# Self-Leadership of Nurses in Tertiary Hospitals, Yunnan Province, People's Republic of China*

# ภาวะผู้นำในตนเองของพยาบาลในโรงพยาบาลระดับตติยภูมิมณฑลยูนนาน สาธารณรัฐประชาชนจีน*


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**บทคัดย่อ**

ภาวะผู้นำในตนเองมีความสำคัญในการเปลี่ยนแปลงสภาพแวดล้อมเนื่องจากช่วยเพิ่มประสิทธิภาพของการปฏิบัติงาน เพิ่มความเป็นผู้นำกลุ่มและคุณภาพของการดูแล การศึกษาเชิงพรรณนาครั้งนี้มีวัตถุประสงค์เพื่อศึกษาภาวะผู้นำในตนเองของพยาบาลประจำการและผู้จัดการพยาบาลและเพื่อเปรียบเทียบความแตกต่างของภาวะผู้นำในตนเองระหว่างทั้งสองกลุ่ม กลุ่มตัวอย่างประกอบด้วยพยาบาลประจำการ 406 คน และผู้จัดการพยาบาล 316 คน ซึ่งถูกคัดเลือกโดยวิธีการสุ่มแบบหลายขั้นตอนจากโรงพยาบาลระดับตติยภูมิ 5 แห่งในมณฑลยูนนาน สาธารณรัฐประชาชนจีน เครื่องมือที่ใช้ในการวิจัยประกอบด้วยแบบฟอร์มข้อมูลส่วนบุคคลและแบบสอบถามภาวะผู้นำในตนเองฉบับแก้ไข (RSLQ) ซึ่งค่าสัมประสิทธิ์อัลฟ่าของครอนบาค ของ RSLQ ที่ใช้ทดสอบในพยาบาลประจำการเท่ากับ 0.97 และผู้จัดการพยาบาล เท่ากับ 0.91 ตามลำดับซึ่งวิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา สถิติทดสอบแมนวิทนียูและการทดสอบค่าที

**ผลการศึกษาสรุปได้ดังนี้**

1. สำหรับพยาบาลประจำการ คะแนนเฉลี่ยของภาวะผู้นำในตนเองโดยรวม ($\bar{X}$ = 3.50, SD = .59) และคะแนนรายด้านประกอบด้วย กลยุทธ์การมุ่งเน้นพฤติกรรม ($\bar{X}$ = 3.53, SD = .60), กลยุทธ์การให้รางวัลตามธรรมชาติ ($\bar{X}$ = 3.53, SD = .68) และกลยุทธ์ในการสร้างสรรค์แบบแผนความคิด ($\bar{X}$ = 3.45, SD = .65) อยู่ในระดับปานกลาง

2. สำหรับผู้จัดการการพยาบาล คะแนนเฉลี่ยของภาวะผู้นำในตนเองโดยรวม ($\bar{X}$ = 4.02, SD = .45) และคะแนนรายด้านประกอบด้วย กลยุทธ์การมุ่งเน้นพฤติกรรม ($\bar{X}$ = 4.03, SD = .46), กลยุทธ์การให้รางวัลตามธรรมชาติ ($\bar{X}$ = 4.01, SD = .54)) และกลยุทธ์ในการสร้างสรรค์แบบแผนความคิด ($\bar{X}$ = 4.00, SD = .49) อยู่ในระดับสูง

3. มีความแตกต่างอย่างมีนัยสำคัญระหว่างคะแนนภาวะผู้นำในตนเองโดยรวมของพยาบาลประจำการและผู้จัดการพยาบาล (t = -13.32, p <.01) และข้อมูลด้านอื่นได้แก่ กลยุทธ์การมุ่งเน้นพฤติกรรม (t = -12.77, p <.01) กลยุทธ์การให้รางวัลตามธรรมชาติ (z = -9.90, p <.01) และกลยุทธ์ในการสร้างสรรค์แบบแผนความคิด (t=-12.80,


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p <.01)

ผลลัพธ์ที่ได้เป็นข้อมูลพื้นฐานสำหรับผู้บริหารการพยาบาลเพื่อพัฒนาทักษะภาวะผู้นำในตัวเองของพยาบาล เพื่อที่จะพัฒนาการปฏิบัติงานของพยาบาล ภาวะผู้นำของกลุ่ม และคุณภาพการดูแล

