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Influence of nurses' perception of organizational climate and toxic leadership behaviors on intent to stay: A descriptive comparative study

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ABSTRACT

Background: Nursing managers and leaders must fight to retain nurses in hospitals by constructing an inviting organizational climate that is attractive to work in, not toxic. The organizational climate is primarily affected by employees' internal work environment and behavior. Hence, nursing managers and leaders must implement effective strategies to increase nurses intention to stay by address the organizational climate.

Aim: This study was designed to assess nurses' perception of the effects of organizational climate and toxic leadership behaviors on their intention to stay and the differences in these domains between the two hospitals studied.

Methods: A descriptive comparative design was used. Data were collected in 2022 from 250 nurses working in the two largest hospitals in Assiut, an Egyptian city south of Cairo, using three self-administered questionnaires: the organizational climate questionnaire (42 items categorized into nine domains), the toxic leadership scale (30 items categorized into five domains), and the Chinese version of the intent-to-stay scale.

Results: Most nurses reported their intention to stay as "normal." The nurse participants perceived that a positive organizational climate was not present, but toxic leadership was at a low level (13.6% and 25.6%, respectively). The model of regression analysis was significant, showing that the organizational climate represented by supportive systems impacted nurses' intention to stay in the hospitals under study. Meanwhile, toxic leadership behaviors, represented by authoritarian

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leadership, unpredictability in the university hospital, and self-promotion in the insurance hospital, affected nurses' intention to stay.
Conclusion: Positive organizational climate played a significant role in retaining nurses through investing in incentives and providing supportive systems. Authoritarian leadership, unpredictability, and the self-promotion of leaders' behaviors impacted the nurses and the climate negatively. Hence, we recommend investing in potential strategies to improve the nurses' intention to stay through performance standards, increased pay and benefits, clear reward mechanisms, participation in decision making, and assessments of leaders' behaviors. Furthermore, decision and policy makers need to establish effective, supportive systems in hospitals to retain nurses. Hence, nursing managers and leaders must rethink how they can use their leadership skills and behavior in a positive manner to promote nurse retention.
Study registration: Not registered

What this paper adds

- Supportive organizational climates were the most important factors affecting nurses' intention to stay.
- Performance standards, incentive systems, and authoritarian leadership behaviors were the organizational climate dimensions affecting intention to stay.
- Leadership style and self-promotion were among the dimensions of toxic leadership that affected nurses' intention to stay in one of the hospitals studied.

What is already known about the topic?

- The success of any organization is dependent on its organizational climate.
- Nurses and organizations are negatively affected by toxic leadership.
- Organizational climate and toxic leadership impact nurses' intention to stay.

1. Introduction

Since the 1980s, numerous scholars have studied nurse turnover and retention. Large percentages of nurses around the world have reported their intention to leave: Ethiopia, 65%; Saudi Arabia, 62%; Jordan, 61%; the United States, 36% (Li et al., 2021); and Iran, 50% (Maleki et al., 2023). However, there is no standardized way to measure nurses' intention to stay. In Egypt, nurses have moved to work outside the country to escape the alienating climate of the work environment. Hence, the deficit rates have reached over 60,000 nurses. Furthermore, in Egypt, nurses move to work outside hospitals. Hence, organizational climate is a priority in scientific studies due to its impact on the ability of organizations to retain nurses (Mrayyan, 2007). Therefore, focusing on studying leadership behaviors, especially toxic leadership, and their effects on intention to stay is crucial (Abou Ramdan and Eid, 2020; Malik et al., 2019; Zaabi et al., 2018).

Most studies regarding organizational climate, toxic leadership, and intention to stay were conducted in a single hospital type (Shahnavazi et al., 2021; Labrague et al., 2020; Supriadi et al., 2020). A few studies have been conducted examining the differences between teaching and private or public and private hospitals worldwide (Tynkkynen and Vrangbæk, 2018). However, no study has estimated the differences between university and insurance hospitals in Egypt regarding the three variables.

In this study, we involved the only insurance hospital in Assiut. Insurance hospitals provide health care and treatment services for workers in the public and private sectors. Staff members are not academics. Currently, 59% of the Egyptian population is covered by insurance (Mohamed, 2023). In contrast, university hospitals are secondary and tertiary care facilities that are much more advanced in technology and medical expertise than insurance hospitals. Assiut's university hospital is fully funded by the government and offers free services provided by highly qualified staff members with academic supervisors. Thus, there are known differences in the types of staff employed at each hospital (Abdelaleem, 2017; https://dhsprogram.com/pubs/pdf/SPA5/02chapter02.pdf).

According to Hossny (2022), a hospital can achieve sustainability (human) only by taking the necessary steps within its units; studying nursing activities of nursing staff is the starting point. The knowledge obtained from this study may help healthcare organizations guide and develop strategies to retain nursing staff in the future. Increasing retention is an urgent concern for nursing managers and administrators who are worried about their hospitals' survival, primarily due to the current shortage of nurses, especially during the recent COVID-19 crisis, during which nursing managers were exposed to many challenges and stressful experiences (Hossny et al., 2022).

