The relationship between nurse managers transformational leadership style and staff nurses emotional intelligence

Eman Salman Taie[1], Amira Fathy Akeel[2], Dina Ramadan Farg[3]

[1]A Professor of Nursing Administration, Helwan University, Egypt.

[2]Lecture of Nursing Administration. Modern University for Technology and Information (MTI), Egypt.

[3]B.Sc. Nursing, Sohag University, Egypt.

Abstract

Emotional intelligence and transformational leadership are two crucial aspects for nurses to be able to motivate themselves and develop intra-hospital relationships. To assess the relationship between nurse managers' transformational leadership style and staff nurses' emotional intelligence. Descriptive correlational research design was utilized, and the study conducted at Nasser Institute Hospital. Composed of two group: (55) nursing managers and (385) staff nurses. Two tools were used: Multifactor Leadership Scale and Wong and Law Emotional Intelligences Scale. Total transformational leadership style level for nurse managers was moderate (43.5%) and only (27.4%) was high. In addition, total emotional intelligence for staff nurses was high (54.3%) and only (18.4%) was moderate. There was a highly statistically significant strong positive relationship between all transformational leadership style dimensions and all emotional intelligence items among studied nursing personnel. Healthcare organizations should, recruit and select highly intelligent nursing professionals to support quality of health care services. Further studies: Transformational leadership as a mediator between emotional intelligence, organizational citizenship behavior and team outcomes.

Full length article *Corresponding Author*, e-mail: *melsayed@horus.edu.eg*

1. Introduction

The world is undergoing enormous and ongoing changes right now, from technological advancement to increased global competition. The company, like the rest of the world, wants to adapt and compete in order to motivate and inspire personnel, while also enhancing performance. Emotional intelligence and transformational leadership are practical talents to respond to or address significant changes and problems in the workplace. Many different leadership philosophies and techniques have arisen in the workplace, but emotional intelligence abilities and transformational leadership have been proven to be more efficient and superior methods for handling difficulties, crises, and demanding work environments [1].

Leadership style is an important factor in improving the productivity of healthcare organizations. Leadership styles and a shared vision of organizational goals and mandates play an important role in hospital quality in patient safety and cost efficiency [2]. Good leaders truly demonstrate the needs of their followers to understand group behavior and take time to assess their motivations and satisfaction levels [3]. Transformational leadership is a process of change in which leaders motivate their followers to believe that they

will achieve greater results. The long-term goal of transformational leadership is to change and change the mindset of employees to lead effectively [4]. The national nursing leadership recognizes that transformational leaders are the pillars that create a culture of patient safety in the care delivery model of the future, and emphasizes that nurse leaders facilitate the development of resources to meet quality care providers [5].

Emotional intelligence is the ability to make accurate judgments about emotions and the ability to use emotions and emotional knowledge to enhance reasoning [6]. People with higher emotional intelligence have higher interpersonal cognitive abilities, better interpersonal skills, more self-confidence, easier intellectual development, higher job quality and productivity of work [7]. Emotional intelligence affects job outcomes such as nursing staff job satisfaction turnover intentions and actual turnover [8]. Emotional intelligence is an indicator of productivity and success that can influence the behaviors responsible for quality care [9].

Depending on their skills and contributions, a leader's emotional intelligence is a critical factor in ensuring the organizational environment operates effectively. These

leaders had a greater level of emotional intelligence, according to this author may make the worth of work and the connections between people and organizations clear, which makes people more likely to cooperate and share resources to accomplish shared objectives [3]. Improving communication and collaboration between managers and employees requires emotional intelligence and transformational leadership in the workplace. However, some research has shown a significant relationship between emotional intelligence and transformational leadership. Academic leaders should consider utilizing emotional intelligence to advance their expertise and leadership [1]. Therefore, this study aimed to assess the relationship between nurse managers' transformational leadership style and staff nurses' emotional intelligence.