**คำสำคัญ:** ภาวะผู้นำในตนเอง พยาบาลประจำการ ผู้จัดการการพยาบาล โรงพยาบาลระดับตติยภูมิ

**Abstract**

Self-leadership is important in changing environments because it improves job performance, enhances group leadership, and quality of care. The purpose of this descriptive comparative study was to explore the self-leadership of staff nurses and nurse managers and to compare the differences between these groups. The sample included 406 staff nurses and 316 nurse managers who were selected from five tertiary hospitals in Yunnan Province in the People's Republic of China using multistage sampling. Research instruments included the Demographic Data Form and the Revised Self-Leadership Questionnaire (RSLQ). The Cronbach's alpha coefficients of RSLQ for staff nurses and nurse managers were .97 and .91 respectively. Descriptive statistics, Mann-Whitney U test, and independent t-test were used for data analysis.

**Results were as follows:**

1. For staff nurses, the overall mean score of self-leadership ($\bar{X}$ = 3.50, SD = .59) and its three dimensions including behavior-focused strategies ($\bar{X}$ = 3.53, SD = .60), natural reward strategies ($\bar{X}$ = 3.53, SD = .68), and constructive thought pattern strategies ($\bar{X}$ = 3.45, SD = .65) were at a moderate level.

2. For nurse managers, the overall mean score of self-leadership ($\bar{X}$ = 4.02, SD = .45) and its three dimensions including behavior-focused strategies ($\bar{X}$ = 4.03, SD = .46), natural reward strategies ($\bar{X}$ = 4.01, SD = .54), and constructive thought pattern strategies ($\bar{X}$ = 4.00, SD = .49) were at a high level.

3. There were significant differences between staff nurses and nurse managers in overall mean score of self-leadership (t= -13.32, p < .01) and its dimensions including behavior-focused strategies (t = -12.77, p < .01), natural reward strategies (z = -9.90, p < .01), and constructive thought pattern strategies (t = -12.80, p < .01).

These results provide baseline information for nurse administrators to enhance the self-leadership skills of nurses in order to improve job performance, group leadership, and quality of care.

**Keywords:** Self-leadership, Staff nurse, Nurse manager, Tertiary hospital

**Background and significance**

Healthcare reform has been a major economic and political focus worldwide as many countries face the pressure to improve or restructure their healthcare delivery system. The aim of this reform is to provide cost-effective service and increase the quality of care (Twaddle, 2002). In China, Li and Fu (2017 reported that new health care reform had focused on increasing the satisfaction of patients and improving healthcare quality and patient safety. In Yunnan province the patient safety culture was found to be at a moderate level (Ling, Thungjaroenkul & Chitpakdee, 2019).

Ugurluoglu, Saygih, Ozer, and Santas (2015) stated that in today's healthcare conditions, it is appropriate for organizations to encourage leaders to lead others towards self-leadership. Self-leadership is a concept that has attracted attention in recent years with regard to changes in leadership trends (Choi & Kim, 2014). According to its definition, self-leadership is a process that is composed of specific sets of designed behavioral and cognitive strategies involving behavior-focused strategies, natural reward strategies, and constructive thought pattern strategies to shape individual performance outcomes (Houghton & Neck, 2002). Self-leadership can guide nurses to cultivate their sense of solidarity with the organization as well as motivate nurses to participate actively in the work with autonomy and independence (Won & Cho, 2013). As for nurse managers, self-leadership may help them improve their critical thinking and decision making as Furtner, Hiller, Martini and Sachse (2012) proposed, self-leadership can also enable leaders to think effectively, behave congruently, and relate empathetically to others. Moreover, self-leadership can help to improve the quality of care for patients. Adequate self-leadership enhances nurses' effort on their job and influences their mental stability, improving job satisfaction by improving productivity and efficiency of nursing practices. It works as a key factor affecting high quality nursing service for patients (Choi & Kim, 2014).

Based on the literature review, in other countries, several studies about self-leadership have been conducted in non-nursing fields (Şahin, 2011; Carmeli, Meitar & Weisberg, 2006; Megheirkouni, 2018; Norris, 2008; Rickets, Carter, Place & McCoy, 2012). Only two studies (Moradpour, Abedi & Bahonar, 2017; Van, Mokuoane and Nel, 2017) were conducted with nurse managers and three studies (Kang, Choi, Park & Kim, 2010; Ugurluoglu et al., 2015, Yu & Ko, 2017) were conducted with staff nurses. No previous studies have studied self-leadership among nurses in China. Moreover, there were no studies about self-leadership that compared the difference of self-leadership between staff nurses and nurse managers in China.