Leadership, as an important factor in developing a positive organizational climate, requires leaders to create a positive and purposeful workplace. Leaders who positively employ their leadership style and skills beneficially affect job satisfaction, mood, and determination to stay on hospital staff (Johansson et al., 2010). However, sometimes leaders negatively employ leadership skills, called "toxic leadership" (Labrague et al., 2020). Thus, leadership behaviors can be a threat to nurse retention.

The organizational climate in itself is either attractive to employees and nurses to work in comfortably or toxic. Many factors affect the formation of an organizational climate, such as good leadership style, material motivation, and moral support. Further, the positive organizational climate can be neutral with some attractive factors, such as good wages, and some negative factors, such as the presence

of toxic leadership (Roth et al., 2022).

The biggest threat to organizational health is internal load, which drains emotional energy and reduces productivity, increases pressure at the workplace, and creates an absence of a supportive work environment, leading to negative experiences for nurses and their peers. A toxic leader generally has selfish interests at heart. This disturbs productivity, work settings, and professional performance (Özkan et al., 2022), leading to dissatisfaction among nurses (Cowin 2002).

In 2020, the Human Development Report in Egypt indicated that the number of nursing staff in governmental health organizations increased from 162,000 to 197,000 between 2010 and 2018. However, this increase did not keep pace with the increasing demand for health services (Zanaty, 2022). Hence, hospitals need to investigate broad strategies for retaining nurses by creating a supportive work environment with an attractive organizational climate.

2. Literature review

2.1. Organizational climate

One of the motivations for turnover intention is organizational climate (Bracarense et al., 2022). Generally, organizational climate refers to the internal circumstances of an organization. In other words, it consists of characteristics observed by employees (Alavi and Jahandari, 2018). As nurses do not work alone (Adams and Bond, 2020), interactions with nursing peers and other healthcare professionals are significant components of the work environment and organizational climate. Feelings of trust, belongingness, respect, and loyalty are important aspects of the climate, as are supportive peer relations (Qin and Men, 2022).

The climate of the organization is deeply affected by the behaviors of its members. When the staff supports each other, a climate of cooperation and communication is fostered. This is a predictor for intention to stay among nurses because individuals are more willing to stay in an organization in workplaces where they feel supported (Vong et al., 2018).

Nurses' opinions and responses to the work environment are reflected in the organizational climate (Hind and Samia, 2018). In organizations with a good culture and climate, employees are likely to be more positive and satisfied with their jobs and are more committed to their organizations; therefore, they have a stronger intention to stay (Zemke, 2022).

2.2. Toxic leadership

Leadership is an expected skill at every level of healthcare service. Leadership is one of the most important factors affecting the organizational climate (Alavi and Jahandari, 2018). Nurses in leadership positions play a crucial role in creating a respectful work environment. Toxic leadership has interested researchers and has become increasingly dominant in administration literature (Orunbon et al., 2022). It is described as a collection of damaging behaviors or acts that directly or indirectly hurt the members of an organization (Labrague et al., 2020).

Good leadership practices, especially transformational leadership, support and empower the staff, improving the organizational climate (Bayliss, 2022). However, toxic leadership can create an imperfect workplace where cultural and ethical standards with respect to work values are violated (Bakkal, 2020). Ethical leadership is a significant correlate of positive organizational climates, according to Aloustani et al. (2020).

Toxic leadership acts as a reason contributing to leaving when there are opportunities to work elsewhere; further, it is destructive and harmful to employees and organizations (Akca, 2017). Toxic managers negatively impact an organization's workforce, causing increased absenteeism and decreased critical thinking, resulting in high turnover, and making it hard for nurses to stay (Mekawy and Mohamed, 2022). At the individual level, outcomes of toxic leadership include bullying and poor psychological well-being (Thoroughgood et al., 2017). Ofei and Paarima (2022) reported that nursing managers' leadership styles predicted 20.9% of the variance in nurses' intention to stay.

Leaders do not practice toxic behavior consistently. The leader may be toxic in some situations but not in others, depending on the circumstances (Labrague, 2021). Similarly, leaders may exhibit varying degrees and types of harmfulness in similar situations at different times. Furthermore, the consequences of a leader's actions can cause different types and levels of damage (Lipman-Blumen, 2019).

Toxic leadership behaviors can be classified as minor, narcissistic, self-promoting, or degrading (Labrague et al., 2020). Narcissistic leadership is a type of toxic leadership behavior in which undesirable work results, such as job displeasure and a decline in interest in the field, are connected to the leaders' enhanced sense of grandeur and favorable self-presentation (Ghislieri et al., 2019). Self-promoting behavior is the attempt of the person to present oneself to others as a talented, accomplished, intelligent, and experienced person. Self-promotion can take place through face-to-face conversation, on social media platforms, blogs, in public speeches, or through self-aggrandizement (Schmidt 2014; Schmidt 2008) cited in Ghanem and Hassan (2023). Toxic leadership behaviors greatly affect nurses' psychological welfare and their intent to stay in their current employment (Bellamkonda et al., 2021).

Leadership is a skill that all managers should have. If used positively and assertively, it makes subordinates more loyal and in a good mood, and they prefer to stay at their jobs and walk the extra mile to reach the goals of their organizations (Kohll, 2020).

