

Nurses' Proactive Behavior, Relational Coordination, and Professional identity as Predictors of Head Nurses' Relational Leadership

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Abstract

Relational leadership skills have been acknowledged as essential of improving the performance of the health system. To keep up with the changes in healthcare, proactive behavior, relationship coordination, and professional identity are deemed to be excellent qualities that all nurses should possess. An important strategy for enhancing nurses' qualities is relational leadership. **Purpose:** This study aimed to assess nurses' proactive behavior, relational coordination, and professional identity as predictors of head nurses' relational leadership. **Methods:** A descriptive correlational design was utilized. The study was conducted at all critical care units at Emergency Menoufia University hospital. A simple random sample of one hundred nurses comprised the study's sample. Four tools were used: the nurses' proactive behavior scale, relational coordination scale, professional identity, and head nurse's relational leadership from nurses' perspectives. Results: There was a high statistical association between relational leadership and both of proactive behavior, and the relational coordination ($p < 0.0001$). Concerning the association of relational leadership with professional identity, it was not applicable to do statistical analysis as all nurses showed only one level of professional identity (high level). **Conclusion:** Based on the study findings, the predictors of head nurses' relational leadership are proactive behavior, and relational coordination. On the other hand, professional identity was excluded as a predictor. **Recommendations:** Enrich and update the awareness of head nurses about relational leadership via workshops and programs. Activating evidence-based research regarding nurses' proactive behavior and relational coordination in practice. Increase awareness among nurse administrators and hospital directors about relational leadership.

Key words: Proactive Behavior, Professional Identity, Relational Coordination, and Relational Leadership.

Introduction

Today, one of the largest challenges facing nurse leaders is helping nurses and healthcare organizations become more adaptive in the face of more relational dynamics. As a result, nursing leadership is very nature relational, reflecting an

organizing process within a particular context that is made up of the valuable web of human connections.⁽²⁶⁾ Relational leadership is an important strategy for enhancing nursing work environments. Nursing principles like empathy, compassion, and genuine presence are all in line with relational leadership

philosophies including servant leadership, transformational leadership, and authentic leadership.⁽²²⁾

The components of relational leadership are that leadership is involving, engaged, and directional. Involving leadership is demonstrated by a leader engaging in making contributions, active participation, and illustrating respect for those they lead. Engaged leadership is conflict resolution, active support, and pressing on participation from the team. Directional leadership is represented by strategies, shared goals, and clear expectations between the leader and their subordinates, the team members are aware of the intended result, and those leaders are involved.⁽³⁰⁾

Proactive conduct is predicted by leadership based on individual-level variables that support change. Because proactive work behavior improves organizational outcomes, it is essential for nurses. It is an active work habit where the nurse looks to the future and looks for ways to improve the internal organization environment while concentrating on making good changes to one self or the surroundings. It includes sub-dimensions: individual innovation, problem prevention, taking charge and voice.⁽⁴³⁾ Proactivity is the set of actions that that are not specified in the responsibilities assigned to nurses; through which nurses actively and spontaneously take charge of situations to bring about changes in their work condition. It anticipates and solves problems in order to the organization's benefit.

Regarding proactive behavior in the nursing organization, the most qualified nurses are typically sought after to provide high-quality care and guarantee best practices, which promotes critical thought about the actions as well as their goals improvements⁽²⁹⁾

In order to prevent repeating problems and increase the efficacy of work operations, nurses must be proactive at work, aware of new opportunities, and able to produce and speak out with new valuable ideas. This makes it possible for hospitals to quickly adapt to challenges and changes that focus on changing and improving the internal organization. One way to quantify proactive behavior in nursing managers is as a process, an antecedent, or an outcome of a motivational condition.⁽³⁶⁾

Relational leadership improves the relational coordination between team members, including the leader.⁽¹²⁾ It is associated with the relational coordination theory, which holds similar ideas between a leader and their followers that make up relational coordination among team members. Relational coordination is a mutually process of supportive communication and relationship building toward the goal of a task. There are similarities between relational coordination and other relational methods of coordination^(4,38)