1.1 Significance of the study

In recent years, the relationship between transformational leadership and emotional intelligence has drawn more and more attention. Transformational leadership is considered to be one of the most effective leadership styles in establishing positive nurses' outcomes and supporting nurses by engaging them emotionally and intellectually [10]. A crucial aspect of transformational leadership is emotional intelligence (EI) that demonstrates a leader's capacity to comprehend how their thoughts, feelings, and deeds impact those around them inside the organization. Therefore, lack of emotional intelligence in leaders can have negative effects on all nursing personnel and organization outcomes [11].

Emotional intelligence development is now increasingly recognized as part of leadership. Thus, emotional intelligence in corporate executives is one of the traits that is beginning to develop [12]. When leaders are emotionally intelligent they work to create shared objectives, foster appreciation for work activities in others, uphold overall employee morale and trust, promote flexibility in decision-making processes, and create and maintain a strong sense of identity for the entire organization [13]. For nurses and managers to connect and work together more successfully, emotional intelligence and transformational leadership are essential. Emotional intelligence and organizational success are connected by transformational leadership [14]. Leaders should think about implementing emotional intelligence to integrate and expand capacity to promote professionalism [15].

1.2 Aim of the study

The aim of the present research was to assess the relationship between nurse managers' transformational leadership style and staff nurses' emotional intelligence through:
1. Determine nurse managers' transformational leadership style level.
2. Identify staff nurses' emotional intelligence level.
3. Find out the relationship between nurse managers' transformational leadership style and staff nurses' emotional intelligence.

1.3 Research questions
1. What is nurse managers' transformational leadership style level?
2. What is staff nurses' emotional intelligence level?

3. Is there relationship between nurse managers' transformational leadership style and staff nurses' emotional intelligence?

2. Subject and methods
2.1 Research design
A descriptive correlational design was used to carry out this study.

2.2 Setting
The study was conducted in one of general secretariat hospitals for Nasser Institute Hospital.

2.3 Subjects of the study
2.3.1 Sample size
All nursing personnel included (55) nursing managers and (385) staff nurses after removing exclusion criteria.

2.3.2 Data collection Tools
The data for this study was collected by two tools namely Multifactor Leadership Scale and Wong and Law Emotional Intelligences Scale (WLEIS).

2.3.2.1 First tool: Multifactor Leadership Scale
It consisted of two parts

2.3.2.1.1 Part I: personal data of nurse managers
This part included: age, gender, hospital work unit, years of experience, level in education in nursing, current position in the hospital, attending previous training about transformational leadership style.

2.3.2.1.2 Part II: Nurse managers' Multifactor Leadership Questionnaire (MLQ)
It aimed to assess the level of nurse managers' transformational leadership style. It was developed by *Avolio and Bass* [16] and adopted by the researcher. It consisted of (21) items measured the level of transformational leadership style among nurse managers and assessed seven dimensions: Idealized influence (3 items), inspirational motivation (3 items), intellectual stimulation (3 items), individual consideration (3 items), contingent reward (3 items), management by exception (3 items) and laissez-faire leadership (3 items).

2.3.2.1.3 Scoring system
Nurse managers' responses were measured on a 5 points Likert scale ranged from (0= Not at all, 1= Once in a while, 2= Sometimes, 3= Fairly often, 4=Frequently). All items were summed up and a mean score was calculated. The grand total score for all the seven factors ranged between (0 - 84). Study subjects had low level of transformational level if the total score of each nursing manager ranged between (0-28), or was less than (60%), While it is considered moderate if total score ranged from (>28-56), or ranged from (60-75%), and it is considered high if total score ranged from (>56-84), or was more than (75%).

2.3.2.2 Second tool
It consisted of two parts

2.3.2.2.1 Part I: personal data of staff nurses

This part included: age, gender, hospital work unit, years of experience, level in education in nursing, current position in the hospital, attending previous training about emotional intelligence.

2.3.2.2.2 Part II: Staff nurses' Wong and Law Emotional Intelligences Scale (WLEIS)

It was developed by **Wong and Law** [17] and adopted by the researcher. It Consisted of (16) items measured the level of emotional intelligence among staff nurses and assessed four dimensions: Self-emotional appraisal (4 items), regulation of emotions (4 items), use of emotions (4 items), and others' emotional appraisal (4 items).