2.3. Intent to stay

Many studies used the term "intention to stay" to explore the concept of nurse retention (Schmidt 2008). According to Delobelle et al. (2011), more satisfied nurses are more likely to continue in their jobs. Cowden and Cummings (2012) developed a theoretical

model of intention to stay: managers' qualities, organizational factors, job features, and nurse characteristics were the four factors with a direct impact on the intention of working nurses to stay at their jobs. Further, the four variables may indirectly influence the decision to leave by affecting cognitive and emotional responses to the job.

The characteristics of a manager include their behaviors, communication with subordinates, support for the team, and participation in decision making. The characteristics of an organization include its structure, support system, and incentive system. Job features include autonomy and independence; these variables are directly related and shape the work climate for nurses (Casida and Pinto--Zipp, 2008). According to Gormley (2011) developing a work environment in hospitals that allows for nurses' autonomy in decision-making may be considered one of the best retention strategies. According to the literature, nurse characteristics and demographics associated with intention to stay include age, work experience for 15–20 years, working fewer overtime hours per week (Nowrouzi-Kia and Fox, 2020), and wages (Kovner et al., 2009). In addition, actions in the workplace (for example, interactive relationships among supervisors, peers, and superiors) are related to intention to stay (Pishgooie et al., 2019).

2.4. Aim of the study

The study was designed to assess nurses' perception of the organizational climate and toxic leadership on their intent to stay and the differences in these domains between the two hospitals studied. The specific research questions are as follows: (1) What are the differences in organizational climate, toxic leadership behavior, and the nurses' intention to stay in the university and insurance hospitals? (2) What is the relationship between organizational climate, toxic leadership behavior, and nurses' intention to stay? (3) What is the effect of organizational climate and toxic leadership behavior on nurses' intention to stay?

2.5. Research hypotheses

(H1) There is a significant difference between the university and insurance hospitals in terms of organizational climate, toxic leadership, and intention to stay.
(H2) There is a relationship among organizational climate, toxic leadership behaviors, and nurses' intention to stay.
(H3) Organizational climate and toxic leadership significantly affect nurses' intention to stay.

3. Methods

3.1. Study design

This study used a descriptive comparative design. This method is used to identify, compare, and investigate differences in variables between two or more groups in a context at a certain moment (Grove et al., 2015).

3.2. Study setting and subjects

This study was conducted at two hospitals in Assiut city in Egypt. One is the only health insurance hospital in the city center and is referred to as the insurance hospital. It provides therapeutic care to more than 2.7 million beneficiaries, with a coverage rate of 56% of the 4.72 million Assiut population. The hospital consists of five floors with a total of 155 beds. The second hospital is the largest one in the region and is referred to as the university hospital, with 92 inpatient units and 1864 beds. This hospital contains nine floors that offer technical education and training to future and current nurses, physicians, and other healthcare providers. In this study, 250 nurses (150 from the university hospital and 100 from the insurance hospital) were selected as subjects using a simple randomization method (random sampling). The researchers used "Epi Info" to calculate the representative sample size, Epi Info is public domain set of software tools developed by the United States Centers for Disease Control and Prevention for use by public health professionals and researchers. It includes a tool for sample size calculation. The criteria used for calculation are as follows: Z = confidence level (95%); d = error proportion (0.05). This yielded a sample size of 250 to achieve a study power of 0.80.

3.3. Measurement tools

3.3.1. The organizational climate questionnaire

We used this instrument to assess the current state of the organizational climate of each hospital under study (Asmaa and Ghallab, 2008). It consists of two parts; the first part gathers demographic information, including age, gender, educational qualifications, and years of experience. The second part consists of 42 items, categorized into nine domains, as follows: organizational communication (five items), organizational structure (five items), leadership style (six items), decision-making participation (four items), incentive system (four items), support system (five items), independence and autonomy (two items), coherence (four items), and performance standards (seven items).

The questions are measured on a 5-point Likert scale, ranging from (1), "always unavailable" to (5), "always available." The scores of each group of items are summed; then, the overall scores are divided by the quantity of items to obtain the mean score for each domain of organizational climate. Then, the scores are converted to percentages, and the mean and standard deviation are calculated. The organizational climate domain is considered present if the score is $\geq$60% and absent if the score is $<$60%. Asmaa and Ghallab (2008) found that the Cronbach's alpha of the organizational climate questionnaire was 0.82; this indicates high reliability.

3.3.2. The toxic leadership scale

This instrument was developed by Schmidt (2008) to detect leadership behavior. The tool consists of 30 items categorized into five domains; namely, seven items for abusive supervision, six for authoritarian leadership, five for narcissism, five for self-promotion, and seven for unpredictability. Schmidt (2008) found that the reliability of scale dimensions was between 0.88 and 0.97. Reyhanoglu and Akin (2020) found that the Cronbach's alpha of the dimensions was 0.94, 0.86, 0.95, 0.95 and 0.97, respectively. Each question is measured on a 5-point Likert scale, ranging between 1, "strongly disagree" and 5, "strongly agree."

3.3.3. The Chinese version of the intent to stay scale

We used this scale to measure the nurses' intention to stay (Wang et al., 2012; Tao and Wang, 2010) based on the intent to quit and job search scales (Turnley and Feldman, 1998). The scale was reported to have good content validity. The final version of the scale was approved by the original author, William H. Turnley. In studies conducted by Turnley and Feldman, 1998; Wang et al., 2012; and Tao and Wang, 2010, the Cronbach's alpha internal consistency reliability coefficients for this scale were 0.79, 0.78, and 0.79, respectively. The authors translated the scale into Arabic and retranslated the scale; then, three academic professors reviewed the Arabic version and compared it with the English version to better fit the context of nurses who worked in the hospitals under study.