Relational coordination involves sub-dimensions through which stakeholders coordinate their work. These dimensions include shared knowledge that facilitates systems thinking by informing stakeholders about how their tasks and the tasks of others contribute to the whole, and shared goals that inspire stakeholders to go beyond sub goal optimization to act with greater regard for the whole.⁽⁵⁾ Relational coordination (RC) is a process of excellent communication among healthcare team members that is backed by relationships based on mutual respect, shared goals, and shared information. Strengthening RC allows hospital administrators to more successfully accomplish their goals.⁽¹⁶⁾

Numerous traits of the professional identity align with the qualities of leadership,

including proactive self-evaluation, high moral standards, collaboration, self-awareness, effectiveness across cultures, honesty, and active listening.⁽²⁵⁾

Leadership is an important aspect in the success of every organization. One of the most crucial jobs in society is the capacity to inspire others to accomplish a particular objective. An outstanding leader follows a clearly defined code of conduct that guides their behavior and helps them achieve their objectives. A professional identity includes the, values attitudes, beliefs, and skills shared with others within a professional team.⁽⁶⁾

The process of developing a professional identity, which is crucial to the growth and development of the nursing profession, involves nurturing professional ideas and values as well as increasing understanding of professional performances.⁽¹⁰⁾ Internalizing fundamental beliefs and viewpoints acknowledged as essential to the nursing profession's art and science constitutes a professional identity. As a nurse learns, experiences, and matures in her career, these fundamental principles become obvious.⁽¹⁾

Justification of the Study

Relational leadership RL has been linked to positive outcomes for personnel, patients, and organizations. Therefore, leadership training that emphasizes relational, supportive, and empowering leadership strategies should be provided to nursing leaders.⁽¹⁸⁾ Presently, nurses encounter numerous obstacles in providing high-quality nursing care as the number of patients rises, mainly due to COVID-19 and global shortages of staff.⁽¹⁷⁾ To stay up to date with those challenges, it is believed that nurses should have outstanding competencies such as proactive behavior, relational coordination, and professional identity. Thus, preserving

those competencies are all vital to nurse's general well-being and have a positive effect on organizational outcomes, job satisfaction, and above all safe, high-quality care.^(14,43,33)

In Egypt, it is found that limited studies done regarding R L and its predictors. Hence, it is necessary to feeding this research gap by conducting this study to assess nurses' proactive behavior, relational coordination, and professional identity as predictors of head nurses' relational leadership.

Aim of the study

This study aimed to assessing the nurses' proactive behavior, relational coordination, and professional identity as predictors of head nurses' relational leadership.

Research Questions

Q1- What are the levels of head nurses' relational leadership from nurses' perspectives?

Q2- What are the levels of proactive behavior, relational coordination, and professional among nurses?

Q3- What is the association among nurses' proactive behavior, relational coordination, and professional identity as predictors of head nurses' relational leadership?

Subjects and Method:

Study Desi

A descriptive-correlational research design was used to assess nurses' proactive behavior, relational coordination, and professional identity as predictors of head nurses' relational leadership.

Study Setting:

This study was carried out at all critical care units (Intensive care units, Emergency care units, Burn care units) at Emergency Menoufia University Hospital at Shebin El-Kom city, which is affiliated to Ministry of Education and Scientific Research.

Subjects

Simple random sample technique was used in the study. The total number of nurses was one hundred and twenty-eight who enrolled at all critical care units at Emergency Menoufia University Hospital. The total sample size in the study according to sample formula was 97 and exceeding to 100 nurses. Sample size was determined by using the following formula⁽⁴¹⁾ $n = N / 1 + N (e)^2$.

Where (N) = total number of nurses, n = sample size, e = error tolerance (0.05), and 1= a Constant value

Data Collection Tools:**Tool I: Relational Leadership Scale**

It included two parts, the first included demographic characteristics of sample participants as age, gender, education level and years of experience. The second part measures the extent to which a leader builds relationship both with and among nurses they lead. It was developed by Hornstrup (2015)⁽¹⁵⁾, which contained eight questions to identify three dimensions of relational leadership: two questions that relate to directional leadership, three questions that relate to engaged leadership, and three questions that relate to involving leadership.