Through the literature review, it was found that job position was associated with self-leadership among nurses. Two studies (Jooste & Cairns, 2014; Min et al., 2009) found that self-leadership differed significantly between staff nurses and nurse managers with nurse managers having a higher mean score of self-leadership than staff nurses in different countries using different instruments. However,

there were no studies about self-leadership that compared the difference of self-leadership between staff nurses and nurse managers in China.

In China, the job positions of nurses who work in nursing units can be categorized into staff nurse and nurse manager including the assistant head nurses, head nurses, supervisors, and directors (Li, Zeng, Yang, & Wang, 2016). Based on the job description of staff nurses and nurse managers in hospitals of Yunnan Province such as Puer People's hospital (2012b), the main responsibility of the staff nurse was clinical work under the nurse manager's leadership and assisting the nurse manager to accomplish organization work and achieve nursing goals. The nurse manager plays the main role of nursing management, using some organizational forms and methods to conduct, coordinate, and control subordinates to achieve the nursing goal. Because of the different job characteristics, nurse managers have a stronger sense of self-determination, autonomy and self-awareness as a leader. Thus, it seems that staff nurses have less opportunities to develop their self-leadership than nurse managers.

However, there is no evidence regarding self-leadership among staff nurses and nurse managers in China, especially in Yunnan province. Therefore, this study aimed to identify self-leadership among staff nurses and nurse managers in Yunnan province as well as to identify the difference between them. The results of this study will provide basic knowledge regarding nurses' self-leadership for nurse administrators as well as hospital administrators in order to enhance self-leadership skills, job performance, group leadership, and job satisfaction among nurses, which will lead to the improvement of the quality of nursing care and organizational effectiveness.

## Objectives

The purpose of this descriptive comparative study was to explore self-leadership in staff nurses and nurse managers as well as to compare the differences in self-leadership between them.

## Conceptual Framework

The conceptual framework was based on the self-leadership concept developed by Manz (1986; 1992), Manz and Neck (1991), and Manz and Sims (1991). Self-leadership is a self-influence process that comprises specific sets of behavioral and cognitive strategies designed to shape nurse performance outcomes. Self-leadership strategies can be categorized into three categories: behavior-focused strategies, natural reward strategies, and constructive thought pattern strategies. Behavior-focused strategies aim to enhance self-awareness and manage behaviors involving necessary but potentially unpleasant tasks. Natural reward strategies emphasize the pleasant aspects of a given task or activity. Natural or intrinsic rewards arise from the task itself, when a person is motivated or rewarded by the task itself. The constructive thought pattern strategies aim to promote the formation of constructive thinking patterns and habitual ways of thinking which can have a positive impact on performance. According to job description of staff nurses and nurse managers

in China, nurse managers' responsibilities help to develop their self-leadership more than those of staff nurses. Thus, in this study, the comparison of self-leadership between staff nurses and nurse managers was conducted. Until now, only two studies were conducted between staff nurses and nurse managers in other countries using different instruments rather than RSLQ (Houghton & Neck, 2002). Besides, there has been no research on self-leadership among nurses in China as well as to look at the difference of self-leadership between staff nurses and nurse managers.

## Methodology

### Population and sampling

A descriptive comparative study was conducted among staff nurses and nurse managers in five tertiary A hospitals in Yunnan province which included The First Affiliated Hospital of KMU (1stAH), The Second Affiliated Hospital of KMU (2ndAH), The Affiliated Yan'an Hospital of KMU (YAH), The First People's Hospital of Honghe State (1stHHH), and Puer People's Hospital (PEH). Multi-stage sampling methods were used to select the sample which included 432 staff nurses and 331 nurse managers from the specified hospitals. The inclusion criteria for this study included being a registered nurse (staff nurses and nurse managers) from the specified hospitals, work in probation period in hospital, and willing to participate in this study. Taro Yamane's (1973) formula with a significance level of 0.05 was used to determine the sample size.

