

Organizational commitment and nursing work environment in Makkah Cluster Hospitals: a mixed-methods study

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Research Article

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Abstract

Background

Organizational commitment and the nursing practice environment are interdependent determinants of workforce stability, yet few studies test this relationship with mixed-methods evidence in Saudi Arabia's cluster-hospital structure. This study set out to characterize organizational commitment and the nursing work environment at Makkah Cluster Hospitals, to test whether the work environment predicts each commitment component independent of sociodemographic characteristics, and to examine nurse managers' perceptions of these constructs.

Methods

A mixed-methods design was used. In the quantitative phase, 259 nurses completed an anonymous survey using the Organizational Commitment Questionnaire (OCQ) and the Practice Environment Scale of the Nursing Work Index (PES-NWI). Gender, marital status, education, age, and PES-NWI score were entered into three multiple linear regression models, one per commitment subscale. Twenty nurse managers were then interviewed and the transcripts were analyzed thematically.

Results

Commitment was moderate-to-high overall ($M = 4.20$, $SD = 0.66$), led by affective commitment ($M = 4.45$), then normative ($M = 4.17$) and continuance commitment ($M = 3.99$). The work environment was rated moderately favorable ($M = 3.60$, $SD = 1.00$). All three regression models were significant ($R^2 = 0.155$ – 0.264 , $p < 0.001$); the work environment alone predicted affective ($\beta = 0.379$), continuance ($\beta = 0.425$), and normative commitment ($\beta = 0.499$, largest effect), with no sociodemographic predictor significant. Four qualitative themes — leadership, fairness, resourcing, and communication — mirrored this pattern, tying loyalty to conditions rather than to traits.

Conclusions

The work environment was the sole significant predictor of all three commitment dimensions, strongest for normative commitment, and was corroborated by nurse managers' accounts. These findings indicate that modifiable workplace conditions, rather than demographic characteristics, may offer the more informative targets for organizational efforts intended to support nurses' commitment in cluster-hospital settings.

Background

Organizational commitment captures the degree to which employees identify with, feel emotionally tied to, and remain loyal toward the organizations that employ them. Within nursing specifically, this construct has drawn sustained research interest because of its demonstrated links to job satisfaction, lower turnover, cohesive teamwork, and, ultimately, better patient outcomes [1]. The framework most often used to dissect commitment is Allen and Meyer's three-component model. It separates affective commitment (an emotional bond with the organization), continuance commitment (a calculation of what leaving would cost), and normative commitment (a felt duty to stay) [2]. Of the three, affective commitment has repeatedly emerged as the strongest correlate of intent to remain. Continuance commitment's relationship with actual retention, by contrast, has proven more inconsistent across the literature [3].

If commitment describes the bond, the nursing work environment describes the soil it grows in. This construct includes leadership quality, nurses' participation in decision-making, nurse–physician relationships, adequate staffing, and organizational support for providing quality care [4]. The instrument most used to measure it is the Practice Environment Scale of the Nursing Work Index (PES-NWI). It derives from the original Nursing Work Index and carries a long history of validation across both American and international nursing populations [5]. Hospitals that score well on this measure also tend to report stronger patient outcomes, less burnout among nursing staff, and, notably, higher organizational commitment [6].

This relationship holds consistently across the international literature. A recurring finding across health systems is that, when the work environment is tested against other organizational or demographic variables, it tends to come out on top as the dominant predictor of commitment. Elserogy, Ibrahim, and Alam, surveying Egyptian nurses, found that more than half rated their work environment positively and nearly two-thirds reported high commitment; they identified a favorable practice environment as essential to retention [7]. A South Korean study by Kim, Park, and Lee linked the nursing practice environment to both job performance and organizational commitment, with job embeddedness serving as a partial mediator of that relationship [8]. Nuraena, Yuniar, and Prasetya took a different analytic route in their Indonesian sample of 95 nurses. They examined the physical and non-physical dimensions of the work environment together with organizational commitment as joint predictors of nurse performance. In their multivariate logistic regression, commitment carried the single largest odds ratio, but both environmental dimensions also reached significance [9]. Across these studies, environmental and organizational variables consistently outperform demographic ones once placed in the same model, a pattern that recurs throughout the broader literature reviewed for the present study.