Scoring system

The scale uses eight items, each was five points Likert scale (0 –4) as (0) for never, (1) for rarely, (2) for sometimes, (3) for often, and (4) for always. The scale was evaluated giving a range of (0 – 32). The total score

was categorized into Low relational leadership if nurse perceived less than or equal to 50% of the total score (0 -18). Moderate relational leadership was considered when the nurse perceived more than 50% to less than or equal to 65 % of the total score (19 – 24). High relational leadership was considered when the nurse perceived more than 65 % of the total score (25 – 32).

Tool II: Proactive behavior scale

It was developed by Parker and Collins (2010)⁽³⁵⁾. It consists of 13 items divided into 4 subscales taking charge (3 items), individual innovation (3 items), problem prevention (3 items), and voice (4 items).

Scoring system

Participants were asked to rate each item on a 5-point Likert scale from very infrequently” to “very frequently”. The scale was evaluated giving a range of 0 - 52. The total score of each nurse was categorized into low proactive behavior if nurse achieved less than or equal to 50% of the total score (0 -31). Moderate level was considered when the nurse achieved more than 50% to less than or equal to 65 % of the total score (32 – 39). High level was considered when the nurse achieved more than 65 % of the total score (40 – 52).

Tool III: Relational Coordination (RC).

The scale was designed by Gittel (2009)⁽¹¹⁾ to measure the quality of nurses’ perceptions of relationships and communication across functional work groups relative to a specific work process. It consists of seven work groups: shared knowledge, shared goals, and mutual respect, as well as four items that measure the quality of communication necessary for coordination of

work processes between interdisciplinary team groups: frequency, timeliness, accuracy, and a focus on problem solving.

Scoring system

The scale used 7 items, each was five points Likert scale (0 – 4) as (0) for never, (1) for rarely, (2) for occasionally, (3) for quite often, and (4) for always. The scale was evaluated giving a range of 0 - 28. The total score of each nurse was categorized into Low RC if nurse achieved less than or equal 50% of the total score (0 -<17). Moderate RC” was considered when the nurse more than 50% to less than or equal 65 % of the total score (17 – 21). High RC was considered when the nurse more than 65 % of the total score (22 – 28).

Tool IV: Professional Identity P I scale. The scale was developed by Li et al. (2020) ⁽²⁴⁾. The scale used 13 items, each was five points Likert scale (0 – 4) as (0) for never, (1) for rarely, (2) for occasionally, (3) for quite often, and (4) for Always.

Scoring system

The scale was evaluated, giving a range of (0 - 52). The total score of each nurse was categorized into low professional identity if nurse achieved less than or equal 50% of the total score (0 -31). Moderate was considered when the nurse achieved more than 50% to less than or equal 65 % of the total score (32 – 39). High PI was considered when the nurse achieved more than 65 % of the total score (40 – 52).

Reliability of tools:

The reliability of tools was tested using the Cronbach alpha reliability test. It was 0.83 for the first tool relational leadership”, 0.74 for the second tool proactive behavior. Also, Cronbach alpha reliability test for third tool relational coordination was 0.84 and the fourth tool professional identity” was

0.80. These Cronbach alpha reliability tests indicate that the four tools were reliable to detect the objectives of the study.

Ethical Consideration

An approval with number (928) was obtained from Ethical and Research Committee of the Faculty of Nursing, Menoufia University, and informed consent was obtained from the study sample. Studied nurses were informed that participation in the study is voluntary. The respondents were assured that their data would be treated as strictly confidential and that their anonymity would be maintained.

The pilot study

The pilot study was carried out on 10 % of the study sample (10 nurses) to evaluate study tools in terms of their clarity, applicability and time required to fulfill all the study tools. It also used to explore their feasibility and according to this no modification was made.

Data Collection procedure

It took about 30–40 minutes to complete the four tools. Data were collected from the beginning of January 2023 until the end of March 2022. Nurses were informed to complete questionnaires. The researchers assured the nurses that all the data gathered would be utilized specifically for research purposes. All study sample were given the option of participating in the study voluntarily.

Data Analysis

Data was entered and analyzed using SPSS (Statistical Package for Social Science) version 22. Graphics were done using the Excel program.