2.3.2.2.3 Scoring system

Staff nurses' responses were measured on a 5 points likert scale ranged from (1= Strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree). All items were summed up and a mean score was calculated. The total mean score of emotional intelligence ranges from (16-80). Study subjects had low emotional intelligence level if total score ranged from (16-36), or was less than (60%), While it is considered moderate if score ranged from (<36-58), or ranged from (60-75%), and it is considered high if total score ranged from (<58-80), or was more than (75%).

2.3.2.3 Tool validity and reliability
2.3.2.3.1 Validation of the tools

Both tools (Multifactor Leadership Questionnaire& Wong and Law Emotional Intelligences Scale) were translated into Arabic by the researcher using back translation technique. Both tools were translated into Arabic language by translator who was proficient into language and then back translated by another proficient translator using blind technique. After that, the translated version against the English version was evaluated by expert panel to ensure content validity.

2.3.2.3.2 Reliability of the tools

Cronbach alpha for the overall Multifactor Leadership Questionnaire (MLQ) Form 6S was α = (0.92) [18]. Cronbach alpha for the overall Wong and Law Emotional Intelligences Scale was (α = 0.89) [19].

2.3.3 Pilot study

A pilot study was conducted on 10.0% of the study subjects of the total sample size **(5)** nurse managers and **(38)** staff nurses. At the beginning of October 2022 and was completed by the end of October 2022. The pilot study was served to assess the clarity of language, applicability and relevance of the tools, in addition to estimate the needed time for data collection. The researcher asked the participants to fill in the questionnaire and to note any questions that were confusing or hard to answer. No modifications were done in both study tools and the final version was prepared for distributing to the nursing managers and staff nurses. Those participants in the pilot study were included in the main study sample.

2.3.4 Field work

The actual field work started at the begging of November 2022 and was completed by the end of December 2022. The researcher met Nasser Institute Hospital managers,

introduced herself to nursing personnel, explained the aim of the study to gain his approval for data collection, and determined the suitable time to collect the data. The researcher collected data by herself through meeting nursing managers and staff nurses, explaining the aim of the study and method of fulfilling out questionnaire. The researcher was present all the time during fulfilling forms to answer any questions. The time needed to complete the study tools by both nursing managers and staff nurses was ranged between (20-30) minutes. Data were collected two days per week on the day shift and not on the night shift because of the low number of nursing personnel at night. The researcher checked the completeness of each filled sheet to ensure the absence of any missing data.

2.3.5 Administrative Design

Before starting on the study, letters were issued from the Dean of Faculty of Nursing, at Helwan University to the hospital manager and the nursing director, the letter explained the aim of the study to facilitate data collection phase. The researcher explained the importance of the study and the implication of expected results for the study subjects.

2.3.6 Ethical consideration

Prior to the study conduction, Ethical approval was obtained from the Scientific Research Ethical Committee of the Faculty of Nursing at Helwan University. In addition, an approval was obtained from the nursing director of Nasser institute hospital affiliated to general secretariat hospitals. Participation in the study was voluntary and subjects were given to complete full information about the study and their role before signing the informed consent. The ethical considerations were include explaining the aim and nature of the study, stating the possibility to withdraw at any time without giving any reason. Confidentiality of the information where it will not be accessed by any other party without permission of the participants, and used for scientific work only Ethics, Values, Culture and beliefs will be respected.

2.3.7 Statistical Design

The collected data was organized, categorized, computerized, tabulated and analyzed using SPSS software version 24. For quantitative data mean and standard deviation were calculated. For qualitative data the number and percent were calculated and chi-square was used. Correlation between variables was done using Pearson correlation for parametric data.

