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The Relationship between Nurse Managers' Leadership Styles, Nurses' Motivation, and Turnover Intention in Jordan

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Abstract

This study sought to explore how nurse managers' leadership styles are associated with nurses' motivation levels and their intentions to leave the profession among Jordanian nurses. A cross-sectional, descriptive correlational design was implemented, utilizing a self-administered survey instrument. Participants were recruited through a convenience sampling method to obtain the required sample. A total of 170 registered nurses working in private healthcare facilities across Jordan were included in the study. Data were collected using three standardized tools: the Path-Goal Leadership questionnaire, the Multidimensional Work Motivation Scale, and the Turnover Intention Scale, which together assessed leadership styles, work motivation, and turnover intention, respectively. The data were analyzed using both descriptive and inferential statistical techniques to address the study objectives. The findings showed that respondents rated the supportive leadership style as the most dominant ($M = 24.4$, $SD = 4.66$). The overall mean score for work motivation was 87.12, while turnover intention averaged 22.01. A positive association was identified between nurses' motivation and all measured leadership styles. Years of clinical experience were found to be a significant predictor of work motivation among nurses. Regarding leadership styles, both the supportive ($P < 0.001$) and achievement-oriented ($P < 0.001$) styles significantly predicted nurses' motivation levels. The strongest relationship was observed between work motivation and the achievement-oriented leadership style ($r = 0.46$, $P < 0.001$), indicating a moderate positive correlation. In contrast, the weakest association was found with the directive style ($r = 0.29$, $P < 0.001$). Conversely, no statistically significant relationship was found between turnover intention and any of the leadership styles. This study offers a distinctive conceptual contribution by identifying key determinants of nurses' turnover intention. The results may assist policymakers in developing institutional strategies to enhance nurses' motivation and overall well-being, thereby improving retention. Furthermore, the findings highlight the importance of reinforcing factors that increase motivation and reduce the likelihood of turnover among nursing staff.

Keywords: Leadership styles, Nursing managers, Nurses' motivation, Turnover intention

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Introduction

Nursing management is a specialized field that demands targeted education, specific competencies, and well-developed professional skills. Effective leadership within nursing directs clinical practice toward delivering high-quality care, strengthening the use of evidence-based practice (EBP), and ensuring sustained healthcare quality across all levels of administration [1]. Leadership style is an expression of managerial competence and plays a central role in shaping workplace conditions and influencing employee performance [2]. In addition, nursing leaders may adapt their leadership approaches depending on organizational culture, workplace demands, and guiding leadership principles [3]. In the current dynamic healthcare environment, enhancing staff motivation has become a critical priority, particularly in nursing practice [4, 5].



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Consequently, selecting appropriate leadership styles is essential for managing organizational change effectively and fostering higher levels of team motivation [6].

Motivation at work is strongly linked to employee retention, as motivated staff are more likely to remain in their positions over time [7]. Retaining employees also reduces the financial burden associated with recruiting, hiring, and training new personnel [8]. Many healthcare systems worldwide are currently facing shortages of qualified professionals, making retention a critical issue. The departure of healthcare workers, especially nurses and physicians, can have severe consequences for population health outcomes [9]. Evidence shows that less engaged or underutilized healthcare professionals often leave their positions, either relocating from rural or underserved regions to urban centers or migrating internationally in search of better employment conditions [10].

Employee turnover has increasingly become a major challenge for organizations and requires serious attention due to its potential to undermine organizational effectiveness [11]. AlBattat *et al.* [12] reported that high turnover intention is a negative organizational indicator. Internally, it increases operational costs, reduces productivity, contributes to employee dissatisfaction, and leads to inefficiency. Moreover, it can damage institutional reputation, increase the likelihood of medical errors, and raise hospitalization rates [13].

Among the reviewed studies, it has been indicated that turnover intention among healthcare professionals, particularly nurses, is primarily influenced by several factors, including conflict management approaches adopted by nurse managers [14], dominant organizational culture [15], the nursing work environment [16], the quality and satisfaction of nursing work life [17, 18], as well as authentic leadership practices [19].

