Jordan Journal of Nursing Research,
DOI: https://doi.org/10.14525/JJNR.2026.32

Jordan Journal of Nursing Research

https://jjnr.just.edu.jo/jjnr

Humble Leadership and Psychological Safety among Faculty: A Cross-Sectional Comparison of Nursing and Non-Nursing Disciplines

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ARTICLE INFO

Article History:
Received: November 1, 2025
Accepted: January 3, 2026

ABSTRACT

Background: Psychology and organizational research suggests, that leaders should be humble, be open about their limitations in knowledge and experience, and pay more attention to the psychological safety of their staff. Humble leadership and psychological safety are not studied in academic organizations. ***Purpose****:* To compare humble leadership and psychological safety between nursing and non-nursing faculty and examine correlations between the studied variables and predictors of psychological safety. ***Methods****:* A non-probability convenience snowball sampling approach was used to recruit 99 faculty members (56 nursing academics and 43 non-nursing academics) from multiple universities in Jordan, utilizing a quantitative comparative cross-sectional design via an online survey. ***Results****:* Nursing faculty reported psychological safety (M = 3.18, SD = 0.80, 95% CI [2.97, 3.39]) versus non-nursing faculty (M = 2.99, SD = 0.31, 95% CI [2.90, 3.08]), p = 0.098. Humble leadership scores were similar: nursing (M = 33.14, SD = 9.54, 95% CI [30.64, 35.64]) and non-nursing (M = 32.60, SD = 5.32, 95% CI [31.01, 34.19]), p = 0.723. Pearson correlation between humble leadership and psychological safety (both were continuous) was moderate and significant (nursing r = 0.410, p = 0.01; non-nursing r = 0.491, p = 0.01), and other correlations with sample demographics were reported after dummy coding these categorical variables. Regression analysis showed humble leadership predicted psychological safety: nursing (B = 0.192, 95% CI [0.028, 0.356], p = 0.024) and non-nursing (B = 0.182, 95% CI [0.051, 0.313], p = 0.009). ***Conclusion****:* Leadership interventions are needed to prevent destructive behaviors that lower psychological safety among nursing faculty. As humble leadership predicted psychological safety in both nursing and non-nursing contexts, further research is required across cultures and organizations. ***Implications for Nursing****:* Humble leadership significantly predicts psychological safety among nursing faculty. Nursing leaders should adopt humility-driven behaviors, like acknowledging limitations, valuing contributions, and encouraging open communication, to foster psychologically safe academic environments. Leadership development programs in nursing education should integrate humility training to enhance faculty engagement, collaboration, and innovation.

Keywords: Nursing, Non-nursing, Leaders, Faculty members, Academic, Humble leadership, Psychological safety.

What does this paper add?

1. This study is among the first to compare humble leadership and psychological safety across nursing and non-nursing academic disciplines, revealing that humble leadership predicts psychological safety in both contexts.
2. It highlights that nursing faculty members experience lower psychological safety than their non-nursing counterparts, despite perceiving their leaders as moderately humble.
3. The findings suggest that discipline-specific leadership interventions are needed and that team size and organizational factors (e.g., quality initiatives) may influence psychological safety differently across academic sectors.

Introduction

Academic environments are changing fast, and with these changes comes the need for leadership styles that foster collaboration and trust. Two concepts stand out in this context: humble leadership and psychological safety. Humble leadership is about leaders who acknowledge their limitations, value the contributions of others, and remain open to feedback and new ideas (Owens & Hekman, 2012; Owens et al., 2013). These behaviors create a foundation of trust and openness, which is essential for psychological safety, a workplace climate where people feel safe to speak up, share ideas, and take risks without fear of negative consequences (Deredzai & Goronga, 2025; Edmondson, 1999). That is, in academic nursing and non-nursing contexts, humble leadership is expected to signal openness and support, shaping a psychologically safe environment for faculty members (Rego et al., 2021; Wang et al., 2018). Evidence suggests that humility-driven leadership contributes to positive outcomes, such as psychological empowerment, job engagement, and satisfaction (Luo et al., 2022; Mudallal et al., 2023; Yang et al., 2019). These outcomes align with Edmondson's (1999) concept of the "network of teams," which relies on strong psychological safety to enable agile, collaborative responses to complex challenges (Deredzai & Goronga, 2025).