Quantitative data were presented by mean (X) and standard deviation (SD). It was analyzed using student t- test for comparison between two means, and ANOVA (F) test for comparison between more than two means.

Qualitative data were presented in the form of frequency distribution tables, numbers and percentages. It was analyzed by chi-square (χ^2) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used (if the table was 4 cells), or Likelihood Ratio (LR) test (if the table was more than 4 cells). Level of significance was set as P value <0.05 for all significant tests.

Results

Table 1 demonstrates that 45% of the studied nurses' ages was 40 – 50 Years with a mean score of 43.7 ± 8.6 . The Majority (80%) of the studied nurses were females. Regarding education, 89 % of them had a bachelor 's degree in nursing. While, 11% of them had a master 's degree. Concerning years of experiences, 49 % of nurses had 10 to less than 15 years.

Table 2 demonstrates that levels of relational leadership (directional leadership, engaging, involving) had the same levels. As the result revealed that the majority of nurses perceived low level of their head nurses' relational leadership subscales. Regarding grand total relational leadership levels, the majority of nurses (80%) perceived low level of head nurse' relational leadership as only (20%) of them perceived moderate level of it.

Table (3) demonstrates the levels of proactive behavior dimension among the studied nurses. As shown, all the studied nurses had a low level of taking charge, 59% of them had a moderate level of innovation. The majority of nurses have a low level of

problem prevention and voice. Similarly, the table revealed that the vast majority (95%) of nurses had a low level regarding grand total score of proactive behavior.

Figure 1 shows the levels of proactive behavior, relational coordination, and professional identity among the studied nurses. As shown, all the studied nurses had a high level of professional identity. Regarding relational coordination, only 18% of the studied nurses had a high level and 58% had a moderate level. Moreover, no one of the nurses had a high level of proactive behavior, as 95% had a low level regarding it.

Table 4 presents head nurses' relational leadership and its association with nurses' proactive behavior, relational coordination, and professional identity. Regarding the association between relational leadership as perceived on their proactive behavior, there was a highly statistical association at ($p < 0.0001$). In addition, all the studied nurses who perceived low RL, showed a low proactive behavior, while approximately three quarters (73.7%) of nurses with moderate RL showed low proactive behavior, and only 26.3% showed moderate proactive behavior. Concerning relational leadership as perceived by nurses and their relational Coordination, a highly statistical association was found at ($p < 0.0001$). In addition, nurses who perceived low RL, as more than 60% of them showed moderate relational coordination (61.7%), and only 17.3% showed high relational coordination. Concerning relational leadership as perceived by nurses and their association with professional identity, it was not applicable to do statistical analysis as all studied nurses showed only one level of professional identity (High level=100%)

Table 5 highlights the linear regression analysis between relational leadership as independent variable and proactive behavior, relational coordination, and professional Identity as dependent variables. The model was highly significant statistically ($F=12.3$, $P<0.0001$), and revealed that the predictors account for 37.5 percent of

the variance in relational leadership as two dependent variables (proactive behavior, and relational coordination). On the other hand, the variable professional identity was excluded from the model. All nurses showed only one level of professional identity.

Table (1): Distribution and frequency of the studied nurses' demographic characteristics (N = 100)

Socio demographic characteristics	N0.	%
Age (Years) 20 – < 30 Years	6	6
30 – < 40 Years	29	29
40 – 50 Years	65	65
Mean \pm SD	43.7 \pm 8.6	
Gender: Male	20	20
Female	80	80
Educational Level		
bachelor degree in nursing	89	89
Master	11	11
Years of experiences:		
5 - < 10 years	10	10
10 - < 15 years	49	49
15 - 25 years	41	41
Total	100	100

Table 2: Levels of Relational Leadership as perceived by the studied nurses (N = 100)

RL Subscales and Grand total RL	Relational Leadership levels						Total		LR	P
	Low		Moderate		High		No.	%		
	No.	%	No.	%	No.	%				
Directional Leadership (DL)	81	81	19	19	0	0	100	100	0.008	0.93 NS
Engaged Leadership (EL)	81	81	19	19	0	0	100	100		
Involving Leadership (IL)	81	81	19	19	0	0	100	100		
Grand total RL	80	80	20	20	0	0	100	100		