3.3.4. Pilot study

A preliminary pilot study involving 25 nurses (15 nurses from the university hospital and 10 nurses from the insurance hospital) was conducted to assess the questionnaires' feasibility, applicability, and reliability and determine the time required to complete the questionnaires. (All nurses in the pilot study were randomly selected as participants in the main study as well). The study instruments' reliability was tested with the Cronbach's alpha test. The data collected from the pilot study were analyzed.

3.3.5. Validity and reliability

The final drafts of the questionnaires were reviewed for content coverage, clarity, wording, length, format, and overall appearance by three experts: one professor and two assistant professors in the field of nursing in Assiut. The Cronbach's alpha coefficient values for all instruments were highly reliable and acceptable in the pilot study and were as follows: 0.84 for hospitals' organizational climate, 0.87 for toxic leadership behaviors, and 0.80 for intention to stay.

3.4. Data collection

We received authorization agreements from the hospital directors (medical and nursing) and from the heads of all units before initiating data collection. The data collection was initiated in April 2022 and was completed in June 2022. The paper questionnaires required approximately 20–25 min to complete. The researchers met the nurses who were selected to be in the study, described the purpose of the study, and asked for oral agreement to participate. Lastly, the nurses signed a consent form and were instructed to complete the questionnaires and return them anonymously.

3.5. Data analysis

The data were analyzed using IBM SPSS Statistics, Version 22.0 (Armonk, NY: IBM Corp.). Microsoft Excel was used to handle data results, while GraphPad Prism 5 was used for graphical presentation. The Anderson–Darling test was used to test normality. Categorical variables were defined by number and percentage, whereas continuous variables were described by means and standard

Table 1
Participant demographics ($N = 250$).

Personal data	University hospital ($n = 150$)	Insurance hospital ($n = 100$)	Total ($n = 250$)
Age			
20–25 years	33 (22.0%)	40 (40.0%)	73 (29.2%)
26–30 years	35 (23.3%)	24 (24.0%)	59 (23.6%)
>30 years	82 (54.7%)	36 (36.0%)	118 (47.2%)
Mean ± SD	33.61 ± 8.69	32.12 ± 10.28	33.01 ± 9.37
Gender			
Male	67 (44.6%)	0 (0.0%)	67 (26.8%)
Female	83 (55.3%)	100 (100%)	183 (73.2%)
Educational Qualification			
Secondary school of nursing diploma	82 (54.7%)	28 (28.0%)	110 (44.0%)
Technical Institute of Nursing	68 (45.3%)	72 (72.0%)	140 (56.0%)
Years of Experience			
1–5 years	46 (30.7%)	48 (48.0%)	94 (37.6%)
6–10 years	21 (14.0%)	16 (16.0%)	37 (14.8%)
>10 years	83 (55.3%)	36 (36.0%)	119 (47.6%)
Mean ± SD	13.22 ± 9.42	11.96 ± 10.5	12.72 ± 9.87

Note: M, mean; SD, standard deviation; N, total sample size; n, subsample.

deviations. Among the nonparametric tests, we used the Mann-Whitney U (Pallant, 2016). In addition, Pearson correlation and multivariate linear regression analyses were used to determine the relationship between the variables, and a stepwise method was used. P values of less than 0.05 were used to indicate statistical significance (McDonald, 2014).

3.6. Ethical approval

Approval was received from the Ethics Committee of the Faculty of Nursing, Assiut University (no = 359-38-2/22). The study was conducted in accordance with the code of ethics of the World Medical Association (Declaration of Helsinki). The participants were debriefed and made aware of their rights to withdraw at any time, and their privacy and confidentiality were ensured. No rewards were given to participation in this study by either the researchers or the hospital authorities (Parahoo, 2014).

4. Results

4.1. Demographic data

As shown in Table 1, most nurses were female. In the university hospital, more than half the nurses had a secondary school of nursing diploma, were older than 30 years, and had more than 10 years of experience. In contrast, in the insurance hospital, the majority had studied at technical institutes, most were younger than 30 years, and the largest proportion had fewer than 10 years of experience.

4.2. Relationship among the variables in the university and insurance hospitals

Regarding organizational climate, Table 2 displays statistically significant differences between the university and insurance hospitals regarding six domains of organizational climate out of nine; namely, leadership style, decision-making participation, incentives system, performance standards, support system, and coherence. Among them, high mean scores in the university and insurance hospitals were related to performance standards and then leadership style. No significant differences were observed in the other three variables. Furthermore, significant differences in the toxic leadership subdomains (i.e., abusive supervision, authoritarian leadership, narcissism, self-promotion, and unpredictability) were observed between the two hospitals. High mean scores in the unpredictability subdomain were observed in the university and insurance hospitals, and the self-promotion subdomain had the lowest scores. Furthermore, significant differences were observed between the two hospitals regarding the intent to stay.