Why does this matter in academia? Because psychological safety drives innovation, teamwork, and learning, key ingredients for educational excellence (Rego et al., 2021; Wang et al., 2018). However, questions remain: Is humility something that leaders are born with, or can it be developed? Literature identifies several contributors to humble leadership, including organizational culture, leadership development programs, and individual openness to feedback rather than innate traits (Kelemen et al., 2023; Owens & Hekman, 2012; Owens et al., 2013). These factors suggest that humility can be cultivated through structured interventions. Similarly, psychological safety is influenced by trust, team climate, organizational norms, and structural elements, such as accreditation standards, workload, tenure, and team size (Deredzai & Goronga, 2025; Edmondson, 1999). Introducing these contributors provides a conceptual foundation for why this study examines organizational and demographic variables of time commitment, education level, accreditation, quality initiatives, tenure status, team size, and sector type as possible predictors of humble leadership and psychological safety in academic settings.

The current study investigates organizational and demographic factors that may shape these constructs, including time commitment, level of education, accreditation and quality initiatives, tenure status, team size, and sector type. Introducing these factors is essential, because they can influence leadership perceptions and faculty members' sense of psychological safety in academic settings. Understanding these relationships provides a foundation for designing interventions that promote humility-driven leadership and psychologically safe environments.

Problem and Significance

The COVID-19 pandemic reshaped higher education, forcing institutions to adapt quickly to new teaching methods and organizational challenges. In this context, leadership matters more than ever. Traditional top-down approaches often fall short in fostering collaboration and trust. Instead, leaders who demonstrate humility by admitting mistakes, valuing others' strengths, and staying open to feedback are better positioned to create supportive environments (Kelemen et al., 2023; Owens & Hekman, 2012; Rego et al., 2021).

Despite its importance, humble leadership in academia is still underexplored, especially in nursing education, where leaders juggle clinical and academic responsibilities (El-Gazar et al., 2022; Mudallal et al.,

2023). Another gap lies in understanding what drives humility: Is it an inherent trait, or shaped by organizational culture and leadership development? Evidence points to the latter that humility can be learned and reinforced through training and supportive systems (Kelemen et al., 2023; Rego et al., 2021).

Psychological safety is equally critical. It influences whether faculty feel comfortable sharing ideas, asking questions, and taking risks. Nevertheless, factors like team size, tenure, accreditation, and quality initiatives also play a role, and these have rarely been examined in academic leadership research (Edmondson, 1999). Without this understanding, efforts to improve faculty well-being and performance may miss the mark.

This study addresses these gaps by comparing humble leadership and psychological safety across nursing and non-nursing faculties and analyzing how organizational characteristics shape these dynamics. The findings will guide leadership development programs and policies that promote humility-driven leadership and psychologically safe academic environments.

Research Questions

The current study answered the questions of:

1. What are the differences in perceived humble leadership between academic leaders in nursing and non-nursing disciplines?
2. What are the differences in faculty members' perceived psychological safety between nursing and non-nursing disciplines?
3. What are the relationships between academic leaders' humble leadership and faculty members' psychological safety, and sample characteristics across disciplines?
4. To what extent does academic leaders' humble leadership predict faculty members' psychological safety in nursing and non-nursing settings?

Methods

Design, Settings, and Sample

This study employed a quantitative cross-sectional, descriptive correlational design to examine differences and predictors of humble leadership and psychological safety among nursing and non-nursing faculty members. The design was chosen to capture perceptions at a single point in time and explore associations between variables without implying causality (Polit & Beck, 2019).

Data was collected from faculty members working in universities across Jordan between July and August 2022. The sample included participants from governmental and private universities located in different regions of the country. Institutional contexts varied in size and accreditation status, providing diversity in organizational environments.

A non-probability convenience snowball sample of 99 academics (56 nursing academics and 43 non-nursing academics) from various universities was collected, with an 88.00% response rate. Participants received the survey link through social media and were encouraged to share it with colleagues, which is what the snowball technique is about. The use of convenience snowball sampling is appropriate for cross-sectional designs in nursing and social science research, because it enables efficient recruitment when a complete sampling frame is unavailable and ensures adequate sample size for correlational analysis (Polit & Beck, 2019).This method is widely recognized for exploratory studies examining relationships among variables. It is important to remember that quantitative research typically uses probability sampling methods, such as stratified and cluster sampling, to ensure representativeness, while qualitative research often relies on non-probability sampling strategies, like purposive and convenience sampling, to capture the depth and richness of data. However, some techniques, such as snowball sampling, are shared across both designs (Polit & Beck, 2019). Snowball sampling is commonly employed when studying hard-to-reach or specialized populations, allowing participants to recruit others, which enhances access and diversity in both quantitative surveys and qualitative interviews.