Beyond establishing that the relationship exists, a second strand of research has probed the mechanism behind it. Working with 456 Iranian clinical nurses during the COVID-19 pandemic, Alinejad-Naeini and colleagues documented a moderate negative correlation between commitment and burnout, and another moderate negative correlation between commitment and satisfaction with the work environment. They attributed the overall moderate commitment levels partly to pandemic-era strain on institutional support [10]. Zuo and colleagues, working with a substantially larger Chinese sample of 3,047 nurses, found a

positive relationship between commitment and environmental perceptions. This relationship ran almost entirely through nurses' psychological contract [11]. Similarly, Ni and colleagues studied 893 Chinese nurses and found that the link between the practice environment and work engagement ran entirely through basic psychological needs and organizational commitment. Once those mediators were introduced, no significant direct pathway remained. This suggests the environment works as the start of a longer psychological chain, not a standalone predictor [12]. Jun's study of 154 South Korean long-term care nurses added a further layer. Professional values partially mediated the environment–commitment relationship, while the environment itself retained a significant direct effect even with the mediator in the model [13]. Collected together, these studies point to a consistent conclusion: across health systems as different as Egypt, South Korea, China, and Iran, the nursing work environment remains as one of the most dependable predictors of organizational commitment.

A parallel body of evidence has emerged within Saudi Arabia, where research on nurses' organizational commitment has tended to focus on leadership style, work engagement, and work-life balance. Al-Dossary identified engagement and leadership style as main predictors of commitment among clinical nurses [14, 15]. Alshaibani, Aboshaiqah, and Alanazi studied clinical nurses in Riyadh and examined the links between job satisfaction, intention to stay, organizational commitment, and self-efficacy. Their findings highlight how much retention depends on variation in commitment [16]. In addition, Asseeri and El Seesy found a statistically significant positive correlation between commitment and practice-environment perceptions among 157 Saudi nurses [17]. On the environment side, Alsufyani and colleagues identified environmental perceptions and satisfaction with workplace communication as leading predictors of nurses' intention to leave the profession [18]. Alrefaei, Hamouda, and Felemban found a positive link between the practice environment and innovative behavior among bedside nurses in Al-Madinah, though staffing and resource adequacy did not extend to predicting innovation specifically in that sample [19]. Alotaibi and colleagues, examining nurse leaders in Riyadh, reported that favorable practice environments fostered both stronger professional identity and deeper long-term commitment [20]. Most directly relevant to the present study is a national investigation by Shajiri and Nahari. They surveyed 149 nurses drawn from five geographic regions of Saudi Arabia and applied multiple regression to isolate the work environment's contribution to each commitment component after controlling for sociodemographic and work-related covariates [21]. They found the environment to be the significant predictor of affective and normative commitment. Taken as a whole, this body of Saudi work confirms that organizational commitment and the practice environment are tightly bound constructs in this workforce.

This study was guided by three theoretical frameworks that provide a basis for understanding why this relationship is consistently observed. First, Social Exchange Theory (SET) frames workplace relationships as exchanges: organizations that extend resources, support, and recognition tend to receive loyalty and stronger effort in return [22]. Under this logic, nurses who perceive their employer as genuinely invested in them, through adequate staffing, approachable leadership, and visible recognition, should reciprocate with heightened obligation and attachment. The Person-Environment Fit framework supplies a complementary lens. It holds that commitment depends not merely on how good the

environment is in absolute terms, but on how well it aligns with what a given nurse needs professionally [23]. Allen and Meyer's three-component model offers a way to anticipate which commitment dimension should respond most strongly to environmental quality. Affective commitment should track most closely with feeling valued and supported. Normative commitment is itself rooted in a logic of reciprocal obligation, so it should be especially sensitive to perceived organizational investment. This follows from SET, which predicts that a sense of duty to stay arises from feeling well treated. Continuance commitment is a calculation of the costs of leaving rather than a reflection of relational quality [2, 21].

Despite the breadth of evidence connecting organizational commitment to the nursing work environment internationally and within Saudi Arabia specifically, very few studies have combined multivariable regression with qualitative inquiry to examine this relationship among nurses working under a Saudi cluster-hospital governance structure. That structure, which consolidates several hospitals under shared administrative oversight, plausibly shapes how staffing, leadership, and resource decisions are felt at the unit level in ways that differ from single-site institutions. This study aimed to describe nurses' organizational commitment and work environment in Makkah Cluster Hospitals, examine whether demographic characteristics and the work environment predict the three dimensions of organizational commitment, and explore nurse managers' perspectives on the organizational factors that strengthen or weaken nurses' commitment.

