CHAPTER 4

Findings and Discussions

The purposes of this study were to examine transformational leadership of head nurses and team potency, as well as the relationship between transformational leadership of head nurses and team potency in university hospitals, Shanghai, the People's Republic of China. The findings are presented in four parts with tables and descriptions: 1) demographic data of the subjects; 2) transformational leadership of head nurses as perceived by nursing teams; 3) team potency as perceived by nursing teams; and 4) the relationship between transformational leadership of head nurses and team potency among nursing teams. Discussion is conducted based on the research objectives and the results of this study.

Findings

Demographic Data of the Subjects

Subjects in this study consisted of 339 nurses. The demographic data of the subjects are presented in Table 4-1.

Table 4-1

Frequency, Percentage, Mean, Standard Deviation, and Range of the Subjects Categorized by Demographic Characteristics

Demographic Characteristics	Frequency (n)	Percentage (%)
Age (years) (n = 334, $\overline{X}$ = 32.80, SD = 6.44, range = 21-53)		
21-30	141	42.22
31-40	150	44.91
41-50	38	11.38
> 50	5	1.49
Gender (n = 334)		
Female	331	99.10
Male	3	0.90
Marital status (n = 333)		
Single	96	28.83
Married	234	70.27
Others (such as divorced, widowed)	3	0.90
Educational level (n = 334)		
Diploma degree	191	57.19
Bachelor degree	143	42.81
Professional title (n = 333)		
Junior nurse	89	26.73
Senior nurse	173	51.95
Nurse in charge	71	21.32

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Table 4-1 (continued)

Demographic Characteristics	Frequency (n)	Percentage (%)
Working unit (n = 333)		
Medical	152	45.65
Surgical	84	25.23
Pediatric	6	1.80
Intensive care unit	22	6.61
Emergency department	17	5.11
Out-patient department	15	4.50
Specially unit (such as oncology unit, infectious disease department)	37	11.10
Number of years working in the present unit (n=334, $\overline{X}$ =8.80, SD = 6.91, range = 0.5-32)		
< 3	61	18.26
3-10	175	52.40
11-20	75	22.46
21-30	21	6.29
> 30	2	0.59

Table 4-1 showed that the age of the subjects ranged from 21 to 53, and the average age was 32.80 years old (SD = 6.44). 44.91% of the subjects were between 31-40 years old, while 41.92% subjects were between 21-30 years old. Almost 99.10% of the subjects were women and the majority of the subjects were married (70.27%). More than half of the subjects (57.19%) held a diploma degree. More than half of the subjects (51.95%) were senior nurses. About 45.65% of the subjects worked in medical units, and 25.23% of the subjects worked in surgical units. More than half of the subjects (52.40%) had 3-10 years working experience in the present units with a range from 0.5 to 32, and the mean of working experience was 8.80 years (SD = 6.91).

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Transformational Leadership of Head Nurses as Perceived by Nursing Teams

Representatives of the 113 nursing teams in this study are 339 nurses in the four Level-A tertiary general hospitals affiliated to Shanghai University of TCM, Shanghai, the People's Republic of China. This part illustrates overall each dimension of transformational leadership of head nurses perceived by the 113 nursing teams. The results are showed in Table 3.

Table 4-2

Means, Standard Deviations, and the Level of Overall and Sub-Dimensions of
Transformational Leadership of Head Nurses as Perceived by Nursing Teams (n = 113)

Transformational Leadership (TL)	Mean	SD	Level
Overall transformational leadership	4.25	0.58	High
Sub-dimensions of TL			
Enable others to act	4.45	0.49	
Model the way	4.34	0.52	
Encourage the heart	4.27	0.50	
Inspire a shared vision	4.19	0.57	
Challenge the process	4.04	0.52	

As shown in Table 4-2, the nursing teams perceived overall transformational leadership of head nurses at a high level ($\overline{X}$ = 4.25, SD = 0.58). Regarding each sub-dimension, nurses rated the sub-dimension of "Enable others to act" as the highest mean score ($\overline{X}$ = 4.45, SD = 0.49), followed by "Model the way" ($\overline{X}$ = 4.34, SD = 0.52), "Encourage the heart" ($\overline{X}$ = 4.27, SD = 0.50), "Inspire a shared vision" ($\overline{X}$ = 4.19, SD = 0.57), and "Challenge the process" ($\overline{X}$ = 4.04, SD = 0.52).

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Team Potency as Perceived by Nursing Teams

This part describes the level of team potency perceived by the 113 nursing teams. Team score ranging from 2.34-3.66 was defined as a moderate level and ranging from 3.67-5.00 was defined as a high level. The results are showed in Table 4-3.