4.3. Effect of organizational climate on the nurses' intent to stay in university and insurance hospitals

As shown in Table 3, we found the following. In the university hospital, two domains of organizational climate had a significant effect on the nurses' intent to stay. The support system had the highest effect, then the performance standards. In the insurance hospital, three domains had a significant effect on nurses' intent to stay: leadership style, incentives system, and finally the support system.

Table 2
Relationship among the variables under study in the university and the insurance hospitals.

Variables	University ($n = 150$) $M \pm SD$	Range	Insurance ($n = 100$) $M \pm SD$	Range	Z	p value
Organizational climate' domains						
Organizational communication	14.1 ± 7.3	7–35	13.5 ± 5.8	7–24	−0.116	0.907
Organizational structure	6.3 ± 3.5	3–15	6.2 ± 2.1	3–10	−0.689	0.491
Leadership style	12.2 ± 6.6	6–30	13.1 ± 4.8	6–24	−2.190	0.029*
Decision-making participation	7.6 ± 4.3	4–17	8.3 ± 3.7	4–18	−2.426	0.015*
Incentives system	6.4 ± 3.7	4–19	7.7 ± 3.7	4–16	−2.997	0.003**
Performance standards	12.8 ± 5.0	7–28	15.1 ± 5.0	7–28	−3.860	0.001**
Support system	9.6 ± 5.5	5–25	10.4 ± 4.3	5–20	−2.154	0.031*
Coherence	7.6 ± 4.3	4–17	8.3 ± 3.7	4–18	−2.426	0.015*
Independence and autonomy	4.7 ± 2.2	2–10	4.5 ± 1.9	2–8	−0.530	0.596
Toxic leadership' domains						
Abusive supervision	20.5 ± 11.0	7–35	13.4 ± 4.2	7–22	−3.485	0.001**
Authoritarian Leadership	18.2 ± 9.5	6–30	11.4 ± 3.8	6–18	−4.156	0.001**
Narcissism	15.7 ± 7.6	5–25	11.0 ± 3.8	5–18	−4.259	0.001**
Self-Promotion	15.5 ± 7.6	5–25	10.7 ± 5.1	5–25	−3.951	0.001**
Unpredictability	21.6 ± 10.0	7–35	15 ± 3.9	7–21	−4.451	0.001**
Overall intent to stay scale	40.2 ± 7.6	18–54	35.6 ± 8.6	23–51	19.784	0.001**

Note: M, mean; SD, standard deviation; n, subsample; Z, Mann-Whitney U test; *, statistically significant at $p < 0.05$; **, Statistically significant at $p \leq 0.01$.

Table 3
Multivariate linear regression analysis of organizational climate on intension to stay in university hospital and insurance hospital.

Predictors	B	B	t	*p* value	95.0% CI for B lower bound	Upper bound
The University Hospital						
Organizational communication	−0.039	−0.037	−0.405	0.686	−0.230	0.152
Organizational structure	−0.191	−0.087	−0.915	0.362	−0.604	0.222
Leadership style	−0.014	−0.013	−0.122	0.903	−0.250	0.221
Decision-making participation	−0.299	−0.169	−1.239	0.217	−0.777	0.178
Incentives system	0.038	0.018	0.123	0.903	−0.573	0.649
Performance standards	−0.494	−0.328	−2.318	0.022**	−0.915	−0.073
Support system	−0.419	−0.303	−2.411	0.017**	−0.762	−0.075
Coherence	−0.299	−0.169	−1.239	0.217	−0.777	0.178
Independence and autonomy	0.533	0.159	1.322	0.188	−0.264	1.330
F	13.340					
***p* value**	0.000**					
R-Squared	0.431					
The Insurance Hospital						
Organizational communication	−0.213	−0.146	−1.029	0.306	−0.624	0.198
Organizational structure	0.742	0.186	1.595	0.114	−0.182	1.666
Leadership style	1.157	0.658	2.715	0.008**	0.310	2.003
Decision-making participation	−0.512	−0.222	−1.290	0.200	−1.301	0.277
Incentives system	−1.157	−0.508	−3.870	0.000**	−1.750	−0.563
Performance standards	−0.045	−0.026	−0.126	0.900	−0.758	0.668
Support system	−0.988	−0.499	−2.925	0.004**	−1.659	−0.317
Coherence	−0.514	−0.212	−1.290	0.200	−1.301	0.277
Independence and autonomy	−0.037	−0.008	−0.062	0.950	−1.205	1.132
F	10.624					
***p* value**	0.000**					
R-Squared	0.483					

Note: B, unstandardized beta; β, standardized beta; t, *t*-test statistic; *p*, probability value; *, statistically significant at $p < 0.05$; **, statistically significant at $p \leq 0.01$; CI, confidence interval; R-Squared, coefficient of determination; F, f statistics.

4.4. Multivariate linear regression analysis of toxic leadership behaviors on the nurses' intent to stay in university and insurance hospitals

As shown in Table 4, the linear regression was significant. In the university hospital, authoritarian leadership followed by unpredictability had a significant effect on the nurses' intention to stay. Furthermore, in the insurance hospital, only self-promotion had a significant effect on the nurses' intention to stay compared with the other subdomains.