Methods

Study design

This investigation followed a mixed-methods design. Its first stage relied on a cross-sectional quantitative survey to capture organizational commitment and nursing work environment scores among nurses employed across Makkah Cluster Hospitals. A second, qualitative stage followed, drawing on an independent sample of nurse managers and supervisors to express their experiences and interpretations of organizational commitment and the work environment in greater depth. The quantitative survey ran from May through August 2025, with qualitative interviews conducted across the same window.

Setting

Data collection took place across hospitals belonging to the Makkah Health Cluster in Makkah City, Saudi Arabia. The qualitative interviews specifically drew participants from Hera General Hospital and King Faisal Hospital. The Makkah Cluster includes several hospitals operating under one administrative system to improve coordination, standardize healthcare services, and strengthen governance. Makkah City provides a unique setting for this study because it experiences periodic increases in healthcare demand due to the large numbers of pilgrims visiting throughout the year.

Participants and sampling

The quantitative sample was drawn through convenience sampling from nurses actively employed across Makkah Cluster Hospitals, with eligibility requiring at least one year of clinical experience. Nurses based solely in quality control or infection control departments were excluded from consideration. A priori power calculations set the minimum required sample at 128, which was then increased to 154 to buffer against non-response. The final sample of 259 nurses exceeded this requirement.

For the qualitative stage, purposive sampling yielded 20 nurses occupying managerial or supervisory positions. To preserve independence between the two phases, anyone who had already completed the quantitative survey was excluded from qualitative recruitment. Interviews continued until thematic saturation was reached.

Data collection

The quantitative instrument was administered as an anonymous online questionnaire built in Google Forms, opening with a demographic section before presenting the study instruments in a consistent order. The principal investigator handled distribution of survey links across facilities.

Qualitative data collection took the form of semi-structured interviews delivered remotely via Zoom, each running 30 to 60 minutes. Interviews were conducted in Arabic to enable participants to express their views clearly in their native language. Each transcript was subsequently forward-translated into English by a bilingual expert familiar with the Saudi nursing context. The interview guide was developed to explore participants' perceptions of organizational commitment and the work environment within their organizations. Questions focused on factors that enhanced or weakened their commitment to the organization, their experiences with leadership and workplace resources, and the ways in which communication, support, and recognition influenced their sense of belonging. To obtain deeper insights, interviewers used probing questions and follow-up prompts that encouraged participants to clarify, expand upon, and reflect on their responses.

Measures

Demographic variables

The survey's demographic section gathered information on gender, marital status, age, employment status, educational background, and the length of participants' work shifts.

Organizational Commitment Questionnaire (OCQ)

Allen and Meyer's 24-item OCQ supplied the measure of organizational commitment, producing three subscale scores, affective, continuance, and normative commitment, each built from eight items [2]. Responses follow a 7-point scale running from strongly disagree to strongly agree, with negatively

phrased items reverse-scored prior to summation. Validation work within healthcare settings has reported a Cronbach's alpha of 0.88 for this instrument [24].

Practice Environment Scale of the Nursing Work Index (PES-NWI)

The 30-item PES-NWI captures organizational features of the nursing work environment spanning nurse involvement in hospital governance, the institutional groundwork for quality care, the caliber of nurse manager support, adequacy of staffing and resources, and the quality of nurse–physician collaboration. Item responses run from strongly disagree to strongly agree on a 5-point scale, yielding possible totals between 30 and 150, with higher totals signaling a more supportive professional environment. The scale carries a substantial validation record across both American and international nursing samples, with subscale Cronbach's alphas reported between 0.911 and 0.946 [25].

Data analysis

All quantitative analyses were conducted in IBM SPSS Statistics, version 29. Sample characteristics and the two principal study variables were first summarized descriptively. The central analytic step involved three multiple linear regression models, one per OCQ subscale, each entering gender, marital status, educational level, age, and PES-NWI total score simultaneously as predictors. Categorical predictors were dummy-coded with the following reference categories: gender (female as reference, male coded 1), marital status (married as reference, single coded 1), educational level (bachelor's degree or higher as reference, diploma or institute level coded 1), and age (35 years and older as reference, younger than 35 coded 1). The PES-NWI entered each model as a continuous score. Cases with missing data were handled through listwise deletion. Significance was evaluated at the conventional $\alpha = 0.05$ threshold.