Jordan, like many other countries, experiences a relatively high nurse turnover rate of approximately 36.6% [17]. This situation negatively affects the quality of patient care and is also associated with increased mortality and infection rates. In addition, rising turnover intentions have been observed, suggesting that nurse turnover remains a significant and unresolved issue in Jordan. Furthermore, previous research has explored nurse managers' leadership styles and their relationships with staff nurses' motivation and turnover intention, focusing on the connections among these variables [20, 21]. Nevertheless, studies examining the combined interactions among all these factors remain limited in the Jordanian context.

The lack of clarity regarding the relationships among nurse managers' leadership styles, staff nurses' motivation, and turnover intention has not been adequately investigated in Jordan's healthcare system. This gap in understanding limits efforts to enhance nurses' motivation and reduce their intention to leave. Low levels of motivation among nurses, along with elevated turnover intention, adversely influence the quality, continuity, and cost-effectiveness of patient care [22].

Work motivation and turnover intention are critical components of the workplace environment and are strongly influenced by working conditions. Leadership styles employed by nurse managers are considered key determinants of the work environment and are expected to shape nurses' motivation and turnover intentions significantly. Globally, several studies have examined the association between leadership styles in nursing, motivation, and turnover intention. For instance, a study by Magbity *et al.* [23] found that participative and transformational leadership styles are associated with reduced turnover intention. In contrast, autocratic and laissez-faire leadership styles are associated with increased turnover intention. However, within the Jordanian healthcare setting, such research remains limited. Various factors have therefore created a strong need to explore the relationships among leadership styles further, nurses' work motivation, and turnover intention.

On an international level, numerous studies have examined these variables. For example, in Saudi Arabia, Altheeb [24] found a statistically significant relationship between transformational and paternalistic leadership styles and employees' work motivation. Similarly, in Egypt, Hebashy Elewa [25] reported that nearly half of the participants demonstrated a moderate level of motivation, and also identified a statistically significant positive relationship between nurses' perceptions of their managers' leadership practices and both nurses' motivation and their intention to leave.

Significance

The results of this study may provide valuable insights for the nursing profession in developing strategies that enable managers to adopt the most effective leadership styles to enhance staff motivation and reduce turnover intention. This, in turn, is expected to improve the overall efficiency of healthcare delivery. Moreover, policymakers may benefit from these findings by recognizing the importance of selecting appropriate leadership approaches to guide nurses in clinical settings. Ultimately, patients in healthcare institutions may experience improved outcomes from consistent care provided by highly motivated nursing staff. Additionally, it has been reported that transformational and supportive leadership styles have a strong positive effect on both patient satisfaction and patient safety outcomes [26]. Therefore, this study aims to investigate the relationship between nurse managers' leadership styles, nurses' motivation, and turnover intention among Jordanian nurses.

The research questions and hypotheses

- Which leadership approaches are most commonly identified by Jordanian nurses as being practiced by nurse managers in clinical settings?
- How can the levels of work motivation and intention to leave be described among nurses in Jordan?

- Do leadership styles implemented in healthcare organizations show any association with nurses' motivation and their turnover intention in Jordan?
- To what degree do socio-demographic attributes and occupational factors explain variations in Jordanian nurses' work motivation and turnover intention?
- How do different leadership styles uniquely influence nurses' motivation and their intention to leave within Jordanian healthcare workplaces, based on nurses' perceptions?
- Hypothesis: Healthcare workers who perceive their leaders as supportive are likely to demonstrate stronger motivation and reduced turnover intention compared with those who perceive leadership as autocratic.

Conceptual and operational definitions of variables

Leadership style refers to the pattern of behaviors used by leaders to influence, coordinate, direct, and motivate individuals or groups toward achieving organizational goals [27]. It is operationalized using the Path-Goal Leadership Questionnaire [28]. Motivation is conceptualized as a psychological process that initiates and maintains goal-directed behavior, shaped by biological, emotional, social, and cognitive influences [27], and is measured operationally using the Multidimensional Work Motivation Scale (MWMS) [29]. Turnover intention is conceptually defined as an employee's conscious consideration or willingness to exit their current job role [30] and is operationally assessed using the Turnover Intention Scale (TIS 6) [31].

Conceptual framework

The present study is grounded in the Path-Goal leadership theory [32], which identifies four primary leadership styles: participative, supportive, directive, and achievement-oriented. Within this framework, leaders may adopt any of these styles to shape subordinates' understanding, skills, and experiences. In addition, effective leadership requires the ability to adjust behavior to respond efficiently to employees' expectations, needs, and preferences.