4.5. Levels of each study variable in university and insurance hospitals

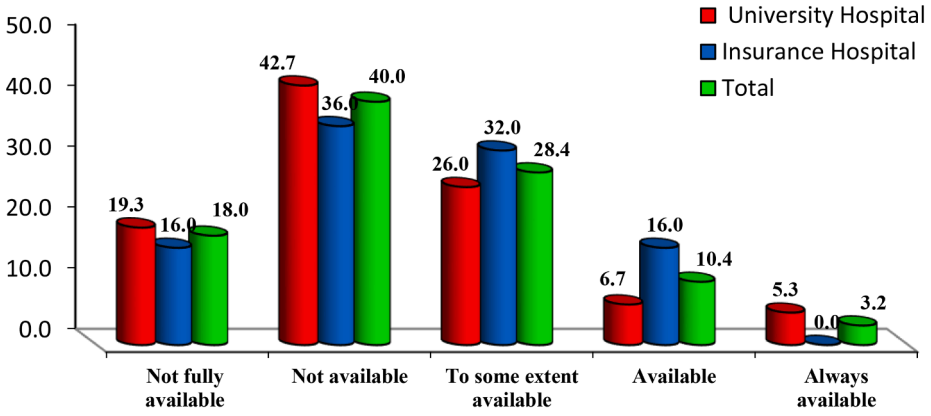
Regarding organizational climate (Fig. 1A), the minority of nurses in the university and insurance hospitals perceived that positive

Table 4
Multivariate linear regression analysis of toxic leadership behaviors on intension to stay in the university hospital and the insurance hospital.

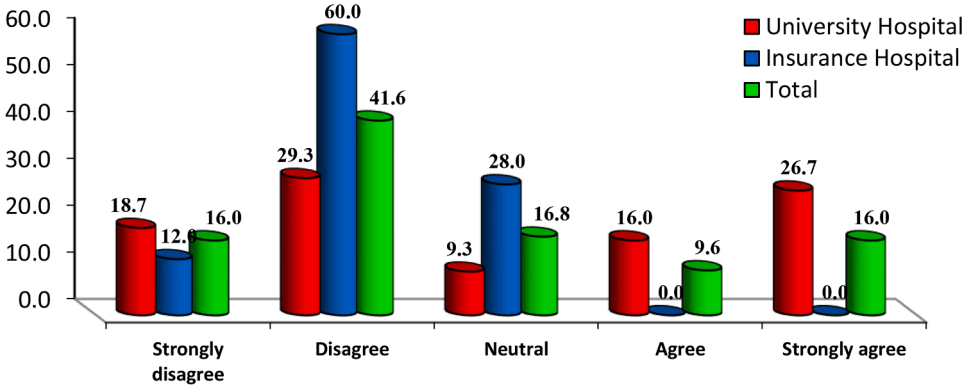
Predictors	B	B	t	*p* value	95.0% CI for B lower bound	Upper bound
The University Hospital						
Abusive supervision	0.223	0.323	1.581	0.116	−0.056	0.503
Authoritarian Leadership	0.442	0.553	2.169	0.032**	0.039	0.846
Narcissism	0.251	0.249	1.154	0.250	−0.179	0.680
Self-Promotion	−0.227	−0.228	−1.217	0.226	−0.596	0.142
Unpredictability	−0.411	−.0542	−2.462	0.015**	−0.741	−0.081
F.	18.77					
p value	0.000**					
R-Squared	0.384					
The Insurance Hospital						
Abusive supervision	−0.237	−0.118	−0.673	0.503	−0.937	0.463
Authoritarian leadership	−0.236	−0.107	−0.765	0.446	−0.849	0.376
Narcissism	−0.566	−0.254	−1.590	0.115	−1.273	0.141
Self-Promotion	1.244	0.741	5.873	0.000**	0.823	1.664
Unpredictability	0.194	0.090	0.737	0.463	−0.330	0.718
F.	10.274					
p value	0.000**					
R-Squared	0.353					

Note: B, unstandardized beta; β, standardized beta; t, *t*-test statistic; *p*, probability value; *, statistically significant at $p < 0.05$; **, statistically significant at $p \leq 0.01$; CI, confidence interval; R-Squared, coefficient of determination; F, f statistics.

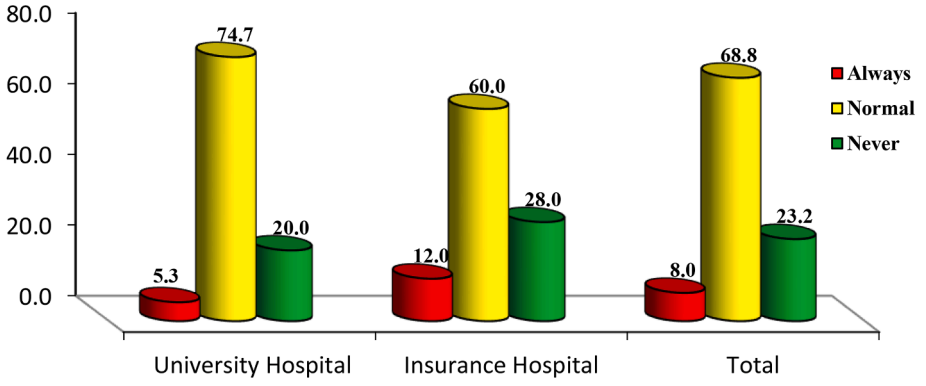
organizational climate was available in their hospital, whereas several nurses in the university and insurance hospitals perceived that positive organizational climate was unavailable. Furthermore, about a third of the nurses in each hospital perceived that positive organizational climate was available to some extent.