3. Results and Discussion

Table (1) shows that the study sample consisted of 55 nurse managers, the majority of them (90.9%) were females and only (9.1%) were males. Pertaining to age more than one third of them (36.3%) ranged between 40 years old to less than 50 years old and only (9.1%) of them were ranged between 20 years to less than 30 years old, mean±SD was (25.48 ±4.67). Regarding level of education in nursing less than three quarters of them (72.8%) were graduated from bachelor degree in nursing and equal percent (9.1%) had master and doctorate degree in nursing. While only (5.4%) were graduated from Technical secondary nursing school. Furthermore, regarding nurse managers' years of experience, less than half (47.3%) of them had from 10 to less than 20 years of experience. Meanwhile, more than two fifths

(43.6%) had more than twenty years of experience, mean±SD (4.92 ±3.10). Regarding the job title, the majority of nursing managers (87.3%) were head nurses. While, low percent (9.1% &3.6%) of them were nursing supervisors and nursing directors respectively. Additionally, none of them had previous training about transformational leadership style.

Table (2) displays that the study sample consisted of (385) staff nurses, high percent (83.1%) were females and only (16.9%) were males. Pertaining to age more than half of them (54.5%) ranged between 30 years old to less than 40 years old and only (1.1%) of them were ranged between 50 years to less than 60 years old, mean±SD was (23.48 ±3.67). Regarding level of education in nursing more than one third of them (38.9%) were graduated from bachelor degree in nursing and only (0.3%) had doctorate degree in nursing . Furthermore, regarding staff nurses' years of experience, less than half (43.6%) of them had from 1 to less than 10 years of experience. Meanwhile, only (13.5%) had more than twenty years of experience, mean±SD (8.92 ±2.10). Additionally, none of them had previous training about emotional intelligence. Table (3) and figure (1) shows that less than half (43.5%) of nurse managers had total moderate level, less than one third (29.1%&27.4) had low and high levels respectively with a mean ± SD (16.18± 3.69).

Table (4) and figure (2) shows that more than half (54.3%) of staff nurses had high level, less than one third (27.3%) had low level, and only (18.4%) had moderate level of emotional intelligence with a mean ± SD (1.86±0.88). Table (5) and figure (3) Demonstrates that there was highly statistically significant positive strong correlation between total transformational leadership style and emotional intelligence among studied nurse. Present study sample consisted of (55) nurse managers and (385) staff nurses. Study results revealed that the majority of nurse managers (90.9%) were females and only (9.1%) were males. The study conducted by *Ferreira et al.* [20] entitled "Transformational leadership in nursing practice: challenges and strategies", agreed upon the present study results they found that high percent of nurse managers (92%) were females and only (2%) were males. The study conducted by *Alwali & Alwali* [21] entitled "The relationship between emotional intelligence, transformational leadership, and performance: a test of the mediating role of job satisfaction", supported present study results who found that more than one third of them (33.1%) ranged between 41 years old to 50 years old, and only (16.6%) of them were ranged between 20 years old to 30 years old. *Kok et al.* [22] disagreed with the present study results because they stated that more than one third of the participants (31.9) were ranged between 30 years to less than 39 years old, and only (2%) ranged between 40 years old to less than 50 years old. Regarding level of education in nursing less than three quarters of studied nurse managers (72.8%) were graduated from bachelor degree in nursing and equal percent (9.1%) had master and doctorate degree in nursing. While only (5.4%) were graduated from technical secondary nursing school. The study conducted by *Gashaye et al.* [23] agreed upon the results of the present study they found that the majority graduated from bachelor degree, and only (2.9%) had master's degree or above.

Furthermore, regarding nurse managers' years of experience, less than half (47.3%) of them had from 10 to less than 20 years of experience. Meanwhile, more than two fifths

(43.6%) had more than twenty years of experience, mean ± SD (4.92 ±3.10). The study conducted by *Sahan& Terzioglu* [24] entitled "Transformational leadership practices of nurse managers: the effects on the organizational commitment and job satisfaction of staff nurses", disagreed with the results of the present study they found that more than half (52.9%) of nurse managers had from 1 to 5 years of experience years of experience. Regarding the job title, the majority of nursing managers (87.3%) were head nurses. While, low percent (9.1% &3.6%) of them were nursing supervisors and nursing directors respectively. Additionally, none of them had previous training about transformational leadership style. The study conducted by *Al-Thawabiya et al.* [2] entitled "Leadership styles and transformational leadership skills among nurse leaders in Qatar, a cross-sectional study", agreed upon the results of the present study they noted that more than half (60%) of their participants were head nurses. The study results revealed that the majority of staff nurses (83.1%) were females and only (16.9%) were males. The study conducted by *Lo et al.* [8] entitled "Invisible Erosion of Human Capital: The Impact of Emotional Blackmail and Emotional Intelligence on Nurses' Job Satisfaction and Turnover Intention", agreed upon the results of the present study they found that the majority of staff nurses were females (96.5%).