On the qualitative side, all interviews were audio-recorded, transcribed in full, and subjected to thematic analysis aimed at surfacing the dominant themes relevant to organizational commitment and the work environment. The principal investigator worked through the transcripts repeatedly to achieve full familiarity with the material before generating an initial set of codes. These codes were then consolidated into broader themes, which were reviewed and refined jointly with the independent reviewers. Data were analyzed using an inductive thematic analysis based on the six-phase approach outlined by Braun and Clarke [26], without the use of a predetermined coding framework. The principal investigator repeatedly listened to the audio recordings and reviewed the transcripts to gain familiarity with the data and develop a comprehensive understanding of participants' accounts. The transcripts were organized in a Microsoft Word document to facilitate coding and comparison across participants. Qualitative data analysis software, such as NVivo, was not used because the dataset of 20 interviews was considered manageable for manual analysis. Initial codes were developed inductively through line-by-line examination of the transcripts and subsequently reviewed by the principal investigator. As the coding was conducted by a single researcher, regular discussions with the other experts in the field were incorporated to enhance the credibility and dependability of the analysis. The researcher independently reviewed selected transcript excerpts, assessed the alignment between the original data, generated

codes, and emerging themes, and provided feedback throughout the analytic process. Related codes were then grouped into broader categories, and connections among these categories were examined to develop overarching themes. The analysis generated four main themes, which are reported in the Qualitative results section. No additional subthemes were identified beyond the descriptive categories presented in the Results.

Ethical considerations

Ethical clearance for the study came from the Institutional Review Board of King Saud University (Ref. No. : KSU-HE-25-694, approved 13 May 2025), with supplementary approvals secured from participating hospitals as required. Participation across both phases was strictly voluntary. Quantitative respondents completed the survey anonymously, with no identifying details collected. Qualitative participants gave informed consent and retained the right to withdraw at any point without penalty. Participant codes, rather than names, were used throughout to preserve confidentiality.

Results

Quantitative results

Participant characteristics

The quantitative survey drew 259 completed responses. Female nurses made up the large majority (n = 223, 86.1%), consistent with the gender makeup typically seen among bedside nursing staff in Saudi Ministry of Health facilities. Slightly more than half of respondents were 35 or older (n = 132, 51.0%), with the remainder distributed across 30-to-34 (24.7%), 25-to-29 (18.1%), and under-25 (6.2%) age bands. Married nurses outnumbered single nurses (n = 151, 58.3% versus n = 108, 41.7%), and nearly all respondents were currently employed (n = 253, 97.7%). Educational attainment skewed toward diploma-level preparation (n = 177, 68.3%), with smaller shares holding a Bachelor of Science in Nursing (n = 56, 21.6%), an institute-level credential (n = 17, 6.6%), or a Master's degree (n = 9, 3.5%). The standard eight-hour shift predominated (n = 237, 91.5%), with the remaining 22 nurses (8.5%) working twelve-hour shifts (Table 1).

Table 1
Demographic characteristics of quantitative survey participants
(N = 259)

Variable	Category	n	%
Age	Below 25 years	16	6.2
	25 to 29 years	47	18.1
	30 to 34 years	64	24.7
	35 years and older	132	51.0
Gender	Male	36	13.9
	Female	223	86.1
Marital status	Single	108	41.7
	Married	151	58.3
Employment status	Employed	253	97.7
	Not employed	6	2.3
Educational qualification	Diploma in Nursing	194	74.9
	Bachelor in Nursing	56	21.6
	Master of Nursing	9	3.5
Work shift	8-hour shift	237	91.5
	12-hour shift	22	8.5

Organizational commitment and nursing practice environment

Overall organizational commitment landed in the moderate-to-high range ($M = 4.20$, $SD = 0.66$ on a 7-point scale). Breaking this down by subscale, affective commitment scored highest ($M = 4.45$, $SD = 0.84$), with normative commitment close behind ($M = 4.17$, $SD = 0.75$); continuance commitment trailed both ($M = 3.99$, $SD = 0.93$). This ordering implies that nurses in this sample are held to their organizations more by emotional attachment and felt obligation than by a calculated reluctance to absorb the costs of leaving (Table 2). Perceptions of the nursing work environment, measured by the PES-NWI, settled at a moderate level overall ($M = 3.60$, $SD = 1.00$ on a 5-point scale) (Table 3).

Table 2
Mean scores for OCQ subscales and overall scale (N = 259)

Subscale	Mean	SD
Affective commitment	4.45	0.84
Normative commitment	4.17	0.75
Continuance commitment	3.99	0.93
OCQ overall	4.20	0.66

OCQ, Organizational Commitment Questionnaire. Scores are on a 7-point scale.

Table 3
Mean score for the PES-NWI overall scale (N = 259)

Scale	Mean	SD
PES-NWI overall	3.60	1.00

PES-NWI, Practice Environment Scale of the Nursing Work Index. Scores are on a 5-point scale.