Table 4-3

Frequency and Percentage of Nursing Teams across the Level of Team Potency (n = 113)

Team Potency	Frequency (n)	Percentage (%)
Moderate level	23	20.35
High level	90	79.65

As shown in Table 4-3, most nursing teams (79.65%) perceived high levels of team potency, but 20.35% of the nursing teams only perceived moderate levels of team potency.

The Relationship between Transformational Leadership of Head Nurses and Team Potency among Nursing Teams

This part aimed to investigate the relationship between transformational leadership of head nurses and team potency among nursing teams. Data showed non-normal distribution, so Spearman's rank-order correlation coefficient was used. The results indicated that there was a strong positive relationship between transformational leadership of head nurses and team potency ($r_s = .57$, $p < .01$).

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The results of this study were discussed in three parts according to the research questions. These objectives are discussed as follows: 1) Transformational leadership of head nurses as perceived by nursing teams in university hospitals, Shanghai, the People's Republic of China; 2) Team potency as perceived by nursing teams in university hospitals, Shanghai, the People's Republic of China; and 3) The relationship between transformational leadership of head nurses and team potency in university hospitals, Shanghai, the People's Republic of China.

Transformational Leadership of Head Nurses as Perceived by Nursing Teams in University Hospitals, Shanghai, the People's Republic of China

The results of this study showed that the majority of nursing teams perceived that their head nurses had a high level of overall transformational leadership ($\overline{X} = 4.25$, SD = 0.58) (Table 4-2). This result was inconsistent with a previous study of transformational leadership among nurses at the individual level in Shanghai, China by Hu et al. (1999), which showed that individual nurses only experienced a moderate level of overall transformational leadership of head nurses. This increase might be due to progress of transformational leadership of head nurses in the past several years in China due to improvements in educational levels, role expectations, and multiple leadership training programs. Nurses with diploma degrees or with a higher level of education have increased from 23.5% to 50.7% during last ten years (Shanghai Municipal Commission of Health and Family Planning, 2012). Head nurses' educational levels have improved as well. Furthermore, there is a higher level of expectation of head nurses' as leaders, planners, supervisors, mentors, innovators, and communicators in the organizations (Zhang et al., 2012). The Nursing Association and healthcare organizations recognize the importance of transformational leadership for head nurses. As a result, they have provided various kinds of management and leadership training programs for head nurses to improve their leadership knowledge and skills.

Considering each sub-dimension of transformational leadership of head nurses, the results revealed that nurses in this study rated "Enable others to act" as the highest mean score ($\overline{X} = 4.45$, SD = 0.49), followed by "Model the way" ($\overline{X} = 4.34$, SD = 0.52),

"Encourage the heart" ($\overline{X}$ = 4.27, SD = 0.50), "Inspire a shared vision" ($\overline{X}$ = 4.19, SD = 0.57), and "Challenge the process" ($\overline{X}$ = 4.04, SD = 0.52).

"Enable others to act" is an important responsibility of a leader and involves the promotion of cooperative goals, seeking integrative solutions and building trusting relationships (Kouze & Posner, 2002). If team leaders utilized "Enable others to act" well, team members would feel capable and powerful to perform their jobs (Spence Laschinger, Wong, Grau, Read, & Pineau Stam, 2012). This study illustrated that head nurses in Shanghai practiced "Enable others to act" successfully. A probable explanation for this finding might be the nursing hierarchy in the hospital organization. Chinese head nurses have been reported to involve nurses in planning and in their own decision making (Jin, 2005). Therefore, the head nurses could foster collaboration by promoting goals of cooperation and building mutual trust through empowering followers. Head nurses in China have been shown to be aware of the importance of empowerment in their leadership behavior (Chen, Liang & Zhang, 2008). They trusted their followers' capabilities and competencies in the nursing profession and allowed followers to collaborate freely. Head nurses empowered the exceptional nurses to participate in management, such as quality control, risk management and patient care improvement (Zhou & Yi, 2008). This power sharing made nurses feel capable and gave them a sense of ownership for their work. Thus, nurses were strongly committed to take responsibilities in nursing teams.