### Research Instruments

The instrument used included two parts: 1) the Demographic Data Form and 2) the Revised Self-Leadership Questionnaire (RSLQ) developed by Houghton and Neck (2002) and translated into Chinese by Wang (2014). The RSLQ used a 5-point Likert scale (1 = not at all accurate, 2 = somewhat accurate, 3 = a little accurate, 4 = mostly accurate, and 5 = completely accurate) and consisted of 35 items within three dimensions including behavior-focused strategies (18 items), natural reward strategies (5 items) and constructive thought pattern strategies (12 items). The mean score interpretation of self-leadership was categorized into three levels: low (2.00-3.00), moderate (3 .01-4.00), and high (4.01-5.00), as suggested by Houghton. The RSLQ had very good construct validity (GFI = 0.94, NNFI = 0.88, IFI = 0.91 and CFI = 0.91) which was verified by Houghton and Neck (2002). The reliability of the instrument in this study was tested by the internal consistency of Cronbach's alpha. The Cronbach's alpha was .97 for staff nurses and .91 for nurse managers.

### Ethical Considerations

Before data collection, approval was provided by the Research Ethics Committee, Faculty of Nursing, Chiang Mai University, Thailand. Permission for data collection was obtained from the directors of the nursing departments in the 5 tertiary A hospitals in Yunnan Province. All participants were notified about the study purpose and methods and were informed of their right to refuse and withdrawal this study at any time. A research consent form was given to the participants to assure the protection of

human rights of the participants. A statement was included in a cover letter to grantee confidentiality and anonymity of individual responses.

**Data Collection**

Data collection was conducted from five tertiary hospitals in Yunnan Province. Questionnaires were distributed based on the sample size. Four hundred and six (93.40%) staff nurses of those in the study were included in the data analysis, while three hundred and sixteen nurse managers of those in the study (95.47%) were used for data analysis. Nurse managers included assistant head nurse (125), head nurse (175), supervisor (12), and director (4).

**Data Analysis**

Demographic data were analyzed using frequency, percentage, mean, and standard deviation. The level of self-leadership was analyzed by the mean and standard deviation. The difference of self-leadership and its dimensions between staff nurses and nurse managers were analyzed by using two independent t-test and Mann-Whitney U-test. The assumption of normal distribution of data was tested by the Kolmogorov-Smirnov (KS) test before comparing the difference between staff nurses and nurse managers. Finally, the results showed that overall self-leadership, behavior-focused strategies, and constructive thought pattern strategies were of normal distribution. However, the natural reward strategies were a non-normal distribution. Thus, two independent t-tests were used to analyze the difference of overall self-leadership, behavior-focused strategies, and constructive thought pattern strategies between staff nurses and nurse managers. While the Mann-Whitney U-test was used to analyze the difference in natural reward strategies between staff nurses and nurse managers.

**Results**

1. In this study, a similar proportion of staff nurses and nurse managers shared some demographic characteristics such as department, gender, and educational level. The largest number of participants worked in the medical department, staff nurses (33.5%) and nurse managers (30.79%). The vast majority of staff nurses (97.04%) and nurse managers (97.15%) were women. Most participants were married, staff nurses (74.14%) and nurse managers (89.56%). The majority of staff nurses (79.8%) and nurse managers (92.72%) held a bachelor degree.

2. The staff nurses and nurse managers differed in age, professional title, years of work experience, and employment type. Almost half of staff nurses (43.83%) were 21-30 years old, while 49.37% of nurse managers were aged 31-40 years old. In the professional title group, more than half of the staff nurses were senior nurses (51.23%), while most nurse managers were nurses in charge (60.76%). For work experience, the largest proportion of staff nurses had worked for 4-9 years was (38.92%), while the majority of nurse managers have worked for more than 15 years (73.42%). More than half of the staff nurses were temporary nurses (70.2%). On the contrary, the majority of nurse managers were permanent nurses (91.77%).

3. For staff nurses, the mean score of

self-leadership was 3.50 (SD = .59). Behavior-focused strategies, natural reward strategies, and constructive thought pattern strategies were 3.53 (SD = .60), 3.53 (SD = .68) and 3.45 (SD = .65), respectively. Self-leadership and its dimension were at a moderate level. The mean score of self-leadership and its dimension among nurse managers was 4.02 (SD = .45), 4.03 (SD = .46), and 4.01 (SD = .54) and 4.00 (SD = .49) respectively. So, the self-leadership and its dimensions among nurse managers were at a high level.

4. The results also showed that the overall mean score of self-leadership and its dimensions had a significant difference between staff nurses and nurse managers (Table 1).