Table 3: Levels of proactive behavior dimensions among the studied nurses (N = 100)

Proactive Behavior Subscales and Grand total	Proactive Behavior levels						Total		LR	P
	Low		Moderate		High					
	N0.	%	N0.	%	N0.	%	N0.	%		
Taking Charge	100	100	0	0	0	0	100	100	8.3	<0.003 HS
Innovation	27	27	59	59	14	14	100	100		
Problems prevention	96	96	4	4	0	0	100	100		
Voice	75	75	25	25	0	0	100	100		
Grand total	95	95	5	5	0	0	100	100		

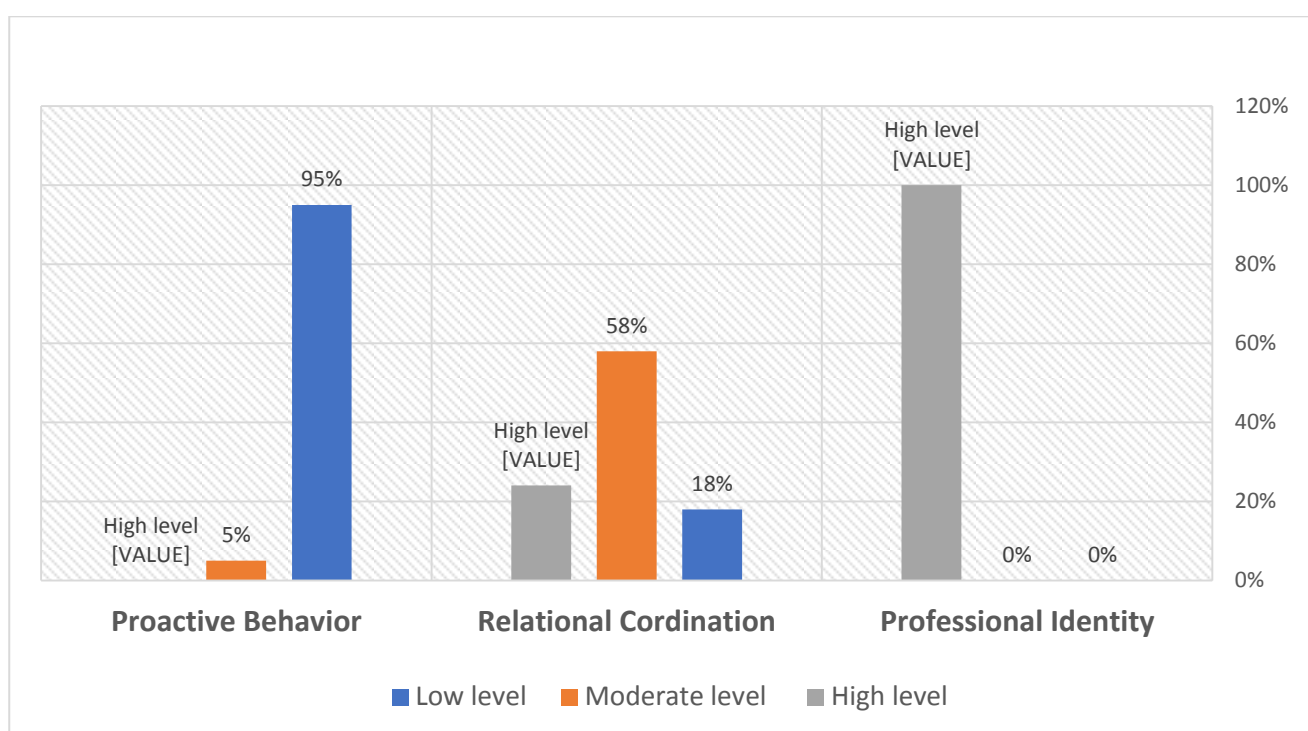
**Fig.1: Levels of proactive behavior, relational coordination, and professional identity among studied nurses (N = 100)**

Table 4: Association among of Head nurses' relational leadership, nurses' proactive behavior, professional identity, and relational coordination.