"Encourage the heart" and "Model the way" are vital leadership functions that involve leaders as role models, showing appreciation for individual excellence and making followers feel esteemed (Kouze & Posner, 2002). Head nurses practiced these two behaviors leading nursing teams to increase productivity, to be more effective, and to promote job satisfaction (Cummings et al., 2010). The results of the present study indicate that nursing teams in Shanghai thought their head nurses practiced these two functions skillfully. This might be due to Chinese culture and the value that is placed upon head nurses and the expectation of their competencies. Chinese cultural values are based significantly on Confucianism, which influences nursing leadership (Chang, 2008). Confucianism considers personal integrity (Yi) in that one's leaders come first, which exemplifies how leaders work with their staff in the present nursing

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environments in China. Chinese culture states that the roles of leadership should be as directors, parents, and mentors. As team leaders, they direct the way both emotionally and professionally, forming strategic planning, setting standards, and implementing risk prevention, motivating nurses to achieve their goals, and rewarding these achievements (Kang & Chang, 2001). In China, head nurses often set a model for others to follow and inspire nurses to perform better through recognition and celebration.

According to the competency-based orientation, the competencies of head nurses in tertiary hospitals include expert knowledge and skill in nursing profession, personality competencies, and management competencies (Zhang, Li, & Li, 2009). Because of these competencies, head nurses in Shanghai who had the most prominent personality in the nursing teams served as role models. By praising and celebrating achievements together, head nurses give the staff nurses a sense of belonging and ownership with nursing teams (Hong, Li, Zhang, & Lu, 2013). For example, if one nurse does a good job, the head nurse will praise her or him in front of other team members. This behavior is not only to contribute to the confidence of that nurse, but also for encouraging others to do better and building a good teamwork atmosphere.

Another possible explanation is due to the impact of gender. Most of subjects in this study are female (99.10%) (Table 4-1). Compared with men, women are more perceptual to observe transformational leadership of their leaders (Posner, 2010). Females were more frequently associated with "Encouraging by heart" and "Modeling the way" behaviors than males; while males exhibited more in "Challenge the process" (Brandt & Laiho, 2013; Rupe, 2007). On the other hand, most of head nurses in China are female. Recent researches indicate that transformational leadership is more common in women than men (Eagly, Johannesen-Schmidt, & Van Engen, 2003).

However, this study illustrates that head nurses as team leaders should improve leadership practices regarding "Inspire a shared vision" and "Challenge the process". "Inspire a shared vision" is defined as leaders inspiring their followers to foster a commitment to a shared future of what the organization will become and to create enthusiasm and excitement for this hopeful future. "Challenge the process" is defined as leaders who seek out a way to change the status quo by creating, recognizing, and supporting new ideas of products, processes, and services, while they experiment and

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take risks with new approaches (Kouze & Posner, 2002). The leaders will perform these two leadership practices well if they have particular characteristics, such as high emotional intelligence, effective communication, strong influence in the health care context, and a more educational approach. However, head nurses in Shanghai face some problems which impede optimal performance in these two functions.

Firstly, as the first-line managers, head nurses experienced a lack of participation in decision making in hospitals. The power structure of the hospital culture required the head nurses to follow doctors' authority and behave strictly according to their rank in the organizations (Shao & Webber, 2006). Moreover, the standards of nursing care are increasing and technology is changing rapidly. Although head nurses try to find opportunities to change and innovate, they met a lot of stressors when they sought to inspire a vision and challenge the process.

Secondly, head nurses were not willing to take risks with innovation for fear of failure. Among items denoting access to challenge the process, the lowest score rated in item "*Your head nurse experiments and takes risks with new approaches to his or her work even when there is a chance of failure*" ($\overline{X}$ = 3.60, SD = 1.07) (Appendix A). This might be due to the fear of failure and its impact on year-end head nurse evaluations. Moreover, failure would reduce their confidence and desire towards innovation.

Leadership behaviors regarding "Inspire a shared vision" and "Challenge the process" can be enhanced through nursing leadership training programs that help head nurses learn how to cope with leadership challenges in situational constraints (Curtis, de Vries, & Sheerin, 2011). The training programs emphasize relationship skills, critical and creative thinking, emotional intelligence, and accumulation of experience. Effective communication could bridge the gap between training and practice. Head nurses need to transform nursing teams and promote learning within the organization which could enhance the whole team's capabilities to meet complex problems (Hong et al., 2013). Furthermore, nurses had a stronger emotional dependence in a team environment (Ergeneli, Gohar, & Temirbekova, 2007). Nursing team members who had a positive attitude for tasks impacted on others actions. This meant head nurses need to improve their emotional intelligence for inspiring and skills of negotiation. Knowledge sharing was another important element for head nurses acquire, as it has been connected to

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expected outcomes, such as organizational learning, and creativity (Cummings, 2004). This would act to motivate others to do change and to help build confidence when facing challenges. Moreover, to boost innovation, head nurses need to realize the benefits of teamwork, because nurses in the team have diverse skills and information to develop new ideas in the creative thinking process (Drach-Zahavy & Somech, 2001). A transformational leadership training program had an effect on the head nurses' leadership practices (Duygulu & Kublay, 2011). Development of transformational leadership skills should be continuous.