In participative leadership, managers actively involve employees by valuing their input and encouraging their participation in decision-making. Linski [33] emphasized this approach by noting that individuals at all organizational levels are invited to contribute ideas on goal setting, problem identification, and other processes that directly affect their work. This approach is facilitated through open communication channels and continuous information exchange between leaders and staff at all hierarchical levels.

Supportive leadership involves providing emotional encouragement and psychological support to employees. Leaders adopting this style prioritize staff well-being and personal aspirations. They are typically described as approachable, empathetic, and attentive to employees' comfort and individual needs [34].

Directive leadership involves clearly defining expectations, providing detailed instructions, and closely guiding task execution. Leaders using this approach assign specific responsibilities, explain procedures step by step, and outline schedules for task completion. They also establish performance criteria, enforce rules and regulations, and communicate explicit expectations regarding job performance [34].

Achievement-oriented leadership focuses on setting challenging and well-defined goals for followers while encouraging continuous improvement. Leaders adopting this style communicate high expectations and demonstrate strong confidence in employees' abilities, thereby motivating them to achieve higher performance levels [34].

Multidimensional motivation is classified into five categories: (1) Demotivation, which reflects the absence of motivation or interest in performing a task; (2) Extrinsic regulation, which refers to engaging in activities due to external incentives such as rewards, recognition, avoidance of punishment, or enhancement of self-worth rather than intrinsic interest; (3) Identified regulation, where individuals engage in an activity because they recognize and accept its personal value, representing a more internalized form of motivation; (4) Introjected regulation, which is driven by internal pressures such as guilt, shame, or ego-related concerns; and (5) Intrinsic motivation, which involves engaging in an activity for its inherent satisfaction, enjoyment, and personal interest [29].

Literature review

Recent literature indicates that Di Bella *et al.* [35], in an integrative review aimed at synthesizing conceptual frameworks of nurses' organizational well-being and identifying shared determinants, found that there is no unified agreement in nursing research regarding a comprehensive model of organizational well-being or the workplace characteristics that should be examined to assess it. Their findings suggest that establishing a consistent definition and framework for nurses' organizational well-being could assist nursing management in monitoring and improving work-life quality, as well as enhancing performance and patient care outcomes.

Furthermore, Wu *et al.* [36] reported that transformational leadership in healthcare settings can reduce nurses' burnout. At the same time, a positive organizational spiritual climate enhances a sense of meaning in work, thereby contributing to improved nurse retention. Their findings indicate that healthcare leaders should move beyond solely transformational leadership practices and focus on fostering a supportive and positive work environment to reduce nurses' intention to leave.

In addition, Fiorini *et al.* [37] demonstrated that accurately perceived leadership styles of head nurses positively influence the organizational environment experienced by nursing staff, which, in turn, enhances nursing-sensitive outcomes. This suggests that adopting supportive and motivational leadership approaches is likely to improve both staff performance and retention rates.

Finally, a study conducted in Jordan by Alfaouri *et al.* [38] highlighted that factors beyond leadership style, such as staffing adequacy and job satisfaction, also play a significant role in improving nurse retention and reducing turnover intention. Accordingly, this finding is particularly relevant to the present study, as it implies that nurse leaders should implement evidence-based staffing strategies to optimize nurse-to-patient ratios, thereby reducing turnover intention and enhancing job satisfaction among nurses.

Materials and Methods

Design

This research employed a descriptive correlational design with a cross-sectional approach.

Sample and settings

The study population consisted of registered nurses employed in private hospitals across Jordan. Participants were recruited through convenience sampling, provided they met the inclusion criteria. Eligible participants were registered nurses engaged in direct bedside care and working full-time. Nurses were excluded if they had been employed for less than one year, held managerial or administrative positions, or were still under probation following resignation.

To determine the appropriate sample size, G-power statistical software was utilized. With a statistical power of 0.80, a significance level of 0.05, an assumed medium effect size of 0.15, and 15 potential predictors, the minimum required sample size for multiple linear regression analysis was calculated to be 134 participants. To account for possible incomplete or missing responses, an additional 30 nurses were included, bringing the total sample size to 170 participants.