Relational Leadership levels	Proactive Behavior						□2/LR	P
	Low		Moderate		High			
	N0.	%	N0.	%	N0.	%		
Low RL	81	100	0	0	0	0	LR=22.2	<0.0001 HS
Moderate RL	14	73.7	5	26.3	0	0		
Total RL	95	95	5	5	0	0		
Relational Coordination								
Low RL	17	21	50	61.7	14	17.3	LR=10.4	<0.006 HS
Moderate RL	1	5.3	8	42.1	10	52.6		
Total RL	18	18	58	58	24	24		
Professional Identity								
Low RL	0	0	0	0	81	100	NA	NA
Moderate RL	0	0	0	0	19	100		
Total RL	0	0	0	0	100	100		

RL= Relational Leadership
Professional Identity.

NA= Not applicable as all nurses showed only one level of

Table 5: Linear regression between Relational Leadership (RL) as an independent variable and proactive behavior, relational coordination, and professional identity as dependent variables

Model	Unstandardized Coefficients		t	P-value.	Sig.
	β	Std. Error			
(Constant)	-3.80	2.71	-0.53	0.59	NS
Proactive behavior	0.61	0.13	5.17	<0.0001	HS
Relational Coordination	0.71	0.17	4.13	<0.0001	HS
Professional Identity	-0.28	0.11	-1.43	0.07	NS

NS= Not Significant, HS= High Significant. R^2 for this model=0.375, F=12.3 p<0.0001.

Discussion

Relational leadership is a key approach to improving nursing work environments. Relational leadership styles such as authentic leadership, servant leadership, and transformational leadership align with concepts central to nursing, such as being others-oriented, caring, and authentically present. ^(22,23,37)

Therefore, the current study aimed to assess nurses' proactive behavior, relational coordination, and professional identity as predictors of head nurses' relational leadership.

The results showed that the majority of the studied nurses were female and had bachelor degree. These results may be due to male nurses preferer to work in government far from their home due to the presence of benefits such as increased salary, housing, and transportation. This is opposite for female nurse as they prefer to work in their place. Moreover, the majority of studied nurses had bachelor degree and about half of them had 10 to less than 15 years of experience. It might be explained by the fact that nurses had difficulties to enroll in post graduate studies because of various causes like stress, workload, education fees and time.

Head nurses' relational leadership

There is an emphasis placed on leadership development in healthcare settings due to the ongoing health and economic crisis related to the health crisis (COVID-19). ^(32,21) Furthermore, relational leadership styles were positively associated with the nursing staff professional competence. ⁽²⁾

The results revealed that the low level of head nurses' relational leadership subscales (directional leadership, engaged leadership, and involving leadership) were perceived by the majority of the studied nurses. At the same time, the majority of them perceived a low overall score for relational leadership. These results may be due to head nurses of the studied nurses rarely involve nurses in actively and constructively developing collaboration across groups and teams around nurses' support which weakness their directional leadership. Moreover, the head nurse may passively work on developing the strategies and goals of collaboration and work slowly to solve any conflicts that arise via nurses which is necessary for engaged Leadership. Similarly, head nurses may contribute little with nurses' ideas experience and competencies in solving problems and challenges of the work, which has a bad effect on their role of involving leadership.

Another explanation from researchers' view regarding low level of head nurse' relational leadership may relate to work environment and administration policy of hospital which didn't help head nurses to behave in relational manner with their staff. Head nurses may not have the chance to practice in the space of health leadership as they rarely direct, engage, and involve with their staff.

These results were supported by Verhoeven et al.(2023) study ⁽³⁹⁾, which highlighted relational leadership

processes as a key approach for knowing, relating and the absence of conflict among nurses. Additionally, it enhances understanding of the collaboration between nurses. Knowing each other, relating to each other are distinct but intertwined processes that influence the collaboration. By combining these results together, they show the importance of a relational leadership process to understand the complexity of collaboration in hospitals.