Team Potency as Perceived by Nursing Teams in University Hospitals, Shanghai, the People's Republic of China

The results of this study demonstrated that the majority of the nursing teams (79.65%) perceived their teams as having high team potency. They believed that with some effort, their teams could achieve good performance in their tasks of nursing care.

One probable explanation for this finding might be related to the demographic characteristics of the subjects. According to the findings (Table 4-1), the average number of years working in the present unit for team members was 8.80 years. About half (51.95%) of the subjects were senior nurses, and 21.32% of the subjects were nurses in charge. Senior nurses and nurses in charge usually had accumulated and assimilated knowledge and skills to achieve complex tasks and to guide junior nurses in nursing care. Individual members' knowledge and skills influenced the team's sense of confidence in performance. This finding was consistent with the findings of Guzzo et al.'s study (1993) that members' experiences, knowledge, skills, and abilities were internal factors that influenced team potency. Based on Guzzo et al.'s potency theory, these internal factors concerned the qualities and characteristics of the individual members which would help the team to cope general tasks.

Another probable explanation is that working in teams was a natural work condition for nurses in clinical nursing care. The current nursing work pattern in Shanghai was that nurses worked in teams, taking set responsibilities to provide holistic care to a specific group of patients (Gong, Lu, Wang, & Wu, 2012). Team members worked with cooperation and inter-dependence. Thus, nurses believed the success of

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task achievements to be a team effort. Moreover, in this team condition, positive attitudes and beliefs from head nurses or colleagues might help to transform the general belief of the whole nursing team.

However, 20.35% of nursing teams perceived their teams had moderate levels of team potency, which would reduce nursing team effectiveness. Among items denoting access to team potency, the high percentage of moderate score (score 2 and score 3) item was "*My group believes no task is too tough for my group*" (82.61%) (Appendix B). It meant that the subjects sometimes felt that some tasks were too difficult for their group to complete. A possible explanation would be that individual members regarded that they did not get enough support from the organizations. Perceived organizational support has been shown to be positively related to a sense of potency in teams (Shelton, Waite, & Makela, 2010). In clinical units, nursing teams were facing the challenges from the project of high quality of nursing care (MOH, 2013b). They expected more resources from the organizations to do their work more effectively, such as information, training programs, budget, human resources, and materials. Every team member also had different individual expectations regarding organizational support. A high standard of nursing care with limited resources from organizations might lead nurses to feel some difficulties in achieving their tasks.

The Relationship Between Transformational Leadership of Head Nurses and Team Potency in University Hospitals, Shanghai, the People's Republic of China

The results of this study showed that overall transformational leadership of head nurses significantly strongly positively correlated to team potency at the team level (r_s = .57, p < .01). The findings of this study was congruent with previous studies done in other professions that showed transformational leadership had a positive relationship with team potency (DeGroot et al., 2000; Gully et al., 2002; Schaubroeck et al., 2007; Shamir et al., 1993; Sivasubramaniam et al., 2002; Sosik et al., 1998). It could be interpreted that effective transformational leadership of head nurses increased team potency.

According to Guzzo et al.'s theory (1993), team potency is an important indicator of capabilities of the nursing team. It represented team members' shared beliefs about