Pertaining to age of staff nurses, more than half of them (54.5%) ranged between 30 years old to less than 40 years old and only (1.1%) of them were ranged between 50 years to less than 60 years old, mean ± SD was (23.48 ±3.67). The study conducted by *Li et al.* [25] entitled " Relationship between emotional intelligence and job well-being in Chinese Registered Nurses", supported present study results they found that more than three quarters (83%) of them were younger than 40 years of age. Regarding level of education in nursing more than one third of studied staff nurses (38.9%) were graduated from bachelor degree in nursing and only (0.3%) had doctorate degree in nursing. On the same line the study conducted by *Elsayed Abd Elkader et al.* [26] entitled "Assessment of Nursing Teachers' Emotional Intelligence", who reported that less than three quarters (72.5%) from staff nurses were graduated from bachelor degree in nursing. Additionally, regarding staff nurses' years of experience, present study results indicated that less than half (43.6%) of them had from 1 to less than 10 years of experience. Meanwhile, only (13.5%) had more than twenty years of experience, mean ± SD (8.92 ±2.10). This was in agreement with *Aljarboa et al.* [27] entitled "Resilience and Emotional Intelligence of Staff Nurses during the COVID-19 Pandemic", who found that the highest percentage (46%) of staff nurses had less than 10 years of experience with mean ± SD (11.12 ± 4.10). The present study revealed that less than half (43.5%) of nurse managers had total moderate level of transformational leadership style. This was consistent with the results of previous study conducted by *Budur & Demir* [28] entitled "Leadership Perceptions Based on Gender, Experience, and Education", in which clinical registered nurses perceived their nurse managers' transformational leadership at a moderate level.

**Table 1:** Personal data of studied nurse managers (N1= 55)

Personal data items	No.	%
Age \ year		
20<30	5	9.1
30<40	15	27.3
40<50	20	36.3
50<60	15	27.3
Mean±SD	25.48±4.67	
Gender		
Male	5	9.1
Female	50	90.9
Level of education in nursing		
Technical secondary nursing school	3	5.4
Technical nursing institute	2	3.6
Bachelor degree	40	72.8
Masters' degree	5	9.1
Doctorate degree (Ph.D.)	5	9.1
Years of experience in nursing		
1<10	5	9.1
10≤20	26	47.3
>20	24	43.6
Mean±SD	4.92±3.10	
Job title		
Nursing director	2	3.6
Nursing supervisor	5	9.1
Head nurse	48	87.3

Table 2: Personal data of studied staff nurses (N2= 385)

Personal data items	No.	%
Age \ year		
20<30	123	31.9
30<40	210	54.5
40<50	48	12.5
50<60	4	1.1
Mean±SD	23.48±3.67	
Gender		
Male	65	16.9
Female	320	83.1
Level of education in nursing		
Technical secondary nursing school	95	24.7
Technical nursing institute	133	34.5
Bachelor degree	150	38.9
Masters' degree	6	1.6
Doctorate degree (Ph.D.)	1	0.3
Years of experience		
1<10	168	43.6
10≤20	165	42.9
>20	52	13.5
Mean±SD	8.92 ± 2.10	