Regression analyses

Three multiple linear regression models were run, each testing whether gender, marital status, educational level, age, and the nursing work environment predicted one of the three OCQ subscales.

The affective commitment model reached significance, accounting for 15.5% of the variance in scores ($p < 0.001$), as detailed in Table 4. Of the five predictors, only the nursing work environment carried independent significance ($\beta = 0.379$, $p < 0.001$). Nurses reporting a more supportive environment also reported higher affective commitment. None of gender ($p = 0.982$), marital status ($p = 0.355$), educational level ($p = 0.395$), or age ($p = 0.840$) approached significance.

A parallel pattern emerged for continuance commitment (Table 5), where the model explained a larger share of variance ($R^2 = 0.198$, $p < 0.001$). Only the work environment reached significance ($\beta = 0.425$, $p < 0.001$). Notably, its standardized effect here exceeded the one observed for affective commitment. The remaining predictors, gender, marital status, educational level, and age were not significant.

The normative commitment model, shown in Table 6, accounted for the largest proportion of variance among the three ($R^2 = 0.264$, $p < 0.001$). Consistent with the previous two models, the work environment was the sole significant predictor ($\beta = 0.499$, $p < 0.001$). Its standardized effect here was the largest observed across all three regression analyses, suggesting that environmental quality bears most heavily on nurses' felt obligation to remain. None of demographic factors reached significance.

Looking across all three models together, a clear pattern emerges: the work environment was the only predictor to reach significance in any of them, and its standardized effect grew steadily larger moving from affective ($\beta = 0.379$) to continuance ($\beta = 0.425$) to normative commitment ($\beta = 0.499$). None of the four sociodemographic variables, gender, marital status, educational level, or age, achieved significance in a single model.

Table 4
Regression analysis of affective commitment (N = 259)

Predictor	B	β	t	p	95% CI LL	95% CI UL
Gender	0.003	0.001	0.023	0.982	-0.277	0.284
Marital status	-0.093	-0.054	-0.927	0.355	-0.289	0.104
Educational level	-0.105	-0.051	-0.851	0.395	-0.347	0.137
Age	0.021	0.012	0.203	0.840	-0.180	0.221
PES-NWI	0.319	0.379	6.497	< 0.001***	0.222	0.416

Model summary: $R^2 = 0.155$, adjusted $R^2 = 0.139$, $F(5, 253) = 9.299$, $p < 0.001$. B, unstandardized coefficient; β , standardized coefficient; CI, confidence interval; LL, lower limit; UL, upper limit; PES-NWI, Practice Environment Scale of the Nursing Work Index. Gender = male vs. female; marital status = single vs. married; educational level = lower vs. higher educational level; age = < 35 years vs. ≥ 35 years. *** $p < 0.001$.

Table 5
Regression analysis of continuance commitment (N = 259)

Predictor	B	β	t	p	95% CI LL	95% CI UL
Gender	-0.253	-0.095	-1.660	0.098	-0.554	0.047
Marital status	0.087	0.046	0.809	0.420	-0.124	0.297
Educational level	-0.031	-0.014	-0.238	0.812	-0.291	0.228
Age	0.003	0.002	0.031	0.976	-0.212	0.218
PES-NWI	0.393	0.425	7.467	< 0.001***	0.289	0.497

Model summary: $R^2 = 0.198$, adjusted $R^2 = 0.182$, $F(5, 253) = 12.518$, $p < 0.001$. B, unstandardized coefficient; β , standardized coefficient; CI, confidence interval; LL, lower limit; UL, upper limit; PES-NWI, Practice Environment Scale of the Nursing Work Index. Gender = male vs. female; marital status = single vs. married; educational level = lower vs. higher educational level; age = < 35 years vs. ≥ 35 years. *** $p < 0.001$.

Table 6
Regression analysis of normative commitment (N = 259)

Predictor	B	β	t	p	95% CI LL	95% CI UL
Gender	-0.096	-0.045	-0.815	0.416	-0.328	0.136
Marital status	0.030	0.020	0.367	0.714	-0.132	0.193
Educational level	-0.107	-0.059	-1.055	0.292	-0.307	0.093
Age	0.066	0.045	0.787	0.432	-0.100	0.232
PES-NWI	0.372	0.499	9.147	< 0.001***	0.292	0.452

Model summary: $R^2 = 0.264$, adjusted $R^2 = 0.249$, $F(5, 253) = 18.144$, $p < 0.001$. B, unstandardized coefficient; β , standardized coefficient; CI, confidence interval; LL, lower limit; UL, upper limit; PES-NWI, Practice Environment Scale of the Nursing Work Index. Gender = male vs. female; marital status = single vs. married; educational level = lower vs. higher educational level; age = < 35 years vs. ≥ 35 years. *** $p < 0.001$.