**Table1** Comparison of Self-Leadership and its dimension between Staff Nurse and Nurse Managers

| | Staff nurses (n=406) | | Nurse managers (n=316) | | t/z | p-value |
|---|---|---|---|---|---|---|
| | $\bar{X}$ | SD | $\bar{X}$ | SD | | |
| Self-leadership | 3.50 | .59 | 4.02 | .45 | -13.32* | .01 |
| Behavior-focused strategies | 3.53 | .60 | 4.03 | .46 | -12.77* | .01 |
| Natural reward strategies | 3.53 | .68 | 4.01 | .54 | -9.90** | .01 |
| Constructive thought pattern strategies | 3.45 | .65 | 4.00 | .49 | -12.80* | .01 |

Note: *independent t-test, **Mann Whitney U-test

**Discussion**

1. Self-leadership of staff nurses

The results of this study showed that the overall mean score of self-leadership among staff nurses was at a moderate level ($\bar{X}$ = 3.50, SD = .59). This finding was consistent with the results of two previous studies using the same research instrument; conducted among nursing undergraduates (Li, Li, Du, Zhang & Chen, 2016) and intern nursing students (Yang, Ge & Yang, 2018). It seems that there are some situational benefits for staff nurses to develop self-leadership in China, and some factors that may interfere with the development. The reasons are as follows.

The market-oriented health system, beginning in the 1980s (Yip et al.2012) in China may be the first factor that may promote self-leadership development of staff nurses. Under the market-oriented health system, hospitals in China had to adopt a decentralized, organic organizational structure (Sun & Han, 2011); which requires employees to improve the ability of self-motivation and self-direction, and then improve the self-leadership skill to take more responsibilities about their work (Costello, Brunner, & Hasty, 2002). Therefore, staff nurses had more opportunities to develop self-leadership than before. Empowerment management is another possible reason which can help staff nurses improve the self-leadership skill.

Empowerment management has gradually played an important role in the management of nursing human resources in Chinese hospitals; which helps to exert the highest potential of existing personnel and improve the quality of nursing care on the premise of limited medical resources (Cui, Xuan & Yin, 2010). Amundsen and Martinsen (2015) stated that empowerment behavior of a leader has a positive impact on employees' self-leadership.

However, some factors can also hinder staff nurses to develop self-leadership skills. Firstly, both hospitals and staff nurses do not realize the importance of nurses' competence in leadership. Jia (2013) found that both leaders and staff nurses didn't recognize leadership as a necessary ability for every nurse, which is a factor that impacts the staff nurses' development of self-leadership. In addition, based on the investigation of this study, there were few opportunities for staff nurses to receive leadership training. Thus, staff nurses work under nurse mangers and lack the self-awareness about their work and the ability of self-motivation and self-direction. Secondly, the nursing shortage as well as the lack of respect for nurses and the nursing profession were other factors that may hinder staff nurses from developing self-leadership. In China, the highest nurse to patient ratio is 5.3 nurses per 1,000 people, but there were only 1.3 nurses in Yunnan province in 2015 (Wang, 2016). The China Social Welfare foundation 919 Nurse Care Program (2017) found that 41.2% of nurses suffered from excessive behavior of patients or family members in the past year and 83.3% of nurses did not feel respected by patients. Besides, emphasis on rewards of organization in Tertiary Hospitals of Yunnan Province at a less prominent level (Yao, Chontawan & Akkadechanunt, 2016). Based on Ross (2014), positive experiences have beneficial impacts on the individual's self-esteem and self-concept because success stems from external and internal rewards that reinforce the individual's commitment to improve self-leadership. At the same time, the lack of self-esteem will reduce the individual's commitment to improve self-leadership.

The results also showed that staff nurses scored lower on the constructive thought pattern strategies dimension than other aspects which scored within the moderate range. Difficult or troubling situations with heavy workloads and stress may lead to a lower score of constructive thought pattern strategies. Difficult or troubling situations can lead to dysfunctional beliefs and assumptions (Houghton, Neck, & Manz, 2003). During difficult or troubling situations, the obstacles in thinking will produce and involve a focus on the negative aspects of these challenges (Houghton et al., 2003). The tendency to think in extreme, black or write categories will emerge (Burns, 1980). Consequently, staff nurses may not identify the dysfunctional beliefs and assumptions and replace them with more rational and realistic ones. The staff nurses also cannot build positive dialogues. The high level stress can also lead to anxiety, depression or frustration which lead to unclear thinking and the lack of creativity to picture successful performance of important tasks or reactions to certain pressures (Mokuoane, 2014).