A. Organizational climate



B. Total toxic leadership level



C. Total intention to stay level

Fig. 1. Levels of each study variable in university and insurance hospitals.

Regarding toxic leadership (Fig. 1B), more than fifth of all nurses indicated the presence of toxic leadership in the hospitals under study. Meanwhile, about half of the nurses in the university hospital and more than two thirds of them in the insurance hospital indicated that toxic leadership was absent in their hospitals. Furthermore, more than one quarter of the nurses in the insurance hospital were neutral about the presence of toxic leadership.

Regarding intent to stay (Fig. 1C), a large number of nurses perceived their intent to stay as normal. Meanwhile, one fifth of the nurses working in the university hospital and almost a third of the nurses working in the insurance hospital, perceived their intent to stay as never (did not want to stay).

4.6. Relationship between the study variables and the nurses' age and experience

In the university hospital (Fig. 2A and B), there were significant differences in toxic leadership between the age group 26 to 29 and the other age groups, and no significant differences in the other two variables. In the insurance hospital, significant differences in organizational climate were observed among all age groups, and significant differences in the nurses' intent to stay and toxic leadership were observed among age groups from 20 to 25 years.

Furthermore, in Fig. 2C and D, in the university hospital, strong significant differences were observed in toxic leadership among the experience group from 6 to more than 10 years, whereas no significant relationship was observed between the other variables and the nurses' experience in the same groups. Meanwhile, in the insurance hospital, significant differences were observed in organizational climate among all experience groups, and strong significant differences in the nurses' intention to stay and toxic leadership among the group with 1–5 years of experience.

5. Discussion

The study was designed to assess nurses' perceptions of the effects of organizational climate and toxic leadership behaviors on intention to stay and the differences in these domains between the two hospitals studied. We found that the nurses perceived that positive organizational climate was not present, but toxic leadership was at a low level at hospitals under study. This may explain why nurses did not have a clear decision about staying at the job; therefore, most of them considered it "normal." The study hypotheses are discussed below.

The first hypothesis was partially supported. The data indicated that toxic leadership and presence of a positive organizational climate were somewhat high in the university hospital compared to the insurance hospital. These findings are notable because nearly half the nurses at the university hospital were older and more experienced and were thus more competent and independent; these nurses participated in work decisions that led to disagreements with leaders, exposing them to toxic leadership behavior. Moreover, nurses with more age and experience may have a more complete knowledge about the overall hospital environment and climate compared to young nurses at the beginning of their careers, like the nurses in the insurance hospital.

Nurses perceived a lower presence of positive organizational climate in the university hospital than in the insurance hospital. Moreover, the nurses perceived higher toxic leadership levels in the university hospital compared to the insurance hospital. This may be due to the presence of toxic leadership that detracts from a positive organizational climate. A toxic leader could be an expert and be

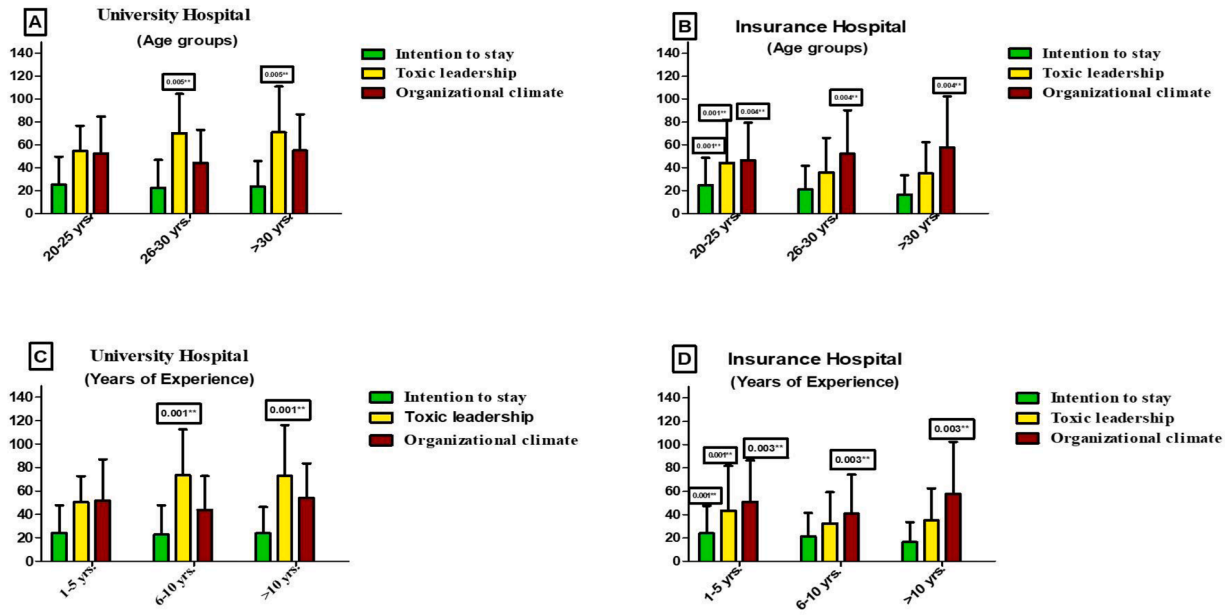


Fig. 2. Relationship between study variables and nurses' age and experience.

effective but behave in a demoralizing manner. Hence, such leaders may contribute to a corrupt climate with consequences spreading far beyond their position. According to Berberoglu (2018), organizational climate was a significant factor in healthcare locations in terms of employees' commitments and in the way they noticed organizational performance, leading to important consequences in healthcare organizations.