Furthermore, researchers' rationales for results were supported by Cleary et al. (2018) ⁽⁷⁾ study, which focused enabling relational leadership in primary healthcare settings. It asserted that the space and time available for relational leadership in this setting were limited by the dominance of bureaucratic management and accountability processes. It is crucial that higher-level managers gain a greater understanding of these problematic experiences and take them into consideration as they seek to strengthen health system governance. Similar, the Alliance for Health Policy and Systems Research (2016) ⁽³⁾ for the development of participatory leadership indicated the call for the development of distributed relational leadership has value by influencing policy and practice in the space of health leadership and leadership development.

Moreover, given the potential importance of relationships and the promise of distributed relational leadership for strengthening health systems, it is important for health policy and systems researchers to build an

evidence base of the outcomes of such leadership and how it might be nurtured. (Mcnamara et al., 2014; Doherty & Gilson, 2015). ^(27,9)

Proactive behavior

Regarding the proactive behavior of the studied nurses, the study demonstrated that all nurses have a low level of proactive behavior in the dimension of problem prevention and a high percentage of them have a low level of proactive behavior in taking charge and voice. Moreover, the high percentage of them have a moderate level of proactive behavior in problem innovation. Around overall score of proactive behavior levels among studied nurses had a low level.

The interpretation of these results may be that the nurses rarely may have the support from organization to act in a proactive manner. As nurses rarely try to develop procedures and systems that are effective in the long term, they should institute new work methods that are more effective. Similar, studied nurse may not have the chance to find the root cause of things that go wrong Spend time planning and how to prevent reoccurring problems. Additionally, they may haven't had any chance to implement solutions to pressing organizational problems. All of these previous actions reduce nurses to have taking charge, problem innovation, voice and, problem prevention which are the basic domains of proactive behavior.

These results are supported by Htet et al. (2023) ⁽¹⁷⁾ study, which stated that nurse administrators and hospital directors should encourage nurses to voice ideas

for improving standard of work, provide opportunities for generating ideas, support resources for taking charge and preventing problems. In the same line, the study results are supported by Zhang et.al. (2022) ⁽⁴²⁾, which focused on importance of offering organizational support for nurses in order to ameliorate proactive work behavior

Relational Coordination RC

Regarding RC of the studied nurses, the study stated that only nearly one fourth of them had a high level of relational coordination. The researchers' point of views relates these results to nurses of the study had limited ability to develop relationships and communication across functional work groups relative to a specific work process. They may not have enough support to share knowledge, goals, mutual respect, and communicate necessary for coordination of work processes between them.

Various studies supported researchers' point of views which highlight that the management should strengthen organizational mechanisms such as communication, information technology and interpersonal relationship. Additionally, in-service training should be strengthened to facilitate RC practice among nurses and better patients' outcome. Similar hospital leaders explore interventions to strengthen RC among health professionals (House et al ,2023; Ofei & Frimpong ,2021) ^(15,32)

Professional Identity

Regarding level of professional identity of studied nurses, the study stated that all studied nurses had a high level of

professional identity. According researches there are various factors may relate to this result. These factors may relate to year of experiences and nursing education in which majority of the study' sample had more than ten years of experience and bachelor degree. As education and experience increase nurses' abilities, skills, competencies and their role in work which improve their Professional identity.

Similar, Adam et al. (2021) ⁽¹⁾ study had confirmed this result. As this study 's findings revealed that studied nurses had an overall satisfactory level of professional identity. It highlighted that experienced nurses had several opportunities for professional development. Also, Güner et al. (2021) ⁽¹²⁾ related professional identity to retaining knowledge and experience among nurses through undergraduate education, post-graduate training, and social interactions in nursing. While, Mohtashami et al (2015) ⁽²⁷⁾ revealed a positive and significant relationship between professional identity and clinical competency.

Predictors of head nurse' Relational leadership RL

Regarding predictors of head nurses' relational leadership as perceived by nurses, the study results revealed a high statistical association between head nurses' relational leadership and both of nurses' proactive behavior and relational Coordination ($p < 0.0001$). While, the association of head nurse' relational leadership and nurses' professional identity, it was not applicable statistical

analysis as all studied nurses showed only one level of it (High level).

Moreover, using regression analysis revealed a highly significant statistically ($F=12.3$, $P<0.0001$) in which the predictors were proactive behavior, and relational coordination. On the other hand, the variable professional identity was excluded from the analysis, as all nurses showed only one level of professional identity.