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capabilities of the team across general tasks and contexts (Guzzo et al., 1993). Head nurses with transformational leadership behaviors influence team potency beliefs by changing the internal and external factors that shape potency.
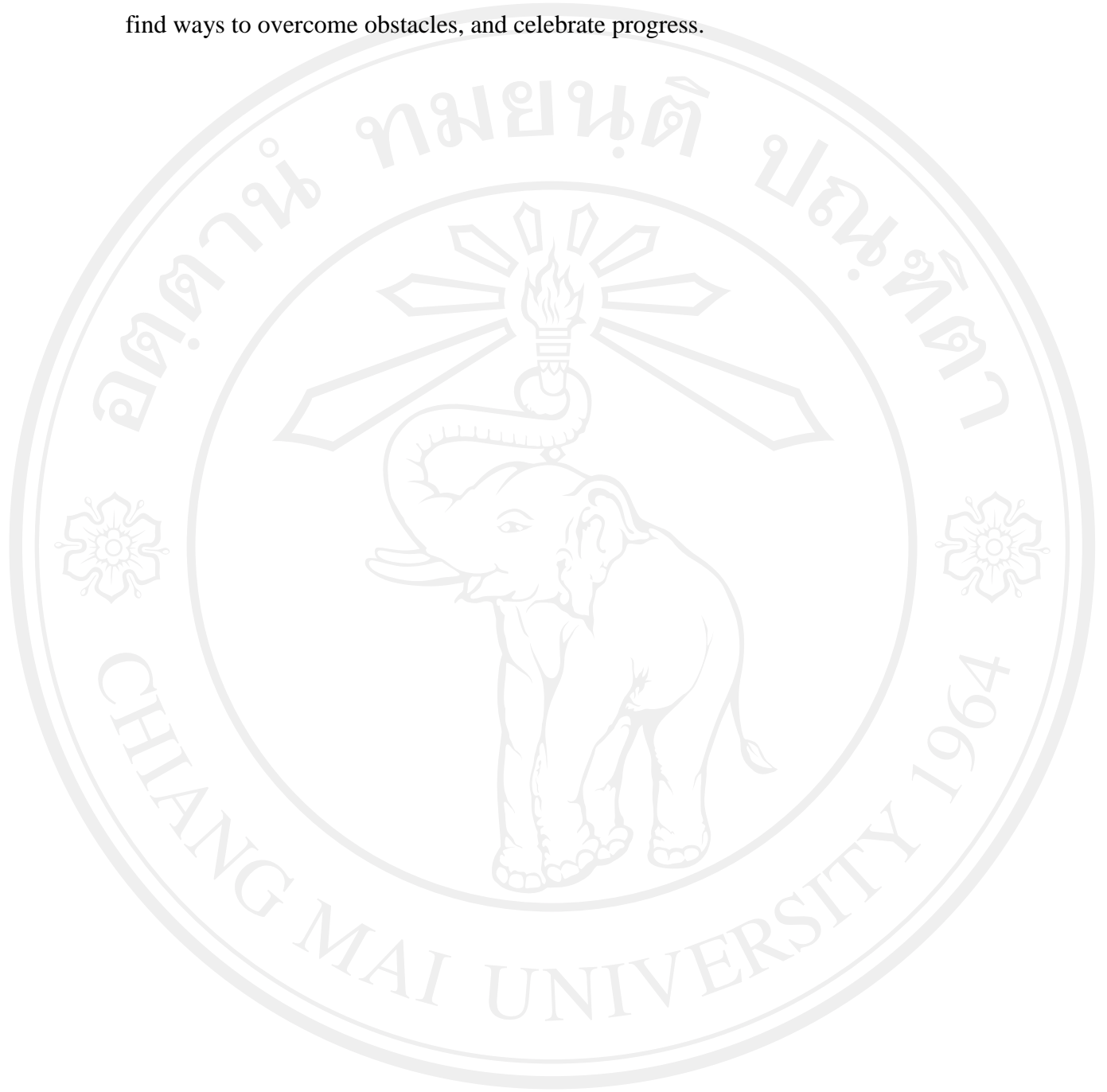
Firstly, head nurses with transformational leadership behaviors effectively carried a stronger belief in nursing team capacity to perform well since they worked on the floor with nurses. They fostered acceptance of team goals within the nursing teams and shaped members' team identification by inspiring a shared vision. Nurses generated enthusiasm through verbal persuasion from their head nurses. Shared values and common goals became salient to the members when each member viewed their role in terms of their relationship and value to the group (Wu, Tsui, & Kinicki, 2010).

Secondly, transformational head nurses had high expectations for themselves and their followers. Head nurses motivated and promoted individual members' self-efficacy by using "Enable to act" and "Encourage the heart". Based on empowerment in daily demonstrations and rewarding good team performance, nurses felt that they carried ownership and responsibilities in nursing teams. They had the confidence necessary as well as the knowledge and skills to engage in nursing care (Lam, 2012). Furthermore, celebrating team achievements together and the accumulation of successful experiences for nurses in teamwork could build a sense of belief that the nursing teams were high-performing teams.

Additionally, transformational head nurses created a learning environment in nursing teams. They set examples for their followers and looked for opportunities and innovative ways to improve their nursing teams. During this process, nurses were sharing knowledge and learning from failures. According to the effect of learning behavior, team members felt they could solve problems by common effort (Van Emmerik, Jawaha, Schreurs, & De Cuyper, 2011).

Therefore, team potency was likely to be higher in nursing teams if head nurses practiced transformational leadership well. Team potency reflected members' confidence by successfully carrying out nursing care tasks. To build member confidence in nursing teams, head nurses could display optimism and positive attitudes, express

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confidence in the team, set goals that define success, help and support team members to find ways to overcome obstacles, and celebrate progress.

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