Moreover, several nurses perceived the level of their intention to stay in their organizations as "neutral." Likewise, according to Mrayyan (2007), cited in Al Yahyaei et al. (2022), nurses were neutral in reporting their intention to stay. This meant that nurses had not decided whether they wanted to continue with their jobs. This may depend on the climate and the degree of toxicity nurses experienced in their workplaces.

In support of the second hypothesis, there was a positive significant relationship between the two hospitals relating to nurses' intention to stay, which was negatively related to a low positive organizational climate. Regarding the subdomains, there were negative significant relationships in incentive systems, performance standards, and support system subdomains between the university and insurance hospitals.

Furthermore, there were significant relationships between all toxic leadership subdomains in the university and insurance hospitals, with the unpredictability subdomain having the highest mean score and the self-promotion subdomain having the lowest mean score for both hospitals. According to Reed and Bullis (2009), toxic leadership is positively correlated with high turnover and intention to leave.

In the insurance hospital, a climate of civility was observed; a civil climate is essential for a healthy collaborative relationship between healthcare professionals (Hossny and Sabra, 2020). According to Naeem and Khurram (2020), the behavior of toxic leaders is correlated with the psychological well-being of their employees. According to Labrague et al. (2020), nurses who worked under offensive leaders tended to perform poorly and had a low intention to stay in their organization.

There were positive significant relationships between the two hospitals regarding nurses' intent to stay. Even though approximately one fifth of the nurses did not have any intention to stay in their jobs, nurses in Egypt have low incomes and are forced to continue working for the salary.

The third hypothesis was the relationship between organizational climate and toxic leadership on intention to stay, which was supported by the multiple regression results. Lack of supportive systems had the greatest influence on the nurses' intention to stay in both the university and insurance hospitals. Therefore, we may conclude that administrators and leaders have failed to create a supportive organizational climate that would encourage nurses to stay in their jobs. According to Bracarense et al. (2022), a failure of leaders to provide a supportive environment to their staff can cause psychological suffering. In hospitals where the staff supports each other, a climate of cooperation and communication is fostered, which is a predictor of nurses' intention to stay.

The regression analysis confirmed that authoritarian leadership and unpredictability affected the nurses' intention to stay in the university hospital. According to Lipman-Blumen (2019), leaders show varying degrees of toxic behavior; thus, the consequences may generate different levels of damage. Meanwhile, in the insurance hospital, self-promotional behavior significantly affected nurses' intention to stay, although the nurses' perception of toxic behavior was minimal in general in this hospital.

Finally, significant variances were observed in toxic leadership and organizational climate among the age and experience groups. These results agree with those of Abou Ramdan and Eid (2020), who found a significant relationship between toxic leadership and the age of nurses and experience. Similar findings were reported by Abdallah and Mostafa (2021).

Furthermore, in the insurance hospital, a significant relationship was observed between the nurses' intention to stay and age and experience. This may be because young nurses at the beginning of their career accept their experiences and have not yet formed a complete idea about the overall climate and environment.

5.1. Limitations

This study has several limitations. It relied on a simple random sample of nursing staff working in two hospitals in Assiut, with the sample size varying with each hospital, which may limit the generalizability of the results. The sample size was smaller for nursing staff in the insurance hospital compared to the university hospital. While the researchers attempted to make the sample representative of the nurses in both hospitals, despite the different sizes, each of them serves a very large segment of patients. In addition, the participants were all graduates of either the Nursing Diploma Program or the Technical Institute of Nurses. Furthermore, most of the participants were female, especially in the insurance hospital, which had no men at all. Therefore, we recommend that nurses of both sexes and also those with a bachelor's degree be included in future studies. More context-specific studies are needed to explore the different dimensions of toxic leadership and organizational climate.

6. Conclusions

We found that nurses reported that the presence of a positive organizational climate and toxic leadership were both at low levels in the studied hospitals. Therefore, it appears that the components that are needed to retain nurses may be largely absent, particularly a positive organizational climate due to the presence of toxic leadership that, even at a low level, has a significant negative impact on the nurses.

Each hospital was assessed for how their nurses were affected by toxic leadership behaviors, and some domains, particularly authoritarian leadership and unpredictability in the university hospital and self-promotion in the health insurance hospital, significantly affected their intention to stay.

Decision- and policy-makers need to establish an effective support system in hospitals to encourage nurses to stay in their

organizations. A supportive organizational climate can positively affect nurses' intention to stay in university and insurance hospitals. Therefore, we recommend investing in possible strategies to improve nurses' intention to stay through an organizational climate that improves the work environment, specific performance standards, increased pay and benefits, clear reward mechanisms, and nurses' participation in decision-making.

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Declaration of Competing Interest

No conflict-of-interest present for all authors.

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