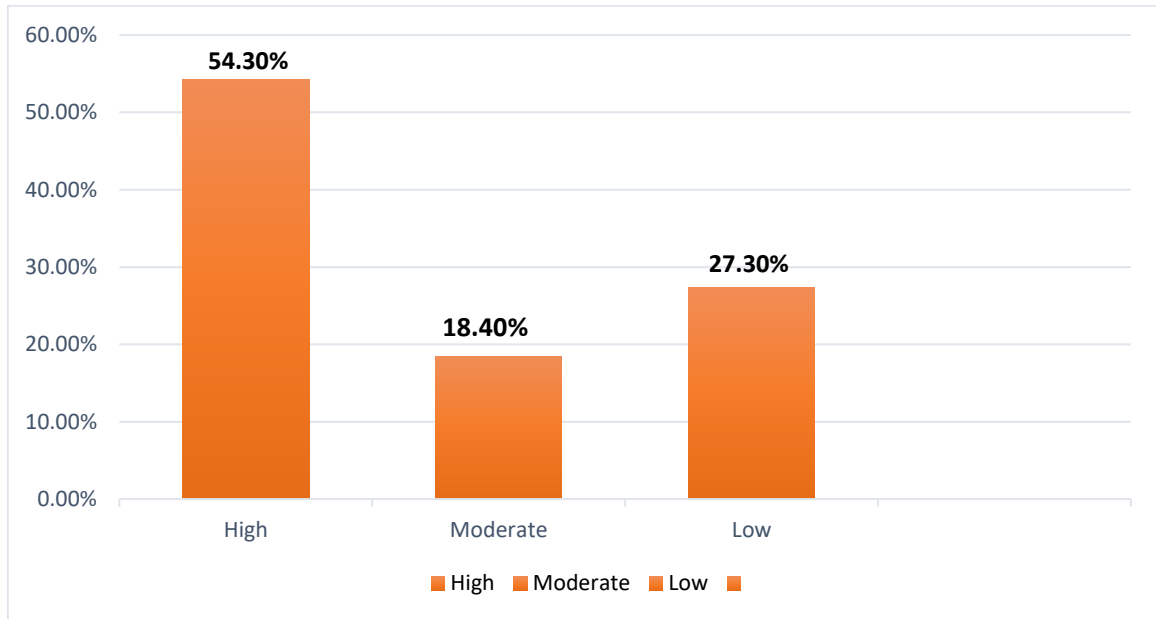**Table 3:** Total score of transformational leadership style among nurse managers (N1= 55)

transformational leadership style dimensions	Low <60%		Moderate 60-75 %		High > 75%		Mean	SD
	No.	%	No.	%	No.	%		
1. Idealized influence	8	14.5	38	69.1	9	16.4	15.7	4.25
2. Inspirational motivation.	7	12.7	23	41.8	25	54.5	17.11	3.79
3. Intellectual stimulation.	7	12.7	29	52.7	19	34.5	17.11	3.79
4. Individual consideration.	6	10.9	22	40	27	49.1	15.87	3.99
5. Contingent reward.	37	67.3	8	14.5	9	16.4	15.87	3.99
6. Management-by-exception.	8	14.5	9	16.4	38	69.1	15.82	3.95
7. Laissez-faire leadership.	37	67.3	8	14.5	9	16.4	15.87	3.99
Total	16	29.1	19	43.5	20	27.4	16.18	3.69
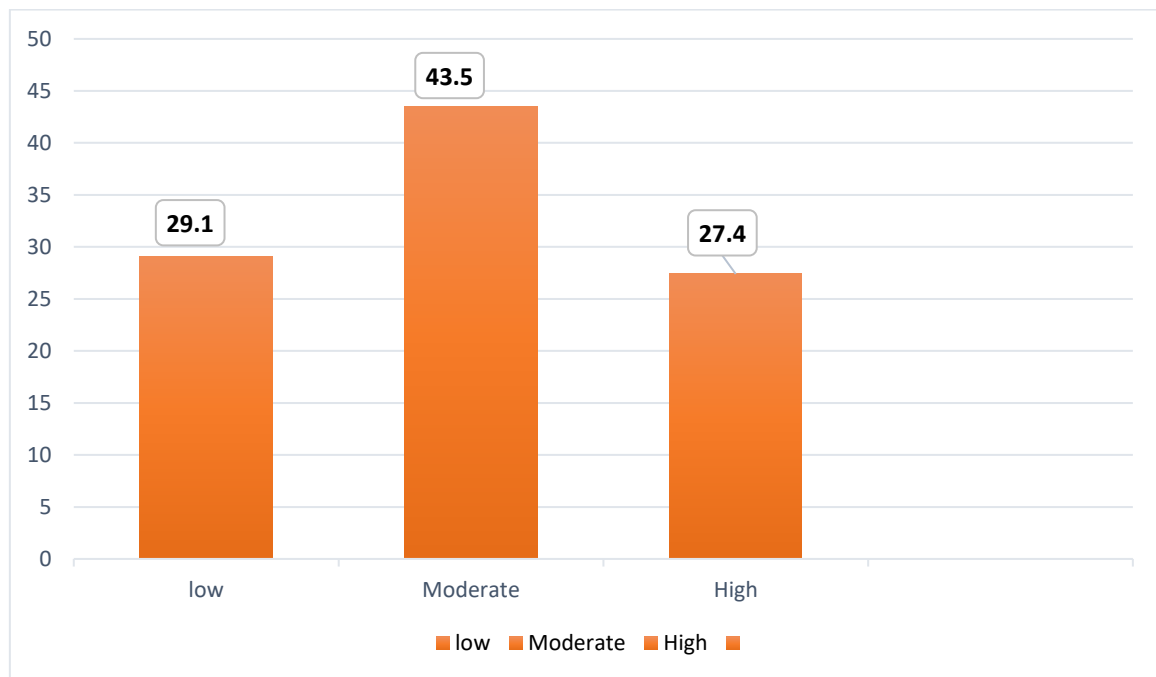
Figure 1: Total transformational leadership style level among nurse managers (N1= 55)