According to researchers view, these results may be due to many explanations. One of these explanations is when head nurse had lack of skills of relational leadership like communication, collaboration, empowerment and engagement this affected nurses as they hadn't the chance to solve their problems and to be creative so they had a low level of proactive behavior and relational coordination. On the other hand, relational leadership of head nurses can improve organization culture to be better for staff. Head nurse when apply the relational leadership, will encourage nurses to voice ideas for improving the standard of work, provide opportunities for generating ideas, support resources for taking charge and preventing problems.

In the same line, according to many studies relational leadership was also found to exert benefits on team collaboration, for example good teamwork climate, positive relationships at the workplace, and nurses' trust in co-workers and the leader (Cummings et al., 2018; James et al., 2021; Wei et al., 2020).^(7,18,41)

Moreover, Htet et al. (2023)⁽¹⁷⁾ stated a relation among proactive work behaviors of nurses, transformational leadership and work engagement. It reported that transformational leadership and work engagement were significant predictors of proactive work behaviors which are important for improving the quality of patient care and organizational outcomes.

Furthermore, Muha (2022)⁽³⁰⁾ supported the study result, which examined the extent to which a leader's relational leadership behaviors influence the relational coordination present among the employees they supervise. It provided significant evidence that relational leadership predicted the relationship between relational leadership and relational coordination.

Additionally, Warshawsky (2011)⁽⁴⁰⁾ confirmed the study result, which asserted interpersonal relationships influenced work engagement and proactive work behavior among nurses. According to many literatures, it is found that various studies highlighted that relational leadership styles were associated with better organizational culture more often than other leadership styles and was seen as trust in the organization. Similar increase perceptions of organizational support among nurses (Niinihuhta & Häggman, 2022; Wei et al., 2020).^(32,41)

In the study results it is found that professional identity of nurses was not a predictor of relational leadership. The interpretation of this finding related to that professional identity was affected by

many factors like education and experience as mentioned previous rather than the relational leadership of head nurse.

This finding came in agreement with Gilvari et al. (2022.)⁽¹⁰⁾ study which highlighted several factors influence the formation of professional identity. It stated that educational directors and clinical nursing educators should make greater efforts to develop and promote the professional identity. Kanefuji, and Nakatani (2017)⁽²⁰⁾ ascertained that age and years of experience had a significant difference with the professional identity of the studied group.

While, Poorchangizi et al. (2017)⁽³⁴⁾ highlighted other factors which affect professional identity. This study showed that a statistically significant relationship was observed between total score of professional identity of the nurses with the training clinical courses attendance. Also, li et al. (2020)⁽²⁴⁾ stated that factors related to professional identity include administrative responsibility, income level, working overtime, occupational development opportunities, age, and job satisfaction.

Conclusion

In light of the present study findings, it can be concluded that there was a highly statistical association between head nurse' relational leadership and both of nurse' proactive behavior and relational coordination ($p < 0.0001$). Concerning the association of relational leadership with professional identity, it was not applicable to do statistical analysis as all

nurses showed only one level of professional identity (high level). Thus, from these results the predictors of relational leadership are proactive behavior, and relational coordination. On the other hand, professional identity was excluded as a predictor.

Recommendations

Based on the findings of this study and the literature review, the following recommendations are proposed

- Enrich and update awareness of head nurse about relational leadership via education interventions and workshops should be updated and conducted continuously on regular basis for all nursing levels.
- Head nurse should encourage nurses to voice their ideas for improving the standard of work, provide opportunities for generating ideas, support resources for taking charge and preventing problems.
- Relational leadership must be emphasized in the curricula by using different educational strategies to prepare undergraduate and post graduate nursing students.
- Increase awareness among nurse administrators and hospital directors about relational leadership and how to change the culture of health policy that match with relational leadership.
- Activating evidence-based research regarding proactive behavior and relational coordination in practice.

Limitations

The most important limitation of this study is that the research data were only

from one hospital. Therefore, selecting sample from different hospitals are recommended for future studies to generalize the findings.

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