception of organizational culture.

The reason may be caused by the follows: First, current competitive healthcare environment, patient satisfaction must be a crucial goal for the survival of Harbin Medical University hospitals. Head nurses seriously considered, they have been trying to play essential roles with transformational leadership to show interpersonal connections with responsibility of ensuring quality of patient care (Ma & Liu, 2004). Second, head nurses utilized transformational leadership to motivate and strength nurses to have high expectations for performance, enthusiasm for work, and highly organized to achieve their potential. Third, nurses are majority of healthcare to undertake the social responsibilities of hospital. Head nurses have been attempted to motivate nurses involving social aid activities to strengthen

hospital's reputation. Fourth, nurses always get reward from head nurses who showed transformational leadership to maintain a good mutual relationship with nurses, to improve nurses' work attitude and to reduce potential conflicts and create a healthy working environment.

The findings of this study may lead to improve head nurses' transformational leadership and strengthen organizational culture as perceived by nurses in a complex healthcare environment.

Conclusions and Implications

The results of this study indicated that overall head nurses' transformational leadership was at a high level ($= 122.96, S.D. = 19.19$). Each dimensions of organizational culture was prominent. There were a significant positive relationships between overall transformational leadership and each dimension of organizational culture (from $r = 0.49$ to $r = 0.89, p < 0.01$).

The findings of this study may lead to maintain head nurses' transformational leadership and strengthen organizational culture as perceived by nurses in a complex healthcare environment. The future research should be done to explore more factors relating to organizational culture in Harbin.

References

- Barling, J., Weber, T., & Kelloway, E. K (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology, 81*, 827-832.
- Bowles, A., & Bowles, N. B. (2000). A comparative study of transformational leadership in nursing development unit and conventional clinical settings. *Journal of Nursing Management, 8*, 69-76.
- Casida, J. (2008). Leadership-organizational culture relationship in nursing units of acute care hospitals. *Nursing Economic, 26*(1), 7-15.
- Chen, H. (2005). Psychometric properties of the Chinese Leadership Practice Inventory used in Taiwan nursing faculty.
- Donna, K., McNNeese-Smith, Hu, Y., & Yang, Y. H. (2000). The influence of managers' use of leadership behaviors on staff nurses in China and the United States. *The Hong Kong Nursing Journal, 46*(3), 7-17.
- Gheith, N. R. (2010). Reconstructing organization culture through enforcing head nurses transformational leadership style. *Australian Journal of Basic and Applied Sciences, 4*(6): 1288-1296.
- Janne, D. T. (2000). Nurse executive transformational leadership found in participative organizations. *Journal of Nursing Administration, 30*, 241-250.
- Kane-Urrabazo, C. (2006). Management's role in shaping organizational culture. *Journal of Nursing Management, 14*, 188-194.
- Jaskyte, K. (2004). Transformational leadership, organizational culture, and innovativeness in nonprofit organizations. *Nonprofit Management & Leadership, 15*, 2.
- Kark, R., & Shamir, B. (2002). The dual effect of transformational leadership: priming relational and collective selves and further effects on follower. *Transformational Charismatic Leadership, 2*, 67-91.
- Kim, R.F. & Jaynelle, F.S. (2008). Manager and staff perceptions of the manager's leadership style. *Journal of Nursing Administration, 38*, 480-487.
- Kotter, J., & Heskett, L. (1992). *Corporate culture and performance*. New York: Macmillan.
- Kouzes, J. M., & Posner, B. Z. (1995). The leadership challenge: How to keep getting extraordinary things done in organizations. *San Francisco: Jossey-Bass*.
- Kouzes, J.M, & Posner, B.Z. (2002). The leadership challenge, 3rd ed. San Francisco, CA: Jossey-Bass.
- Krugman, M., & Smith, V. (2003). Charge nurse leadership development and evaluation. *Journal of Nursing Administration, 33*(5), 284-292.
- Leach, L. S. (2005). Nurse executive transformational leadership and organizational commitment. *Journal of Nursing Administration, 35*, 228-237.
- Ma, G. F., & Liu, B. Y. (2004). Thinking of the countermeasure of nursing management in the competitive medical and health market [in Chinese]. *Journal of Nursing Administration, 4*, 20-21.



- Mathena, K. A. (2002). Nursing manager leadership skills. *Journal of Nursing Administration*, 32, 136-142.
- McNeese-Smith, D. (1992). The impact of leadership upon productivity. *Nursing Economics*, 10(6), 393-396.
- McNeese-Smith, D. (1995). Job satisfaction, productivity, and organizational commitment the result of leadership. *Journal of Nursing Administration*, 25, 17-26.
- Medley, F., & Larochelle, D. R. (1995). Transformational leadership and job satisfaction. *Nursing Management*, 9 (26).
- Ministry of Health of the People's Republic of China. (2010). The Development of Health Statistical Bulletin of 2009 [In Chinese]. Center for Statistics Information Ministry of Health, P.R. China. Retrieved from <http://www.moh.gov.cn/publicfiles/business/htmlfiles/mohwsbwstjxxzx/s8208/201004/46556.htm>
- Qi, L. X. (2007). Cause and coping strategy of job stress in nursing staff in China [Chinese version]. *Journal of Tianjin Nursing Care*, 15(5), 304-306.
- O'Reilly, C. A., & Chatman, J. A. (1996). Culture as social control: Corporations, cult and commitment. *Research in Organizational Behavior*, 18, 157-200.
- O'Reilly, C. A., Chatman, J. A., & Caldwell, D. F. (1991). People and organizational culture: A profile comparisons approach to assessing person-organization fit. *Academy of Management Journal*, 34, 487-516.
- Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies*, 15(11), 145-158.
- Sarros, J.C., Gray, J., Densten, L. & Cooper, B. K. (2005). The organizational culture profile revised: an Australian perspective. *Australia Journal Management*, 30, 159-182.
- Third Affiliated Hospital of Harbin Medical University. (2006). Hospital annual report [in Chinese]. Unpublished document, Department of Statistic, the Third Medical University Hospital, the People's Republic of China.