Qualitative results

Twenty nurse professionals took part in the qualitative phase, evenly distributed between men and women. Their ages spanned 33 to 45 years ($M = 38.65$, $SD = 3.21$), and most held a Master's degree ($n = 14$, 70%), with smaller numbers holding a Bachelor's degree ($n = 4$, 20%) or a PhD ($n = 2$, 10%). Hera General Hospital contributed 45% of participants ($n = 9$) and King Faisal Hospital the remaining 55% ($n = 11$). All twenty occupied managerial positions, Nursing Directors, Supervisors, or Head Nurses, placing them well to speak to the organizational dynamics underlying commitment and the work environment.

Overview of themes

Four themes surfaced from the thematic analysis of interview transcripts, each bearing directly on organizational commitment and the nursing work environment: leadership's role in building commitment, fairness as a foundation for retention, the importance of a resource-adequate environment, and communication as a vehicle for staff well-being. Table 7 outlines these themes.

Table 7

Qualitative themes pertaining to organizational commitment and the nursing work environment

Theme	Description
1. Leadership's role in building commitment	Feeling valued, supported, and included in decision-making strengthens loyalty. Leadership that listens, guides, and acknowledges contributions fosters belonging and trust.
2. Fairness as a foundation for retention	Workload balance, fair scheduling, and career development opportunities sustain commitment. Respect, transparency, and equitable treatment by management are central to retention.
3. The importance of a resource-adequate environment	Adequate staffing, sufficient resources, and a safe physical environment support performance and reduce burnout. A resource-rich environment promotes teamwork and professional pride.
4. Communication as a vehicle for staff well-being	Open communication channels and regular feedback mechanisms enhance involvement and satisfaction. Approachable, transparent leadership builds trust and team morale.

Theme 1: Leadership's role in building commitment

Nurse managers repeatedly traced their own loyalty back to feeling valued, supported, and brought into decision-making. When leaders made a point of listening to concerns, offering guidance, and openly acknowledging staff contributions, participants described this as cultivating genuine belonging and trust. Several connected higher commitment and job satisfaction directly to leadership that prioritized professional growth, shared decision-making, and visible recognition, and noted that being invited into policy discussions or unit-level decisions left them feeling both empowered and more invested in the organization's success.

"Commitment is generally high when training and professional development are prioritized." (P14)

"The supportive environment and available resources strengthen our loyalty." (P3)

"When leadership shows appreciation, commitment and loyalty automatically increase." (P10)

In these accounts, leadership behavior functions almost as a signal that nurses read and respond to, one that translates directly into the kind of emotional investment captured statistically by the affective commitment finding above.

Theme 2: Fairness as a foundation for retention

Beyond leadership specifically, participants pointed to workload balance, fair scheduling, and access to career development as the practical mechanics that keep nurses committed and in place. Many tied their own motivation and satisfaction to feeling respected and heard in their day-to-day roles, framing fair treatment, policy transparency, and equitable distribution of duties as the building blocks of a workplace worth staying in.

“There is a strong sense of commitment among nurses, especially those given fair opportunities for training and career advancement.” (P13)

“Nurses show commitment when the organization demonstrates fairness, recognition, and investment in staff welfare.” (P16)

What emerges here is less a complaint about specific policies and more a broader test nurses apply to their employer: does the organization hold up its end of an implicit bargain? This framing lines up closely with the normative commitment finding, where the work environment's predictive strength was greatest of all three dimensions.

Theme 3: The importance of a resource-adequate environment

Adequate staffing, sufficient supplies, and a physically safe workplace surfaced repeatedly as prerequisites for good performance and job satisfaction, not bonus features. Participants described a well-equipped, well-organized unit as one that both supports high-quality patient care and guards against the stress and burnout that come with chronic shortages. Calls for cleaner facilities, stronger safety practices, and fairer workload distribution were common, and several participants linked resource-rich units, when paired with engaged leadership, to stronger teamwork, higher morale, and a renewed sense of professional pride.

“The work environment is good when resources and safety are ensured, and when competency-based assessments are supported by management.” (P13)

“In general, I see a good level of organizational commitment among nurses. Many of us feel connected to our institution and dedicated to patient care. The supportive environment and available resources strengthen our loyalty.” (P3)

Notably, leadership surfaces again even in comments ostensibly about physical resources, suggesting that participants read staffing and equipment decisions themselves as a barometer of how much leadership values the nursing workforce.