The study was conducted at four private hospitals in Amman. These institutions share comparable working conditions, including similar bed capacity, patient census, and relatively uniform work environments. All selected hospitals are classified as comprehensive and referral centers. Private hospitals were chosen because nurses in governmental and military facilities face stricter employment regulations, which may limit job mobility and affect turnover intentions. Additionally, access to private hospitals was more feasible for the principal investigator during the COVID-19 pandemic period.

Instruments

Socio-demographic and work history data

Data collected included age, gender, marital status, level of education, monthly income, years of professional experience, clinical department, and shift rotation patterns.

Path-goal leadership questionnaire

The Path-Goal Leadership Questionnaire is a self-report instrument designed to capture nurses' perceptions of their immediate supervisors based on four leadership styles: directive, supportive, participative, and achievement-oriented. The tool contains 20 items rated on a seven-point Likert scale. Each leadership dimension is evaluated using five items, producing scores ranging from 5 to 35 [28].

The scoring interpretation for each leadership style is as follows:

- Directive style: average score is 23; high ≥ 28 ; low ≤ 18
- Supportive style: average score is 28; high ≥ 33 ; low ≤ 23
- Participative style: average score is 21; high ≥ 26 ; low ≤ 16
- Achievement-oriented style: average score is 19; high ≥ 24 ; low ≤ 14

Previously reported reliability for this instrument demonstrated acceptable to good internal consistency, with Cronbach's Alpha values ranging from 0.73 to 0.79, specifically: achievement-oriented 0.76, directive 0.73, supportive 0.78, and participative 0.79 [39]. In the present study, the scale demonstrated strong reliability (Cronbach's Alpha = 0.87).

It is important to emphasize that the purpose of using this instrument was not to identify the most frequently used leadership style, but rather to assess all leadership styles collectively. This approach was intended to provide a comprehensive understanding of managerial leadership from nurses' perspectives and to capture the full range of leadership behaviors present in clinical settings.

The MWMS was utilized to measure work motivation [29]. This instrument comprises 19 items distributed across five dimensions, rated on a 7-point Likert scale ranging from 1 = not at all for this reason to 7 = completely for this reason, with intermediate options indicating increasing levels of agreement or motivation.

Gagné and Deci [40] provided evidence for both convergent and discriminant validity, demonstrating that managerial practices and job design have a stronger influence on autonomous motivation than on controlled forms of motivation. Autonomous motivation is further associated with improved employee performance. Regarding reliability, most studies have reported Cronbach's Alpha values exceeding 0.80 [29]. The instrument lacks a defined cutoff score; higher scores indicate greater motivation. In the current study, internal consistency was excellent, with Cronbach's Alpha = 0.91.

The Turnover Intention Scale (TIS-6) was employed to assess participants' intention to leave their jobs [31]. This instrument consists of six items designed to evaluate the extent to which individuals consider remaining in or leaving their organization, based on responses to a 5-point Likert scale reflecting turnover-related attitudes over the previous 9 months.

The scale has demonstrated strong reliability, with a previously reported Cronbach's Alpha of 0.93 [41]. Higher scores indicate stronger turnover intention [42]. In the present study, the internal consistency reliability was acceptable, with Cronbach's Alpha = 0.73.

Data collection procedure

After obtaining ethical clearance, the objectives and importance of the study were communicated to nurse managers at the selected hospitals. Subsequently, nurse managers assisted in compiling contact information (telephone numbers) of all nurses who met the eligibility criteria. These eligible nurses were then approached and invited to take part in the study. The study purpose and significance were clearly explained to all participants, and it was emphasized that participation was completely voluntary and that all responses would remain strictly confidential.

Data collection was carried out from August to October 2021. Participants were sent the questionnaire electronically via WhatsApp. The survey was administered via Google Forms, enabling electronic data collection. All questionnaires were provided in English, the instrument's original language.

Data analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25 (IBM, Chicago, IL, USA). Items with reverse scoring were appropriately recoded before analysis. All datasets were examined for normal distribution, and the necessary statistical assumptions were verified to ensure suitability for the selected tests. Data screening was also conducted to identify and appropriately manage missing values and outliers.

Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize participant characteristics and key study variables. Pearson correlation analysis was applied to examine relationships among the main variables of the study. In addition, multiple linear regression analysis was conducted to determine predictors of nurses' work motivation and turnover intention.

Ethical considerations

Ethical approval was obtained from the Faculty of Nursing at Zarqa University under reference number (17/2021), in addition to approval from the selected hospitals before data collection. Institutional Review Board (IRB) approval was also obtained from each participating hospital.

Informed consent was obtained from participants at the start of questionnaire completion. The study adhered fully to the principles of the Declaration of Helsinki, ensuring that all ethical standards were upheld. This included guaranteeing participant confidentiality and anonymity by avoiding the use of identifying information, reporting results in aggregated form, and ensuring that the collected data would not be used for any purposes beyond the scope of this research. Participants were also informed about the study's risks and benefits.

The estimated time required to complete the questionnaire was approximately 20 minutes. Participants were further informed of their right to withdraw from the study at any time without any consequences, and it was clearly stated that participation involved no foreseeable risks.

Results and Discussion

Sample characteristics

A total of 170 nurses participated in the study. Females constituted the majority of the sample (58.8%, $n = 100$). Participants had a mean age of 32.67 years ($SD = 6.81$). More than half of the respondents (54.7%, $n = 93$) were in the 25–35 year age bracket. Regarding income distribution, 55.3% ($n = 94$) reported earning between 501 and 800 JD per month. In terms of professional experience, 37.6% ($n = 64$) had accumulated more than 10 years of practice. Slightly over half of the sample were married (50.6%, $n = 86$), and most held a bachelor's qualification (59.4%, $n = 101$). Regarding clinical placement, medical-surgical units were the largest group of participants (41.2%, $n = 70$). In addition, just over half (52.9%, $n = 90$) worked on rotating A/B/C shifts, as summarized in **Table 1**.

Table 1. Description of the participants' socio-demographics and work-related factors.

Study variable	Category	Frequency (n)	Percentage (%)	M (SD)
Age	–	–	–	32.67 (± 6.81)
Study variable	Category	Frequency (n)	Percentage (%)	
Monthly income	Less than 500 JD	50	29.4	
	501–800 JD	94	55.3	
	More than 800 JD	26	15.3	
Study variable	Category	Frequency (n)	Percentage (%)	
Years of experience	1–5 years	47	27.6	
	6–10 years	59	34.7	
	More than 10 years	64	37.6	
Study variable	Category	Frequency (n)	Percentage (%)	
Gender	Male	70	41.2	
	Female	100	58.8	
Study variable	Category	Frequency (n)	Percentage (%)	
Marital status	Single	63	37.1	
	Married	86	50.6	
	Divorced	13	7.6	
	Widowed	8	4.7	
Study variable	Category	Frequency (n)	Percentage (%)	
Educational level	High diploma	26	15.3	
	Bachelor's degree	101	59.4	
	Master's degree	37	21.8	
	Doctoral degree	6	3.5	
Study variable	Category	Frequency (n)	Percentage (%)	
Working area	Medical–surgical ward	70	41.2	
	Emergency room	53	31.2	
	Critical care unit (ICU, CCU)	47	27.6	
Study variable	Category	Frequency (n)	Percentage (%)	
Shift rotation system	A, B, C shift	90	52.9	
	Day/night shift	80	47.1	

Abbreviations: ICU = intensive care unit; CCU = coronary care unit; A: morning shift; B: evening shift; C: night shift.

Findings presented in **Table 2** indicate that among the leadership dimensions, the supportive style received the highest mean rating ($M = 24.4$, $SD = 4.66$). In contrast, the participative style had the lowest mean score ($M = 23.58$, $SD = 4.48$). The average work motivation score among nurses was 87.12 ($SD = 17.61$), while the mean turnover intention score reached 22.01 ($SD = 4.79$).

Correlation analysis using Pearson's coefficient demonstrated that work motivation was positively and significantly associated with all examined leadership styles: directive, supportive, participative, and achievement-oriented ($r = 0.293$, 0.440 , 0.350 , 0.462 , respectively; $P < 0.001$). Conversely, turnover intention did not exhibit any statistically meaningful correlation with any leadership style, as illustrated in **Table 3**.

Table 2. Scores of the leadership styles, work motivation, and turnover intention.