Table 4: Total score of emotional intelligence among staff nurses (N2= 385)

| Emotional intelligence dimensions	Low <60%		Moderate 60-75 %		High > 75%		Mean	SD
	No.	%	No.	%	No.	%		
1. Self-emotional appraisal	60	15.6	74	19.2	251	65.2	1.77	0.83
2. regulation of emotions	46	11.9	64	16.6	275	71.5	1.86	0.88
3. use of emotions	64	16.6	72	18.7	249	64.7	2.04	0.99
4. others' emotional appraisal	251	65.2	74	19.2	60	15.6	1.77	0.83
Total	105	27.3	71	18.4	209	54.3	1.86	0.88

Figure 2: Total emotional intelligence level among staff nurses (N2=385)

Table 5: Correlation between total transformational leadership style of studied nursing personnel and their total emotional intelligence (n = 440)

	Total emotional intelligence	
	R	P
Total transformational leadership style	0.891	**0.000****

r: Pearson coefficient (**) Highly significant at p<0.01.
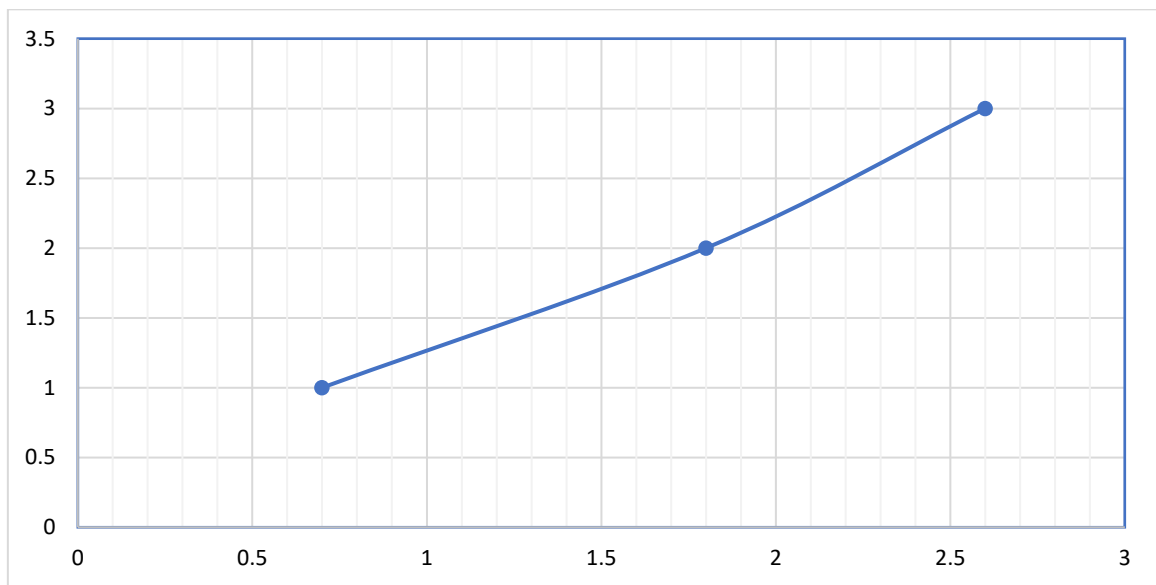
Figure 3: Scatter plot correlation between transformational leadership style of studied nurse managers and staff nurses' emotional intelligence (n= 440)