Theme 4: Communication as the glue holding commitment together

Participants described teamwork, supportive leadership, and reliable communication channels as the connective tissue of a healthy work environment. Open lines of communication and structured feedback mechanisms, they explained, gave them room to raise concerns, contribute ideas, and weigh in on decisions, all of which deepened their sense of involvement and professional satisfaction. Leadership that stayed approachable, transparent, and responsive to staff input was singled out repeatedly as the ingredient that builds trust, fosters collaboration, and lifts overall morale.

“Conducting anonymous surveys to gather nurses’ opinions about decisions is effective.” (P2)

“Encourage open communication through surveys and feedback systems.” (P6)

“Encourage transparent communication, involve staff in decisions, and increase leadership presence on the units.” (P10)

Threading through all four themes is a consistent emphasis on being heard, supported, resourced, and treated fairly, with no participant ever pointing to gender, age, marital status, or education as a factor shaping commitment. This silence on demographic explanations mirrors, almost exactly, what the regression models found: the work environment, not who nurses are, is what predicts their loyalty in this sample.

Discussion

The descriptive picture that emerged was one of moderate-to-high commitment anchored most firmly in affective attachment, alongside a work environment rated as moderately supportive but with recognizable gaps in staffing adequacy. Similarly, the qualitative data indicate that nurse managers consistently traced their commitment back to leadership, fairness, resourcing, and communication.

Looking first at affective commitment, nurses who rated their practice environment more favorably reported correspondingly higher emotional attachment to their organization, regardless of gender, marital status, education, or age. This finding sits comfortably alongside prior evidence that workplace conditions, rather than who an employee happens to be, drive affective attachment. Shajiri and Nahari's national Saudi sample produced an almost identical pattern, with the work environment standing out as the strongest predictor of affective commitment and no sociodemographic variable reaching significance anywhere in their analysis [21]. Nuraena, Yuniar, and Prasetya's Indonesian data point the same direction, with environmental dimensions and commitment functioning together as performance predictors through pathways that are environmental rather than demographic [9]. That this pattern recurs across two distinct Saudi samples and an Indonesian one lends weight to the idea that the relationship reflects something durable about how nursing commitment forms, rather than an artifact specific to this dataset. The effect found here runs somewhat below what Shajiri and Nahari reported, a gap plausibly explained by differences in sample scope. The present study included participants from a single administrative cluster rather than from all five national regions. The findings may also reflect how staffing and leadership are experienced specifically within the cluster-hospital system.

For continuance commitment, the work environment was the only significant predictor. This finding differs somewhat from theoretical expectations and previous Saudi research. Continuance commitment is generally viewed as a decision to remain because leaving may involve financial, career, or other personal costs [2]. Shajiri and Nahari's national sample found no significant link between the environment and continuance commitment [21]. The significant relationship found in this study suggests that nurses in the Makkah Cluster may consider the quality of their work environment when deciding

whether to stay or leave their organization. In addition, nurses view a supportive and well-resourced work environment as an important benefit that may not be easily available elsewhere. From a Social Exchange Theory perspective, organizational investment in effective working conditions may therefore become one of the benefits nurses consider when deciding whether to stay or leave [22].

With regard to normative commitment, the work environment showed the strongest effect in this study. Previous research suggests that nurses may feel a greater obligation to remain when they experience organizational fairness, ethical leadership, and support from their organization [1, 21]. The qualitative data give this finding texture: participants in Theme 2 explicitly framed fair treatment, policy transparency, and equitable scheduling as the basis for feeling obligated to their organization. This description is consistent with the quantitative findings, where the work environment showed its strongest effect on normative commitment. Shajiri and Nahari also found that the work environment significantly predicted normative commitment, although its effect was smaller than that for affective commitment [21]. In the present study, the strongest effect was found for normative commitment. This difference may reflect the cluster-hospital system, where centralized decisions about staffing, scheduling, and resources may strengthen nurses' sense of organizational support and obligation to remain.

Taken together, these three models point to a single anchoring finding: the work environment was the only variable to reach significance across all three regression models, with its effect climbing steadily from affective through continuance to normative commitment. This pattern fits comfortably within the wider literature surveyed earlier. Elserogy, Ibrahim, and Alam found a tight link between a positive practice environment and high commitment among Egyptian nurses [7]. Asseeri and El Seesy reported a significant positive correlation between the two constructs in a Saudi sample [17]. Zuo and colleagues, working with a very large Chinese cohort, found a strong positive relationship between environmental perceptions and commitment [11].