Variable	Minimum	Maximum	Mean	Standard deviation
Leadership style	–	–	–	–
Supportive leadership style	8	33	24.43	4.66
Directive leadership style	8	35	24.06	4.83
Achievement-oriented leadership style	10	34	23.91	4.99
Participative leadership style	10	33	23.58	4.48
Work motivation	41	128	87.12	17.61
Turnover intention	8	30	22.01	4.79

Table 3. The relationship between each leadership style and work motivation.

Study factors	Directive leadership style	Supportive leadership style	Participative leadership style	Achievement-oriented leadership style
Work motivation	$r = 0.293^*$	$r = 0.440^*$	$r = 0.350^*$	$r = 0.462^*$
	P-value = 0.00	P-value = 0.00	P-value = 0.00	P-value = 0.00
Turnover intention	$r = 0.01$	$r = 0.07$	$r = 0.12$	$r = 0.06$

Note: *Correlation is significant at the (P-value < 0.001).

Regression findings

A multiple linear regression model was employed to explore whether socio-demographic and occupational variables could explain variations in work motivation and turnover intention. Results showed that years of experience significantly predicted work motivation, with each additional year associated with a 2.3-unit increase in motivation ($F = 3.91$, $P = 0.002$). In contrast, none of the examined variables significantly predicted turnover intention (**Table 4**).

Furthermore, a hierarchical multiple regression analysis was conducted to evaluate the incremental effect of leadership styles on nurses' outcomes, while controlling for years of experience. The overall model significantly predicted work motivation ($F = 14.237$, $P < 0.001$). When leadership dimensions were added, only two emerged as statistically significant predictors: supportive leadership ($\beta = 0.288$, $P = 0.001$) and achievement-oriented leadership ($\beta = 0.324$, $P = 0.001$), as shown in **Table 5**.

Table 4. Predicting nurses' turnover intention and work motivation based on socio-demographics and work-related factors.

Predictors	B	Std. Error	T	Sig*
Predictors of nurses' work motivation				
Years of experience	2.304	-0.331	-3.143	0.002*
Age	2.582	0.169	1.754	0.081
Gender	2.787	-0.122	-1.559	0.121
Marital status	1.918	0.009	0.107	0.915
Educational level	2.033	0.095	1.164	0.246
Monthly income	2.512	0.072	0.765	0.445
Working area	1.644	-0.057	-0.747	0.456
Shift rotation system	2.758	0.100	1.279	0.203
Predictors	B	Std. Error	T	Sig*
Predictors of nurses' turnover intention				
Age	0.155	0.718	1.581	0.116
Gender	0.060	0.775	0.755	0.452
Marital status	-0.036	0.533	-0.420	0.675
Educational level	0.009	0.565	0.108	0.914
Monthly income	0.119	0.698	1.243	0.216
Years of experience	-0.102	0.457	-1.325	0.187
Working area	-0.018	0.457	-0.225	0.823
Shift rotation system	0.031	0.767	0.388	0.699

Note: *Statistically significant at the (P-value < 0.05).

Table 5. Predicting nurses' work motivation and turnover intention based on leadership styles.

Predictors	B	Std. Error	T	Sig*
Predictors of nurses' work motivation				
Directive leadership style	-0.021	0.337	-0.226	0.822
Supportive leadership style	0.288	0.330	3.288	0.001*
Participative leadership style	-0.001	0.365	-0.015	0.988
Achievement-oriented leadership style	0.324	0.344	3.330	0.001*
Predictors	B	Std. Error	T	Sig*
Predictors of nurses' turnover intention				
Directive leadership style	-0.099	0.106	-0.930	0.354
Supportive leadership style	0.044	0.106	0.426	0.670
Participative leadership style	0.151	0.117	1.377	0.170
Achievement-oriented leadership style	-0.005	0.110	-0.042	0.967

Note: *Statistically significant at the level of $P < 0.05$.

The findings of the present study indicated that nurse managers most frequently employ a supportive leadership style, whereas the participative style appears to be the least utilized. This pattern may be explained by the relatively high level of clinical experience among the participating nurses, which could lead managers to adopt a more supportive approach, perceiving experienced staff as colleagues and trusting their professional competence.