However, the results were different from those of previous study conducted by *Asif et al.* [29] entitled " Linking transformational leadership with nurse-assessed adverse patient outcomes and the quality of care: assessing the role of job satisfaction and structural empowerment", which showed that nurse managers' transformational leadership was at a high level. From the researcher's point of view these differences may be attributed to different settings, ethnic composition and cultures, demographic characteristics, organizational functions, political and socioeconomic environment.

Present study results show that more than half (54.3%) of staff nurses had high level, less than one third (27.3%) had low level, and only (18.4%) had moderate level of total emotional intelligence with a mean ± SD (1.86±0.88). The study conducted by *Shokry et al.* [30] supported the present study results which found that (21%) of the study participants had low emotional intelligence level and had development priority, while contrast present study results in their study that found more than half (60%) of them had moderate level of emotional intelligence and need attention, only (19%) of them had high level of emotional intelligence. The study conducted by *Gaib et al.* [31] supported the present study results which noted that nurses were measured with sufficient emotional intelligence (43.8%). The study conducted by *Yildirim et al.* [32] entitled "Relationships between leadership orientations and emotional intelligence in nursing students", contrasted present study results that showed their Emotional Intelligence Evaluation. It was determined that (56.6%) of the students had low emotional intelligence (31.6%) of them had moderate, and (11.9%) of them had high, with a mean ± SD (123.99 ± 26.32). Present study results validated that there was a highly statistically significant strong positive relationship between all transformational leadership style dimensions and all emotional intelligence items (r = 0.889 & P = 0.000) among studied nursing personnel. The study conducted by *Al-Thawabiya et al.* [2] agreed upon the present study results they found that transformational leadership is positively correlated with emotional intelligence. The study conducted by *Abdullahi et al.* [33] supported present study results and added that leaders taking a facilitative role, with more emphasis on the leader's importance in developing the leader–follower bond, talent development of others, nurturing teams, and coaching enhanced by emotional intelligence; and widening environmental context/settings of leadership, for example, healthcare, education, and human resource development. In addition to the study conducted by *Karaca & Durna* [34] entitled " Patient satisfaction with the quality of nursing care" supported present study results that revealed transformational leaders' affect emotional intelligence and interpersonal skills and improve their subordinates' knowledge, awareness, confidence, participation and communication which result in the improvement of nurses' working satisfaction and patients' satisfaction.

4. Conclusions

Based on the study findings, it can be concluded that total transformational leadership style level for nurse managers was moderate (43.5%) and only (27.4%) was high. In addition, total emotional intelligence for staff nurses was high (54.3%) and only (18.4%) was moderate. Finally, there was strong positive relationship between all transformational leadership style dimensions and all emotional intelligence items among studied nursing personnel.

5. Recommendations

Based on the study findings, the following recommendations were suggested:

I. Healthcare organizations should

Consider emotional intelligence and transformational leadership educational programs in their annual budget.

II. Education department of the organization should

Recognize the significance of emotional intelligence and incorporate it into nursing managers' training programs.

III. Educational institutions should

Consider emotional intelligence and transformational leadership in educational curricula.

IIII. Further studies

1-Transformational leadership as a mediator between emotional intelligence, organizational citizenship behavior and team outcomes.

2-Role of emotionally intelligent nurse managers who use transformational leadership style in achieving green management.

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