Gender, marital status, educational level, and age were not significant predictors of any commitment dimension. This suggests that nurses' commitment in this sample was more strongly related to their work environment than to their demographic characteristics, highlighting the importance of improving workplace conditions to support nurse retention.

Practical implications

Because the nursing work environment was the only significant predictor of affective, continuance, and normative commitment, and no sociodemographic characteristic reached significance in any of the three models, organizational efforts intended to support commitment may be more usefully directed at modifiable workplace conditions than at the demographic composition of the workforce. The qualitative accounts indicate where such efforts might be concentrated: supportive and visible nursing leadership, genuine involvement of nurses in unit-level and policy decision-making, fair and transparent scheduling, equitable distribution of workload, adequate staffing and material resources, explicit recognition of

nurses' contributions, and open communication supported by regular feedback mechanisms. These conditions map closely onto the domains captured by the PES-NWI and may therefore provide concrete targets for organizational interventions.

The governance structure of the Makkah Health Cluster may be relevant in this respect, since policies shared across constituent hospitals could allow staffing standards, leadership development, recognition practices, and communication channels to be strengthened consistently rather than facility by facility. Because the quantitative component was cross-sectional, these observations should be read as plausible targets rather than demonstrated levers. Periodic assessment using the OCQ and the PES-NWI could inform retention strategies and track whether commitment changes alongside environmental improvement, but the effect of any such initiative should be evaluated prospectively.

Limitations and strengths

Several limitations bear on how these findings should be read. The use of self-reported measures may introduce response bias. In addition, data were collected from a single health cluster using convenience sampling. Therefore, the findings should be generalized to other Saudi healthcare settings with caution. The cross-sectional design also rules out any firm claim about causal direction. The qualitative sample included only nurse managers and supervisors; therefore, bedside nurses may have different views and experiences of the work environment. In addition, translating the interviews from Arabic to English may have resulted in some loss of meaning despite being conducted by a bilingual expert familiar with the local nursing context.

Against these limitations, the study offers genuine strengths. Both core instruments carry strong international validation records, lending confidence to the reliability of the findings and their comparability with other research in this area. The mixed-methods design was a strength of this study, as the qualitative findings helped explain and support the quantitative results. Interviewing nurse managers and supervisors also provided valuable insight into the organizational factors that may influence nurses' commitment.

Conclusions

The nursing work environment was the only significant predictor of affective, continuance, and normative commitment, with the strongest effect found for normative commitment. Demographic characteristics were not significant predictors. These findings were supported by the qualitative results, which highlighted leadership, fairness, staffing, and communication as important factors influencing nurses' commitment. Therefore, improving the nursing work environment through adequate staffing, supportive leadership, and fair organizational practices may help strengthen nurses' commitment and support workforce stability within Saudi cluster hospitals.

Future longitudinal designs could test whether deliberate improvements to staffing, leadership development, or communication infrastructure produce measurable downstream changes in

commitment. Future studies also should include bedside nurses in addition to nurse managers and supervisors to determine whether similar findings are observed across different nursing roles. Further research should also examine factors such as psychological contract fulfillment and professional values to better explain the relationship between the work environment and organizational commitment, particularly continuance commitment.

Abbreviations

CI

Confidence interval

IRB

Institutional Review Board

M

Mean

OCQ

Organizational Commitment Questionnaire

PES-NWI

Practice Environment Scale of the Nursing Work Index

SD

Standard deviation

SET

Social Exchange Theory

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of King Saud University (Ref. No.: KSU-HE-25-694, approval date: 13 May 2025). Additional site-specific approvals were obtained from participating hospitals where required by local governance procedures. Participation was voluntary. All participants were informed of the study's purpose, procedures, and their right to withdraw at any time without consequence. For the quantitative phase, completing and submitting the anonymous questionnaire was taken as implied informed consent. For the qualitative phase, written informed consent was obtained from all participants prior to data collection.

Consent for publication

Not applicable.

Competing interests

The author declares no competing interests.

Clinical trial number

Not applicable.

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Author Contribution

AK is the sole author of this manuscript. As principal investigator, AK conceived and designed the study, distributed the survey across the participating facilities, conducted and analyzed the qualitative interviews, performed the statistical analysis, interpreted the findings, and drafted and revised the manuscript. The author read and approved the final manuscript.

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Data Availability

The datasets generated during this study are available from the corresponding author upon reasonable request.

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