Furthermore, this result aligns with earlier research reporting that the supportive leadership style is the dominant approach used by nurse managers [43, 44]. It has been proposed that leaders tend to select styles that encourage employees to enhance their performance. Similarly, a study conducted across five hospitals in Ghana's eastern region found that nurse managers use

different leadership styles depending on situational demands, with the supportive style most frequently used, followed by the achievement-oriented style [45]. In the current study, nurses demonstrated relatively high turnover intention alongside low motivation levels, which may be attributed to various workplace-related issues, including workload and environmental stressors that negatively influence motivation while increasing the desire to leave.

In addition, the present findings are consistent with those of Rahbi *et al.* [46], who reported comparable levels of employee motivation. Motivation is widely recognized as a crucial factor in achieving organizational objectives and enhancing job performance. Supportive leadership contributes to increased nurse motivation, as feelings of recognition and support significantly influence both productivity and retention. This may be explained by the positive effect of perceived managerial support, which fosters a more encouraging work environment and strengthens staff expectations and engagement.

The results also demonstrated that turnover intention was not significantly associated with any of the leadership styles (directive, supportive, participative, or achievement-oriented). This is consistent with a previous study conducted in Jordan, which similarly found no significant relationship between leadership styles in healthcare settings and nurses' turnover intention [47].

Moreover, among socio-demographic and work-related variables, only years of experience significantly predicted nurses' work motivation. In contrast, none of the examined socio-demographic or occupational factors predicted turnover intention. This suggests that the measured background or job-related characteristics did not influence turnover intention in this sample and may instead be affected by other unmeasured variables. Similar findings have been reported in previous studies, which also found no significant association between socio-demographic factors and intention to leave the organization [48, 49].

Additionally, the present study revealed that leadership styles significantly predict nurses' motivation, with the achievement-oriented style emerging as the strongest predictor. This is consistent with the findings of Asamani *et al.* [50], who reported that directive, supportive, participatory, and achievement-oriented leadership styles all contribute to shaping staff motivation. It has been suggested that effective leadership requires motivating team members to act, demonstrating integrity, setting clear priorities, maintaining effective communication, recognizing achievements, and encouraging staff to deliver high-quality care. Finally, the study found that socio-demographic and work-related variables did not predict nurses' turnover intention, a finding that appears unusual compared to previous literature. This contrasts with Abubakar *et al.* [51], who reported that age, gender, education level, experience, and tenure are significant predictors of nurses' turnover intention and actual turnover. This discrepancy may be attributed to the relatively small sample size in the current study, which may limit the generalizability of the findings, as well as the fact that data were collected exclusively from private healthcare institutions in Jordan, potentially affecting external validity.

An additional important consideration is the influence of the COVID-19 pandemic during the period before and throughout data collection. The pandemic likely affected nurses' turnover intentions due to its substantial psychological and occupational impact on healthcare workers. Moreover, a systematic review by Ulupinar and Erden [52] found that approximately one-third of nurses working during the COVID-19 pandemic had considered leaving their jobs.

Although this study has notable strengths, several limitations should be acknowledged. First, the use of a cross-sectional design combined with convenience sampling restricts the extent to which the findings can be generalized. It prevents the establishment of causal relationships between variables. Second, the reliance on self-reported data may introduce response bias, as participants completed self-administered questionnaires. Third, the study was conducted exclusively in private hospitals, which limits the applicability of the findings to nurses working in other healthcare sectors; additionally, differences in working conditions between private and governmental institutions further constrain generalizability, making this an important contextual limitation of the study. Finally, the focus on specific leadership styles, rather than less commonly practiced approaches such as authentic or transformational leadership, may also be considered a limitation.

Conclusion

This study contributes meaningfully to the existing body of knowledge by emphasizing the essential role of healthcare managers in designing and implementing structured mentorship initiatives within clinical environments, including training programs focused on managerial competencies and supportive leadership practices. Furthermore, it highlights the importance of managerial responsibility in addressing high nurse turnover rates by strengthening factors that enhance motivation and reduce turnover intention.

In addition, the study underscores the importance of health policymakers in developing and sustaining a supportive, attractive work environment for healthcare professionals, particularly nurses. Ultimately, the findings provide empirical evidence to inform nursing practice and support strategies to retain motivated nurses, thereby ensuring high-quality patient care.

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