2. Self-leadership of the nurse managers

The results of this study showed that the overall mean score of self-leadership of nurse managers was at a high level ($\bar{X}$ = 4.02, SD = .45). The result of this study got a higher mean score than another study conducted by Moradpour et al., (2017); which used the same instrument in Iran. It indicated that self-leadership was at a moderate level. One possible explanation for this finding may be nurse managers have a strong self-awareness as a leader. A person who has strong self-awareness will find it is easy to regulate their emotional expressions, their fears and impulsive behavior when threatened or rejected (George, 2010). Thus, nurse managers will achieve the self-direction and self-motivation necessary to perform. In addition, practicing nursing from the perspective of leadership requires head nurses to be responsible and autonomous in their daily work. In order to perform tasks effectively, the nurse manager has to control personal actions, to be self-aware, and to utilize personal strength.

3. Comparing self-leadership between staff nurses and nurse managers

The results of this study showed that the overall mean score of self-leadership was significantly different between staff nurses and nurse managers (Table 1). This result was consistent with two previous studies. Two studies stated that self-leadership was significantly different between staff nurses and nurse managers (Min et al., 2009;Jooste & Cairns, 2014). Several reasons can explain this result. They are as follows.

Firstly, compared with staff nurses, nurse managers have a stronger sense of self-awareness as a leader. A person who has strong self-awareness will find it is easy to regulate their emotional expressions, their fears and impulsive behavior when threatened or rejected (George, 2010). Thusly, nurse managers will have a greater ability for self-direction and self-motivation than staff nurses. Consequently, nurse managers will have a higher leadership skill than staff nurses.

Secondly, nurse managers have more opportunities to take part in leadership training. Nurse managers receive leadership training at least three times a year through seminars inside or outside the hospital (Puer People's Hospital, 2012b). Ugurluoglu et al. (2015) found that the participants trained in leadership are observed to have higher scores of self-leadership.

Lastly, in this study, the demographic data is also a factor that might be related to the difference of self-leadership between staff nurses and nurse managers. In terms of age, the largest percentage staff nurses (43.84%) were aged 21 to 30, while the largest percentage of nurse managers (49.37%) were aged 31 to 40 years old. Several studies have stated self-leadership grows with age (Kang et al., 2010; Jung & Koh, 2012; Şahin, 2011). In this study, average work experience of nurse managers is higher than staff nurses, 38.82% of staff nurses worked in the hospital for 4 to 9 years as compared to 73.42% of nurse managers who worked in hospital for over 15 years. Several studies have indicated that the self-leadership grows with years of experience (Jung and Koh, 2012;

Kang et al., 2010; Moradpour et al. 2017). In this study, 70.2% of staff nurses were temporary nurses. On the contrary, 91.77% of nurse managers were permanent nurses. Jooste and Le (2014) stated that in contrast to temporary nurses, permanent nurses feel valued and have a sense of job security, and that these benefits may increase their motivation and self-leadership in the organization.

## Conclusions and Recommendations

The results of this study showed that the overall mean score of self-leadership and its dimensions were at a moderate level among staff nurses and at a high level among nurse managers. There were significant differences in the overall mean score of self-leadership and its dimensions between a staff nurse and nurse manager.

The findings of this research present the basic information of self-leadership for nursing and hospital administrators under the current situations in five tertiary hospitals of Yunnan Province, the P.R. China.

1. Based on the findings, the staff nurses' self-leadership was at a moderate level while the nurse managers' self-leadership was at a high level. The results of this study indicate that nurse managers and hospital administrators should pay attention to improve the self-leadership of staff nurses through seminars or workshops. Meanwhile, for the nurse managers, in order to keep the high level of self-leadership, it is necessary to take part in the staff nurses' workshops or seminars as an organizer and share the experience with staff nurses.

2. Nursing and hospital administrators could use the results of this study as basic information to consider the specific strategies to increase the self-leadership skill of staff nurses. The possible strategies could include: 1) guiding staff nurses to set career goals for themselves based on the career ladder of the hospital; 2) cultivating leadership behavior through a leadership training program to improve staff nurses' self-awareness as a leader; and 3) encourage and openly discuss the beliefs and assumptions by the team to develop and maintain more functional and realistic beliefs and assumptions.

Recommendations for future research studies are as follows:

1. Replicate this study in other types of hospitals and other regions of China.

2. Study other personal characteristics such as self-control, self-esteem, emotional balance, and self-determination which have an impact on self-leadership should be conducted with a correlation study or predictive study.

3. The intervention studies should be conducted among nurses in the future.

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