In this study, the sample size was calculated using the formula N 10(k) + 50 (where N is the sample size and k is the number of independent variables) (two major variables); the minimum sample size should be 70 participants (Polit & Beck, 2019), and 99 academic nursing and non-nursing faculty members were obtained. The sampling inclusion criterion was Jordanian faculty members actively teaching in nursing or non-nursing disciplines, while the exclusion criterion was faculty on leave or without teaching responsibilities.

Participant Stratification

Based on the personal experience of two of the

current authors of being supervised by autocratic nursing deans, the current researchers grouped participants into nursing and non-nursing based on their primary academic discipline, as reported in the survey. Nursing faculty were treated as a separate category, because nursing programs have distinct accreditation standards, clinical practice requirements, and competency frameworks that shape leadership expectations and organizational culture. At the same time, nursing shares some similarities with other health and social sciences; its unique combination of clinical and academic responsibilities makes it appropriate to analyze as its own group. This approach is consistent with prior research that examines leadership within discipline-specific contexts, where professional norms and regulatory requirements influence faculty roles and perceptions (Edmondson, 1999; El-Gazar et al., 2022; Qu et al., 2022; Rego et al., 2021; Wang et al., 2018). Future research could explore broader groupings, such as combining nursing with other health sciences, to determine leadership pattern converge across related fields.

Ethical Considerations

The study was approved by the Institutional Review Board (IRB) of the Hashemite University, where the first author is working; the reference number was 11/8/2021/2022, dated July 25th 2022. If desired, nursing and non-nursing faculty members could skip the online survey. The researchers kept a password on the coded responses of nursing and non-nursing faculty members in Google Drive; all participant data was anonymous. Aggregate results were shared with nursing leaders at the designated universities and hospitals. These leaders did not participate in the study and did not have access to raw data; sharing summary findings was intended to inform leadership development initiatives without compromising participant privacy.

Data Collection

Data was obtained in 2022 by the use of a self-report survey that was conducted online in English through the use of Google Forms; English is the country's official teaching language of nursing education. Facebook and WhatsApp were used to solicit nursing and non-nursing faculty responses to the online survey. Participants were encouraged to share it with colleagues to expand reach. This strategy aligns with snowball sampling principles (Polit & Beck, 2019).

Additionally, English-language tools were utilized in order to collect data. An online survey was used, utilizing well-established instruments. Surveys and questionnaires facilitate the methodical gathering of self-reported data from participants. Individuals can offer organized insights into their perceptions, experiences, and feelings when investigating humble leadership and psychological safety. This approach is appropriate for investigating subjective elements of leadership and the dynamics within a team.

However, because the study relied on self-reported data and non-probability sampling, there were some natural limitations. People often want to present themselves in a positive light, which can lead to socially desirable answers. Also, using convenience and snowball sampling means that participants were not randomly selected, so the sample may not perfectly represent all faculty members (Polit & Beck, 2019). To address these concerns, we took several steps to make participants feel safe and honest in their responses: 1-anonymity: The researchers assured participants that their names and identities would never be linked to their answers; 2-voluntary participation: Everyone was free to join or decline without any pressure, so responses came from those genuinely willing to share their experiences.; and 3-secure data handling: All responses were stored in password-protected files to maintain confidentiality and trust. These measures were designed to reduce social desirability bias and encourage openness, helping us collect data that truly reflects faculty members' perceptions (Polit & Beck, 2019).

One of the researchers shared the link to the survey on the Facebook pages of the Faculty of Nursing as well as the Facebook pages of the first researcher's colleagues. The participation of the academic nursing faculty members in the survey served as their consent form. Data collection lasted ten days, supported by a single reminder sent after five days. This short timeframe was feasible, because the initial posts reached large, active faculty networks, and peer-to-peer sharing accelerated recruitment, enabling the required sample size to be achieved quickly while maintaining voluntary participation and anonymity. As a direct consequence of this, the online survey was developed in this fashion.

Tools

Two primary variables were examined: humble

leadership and psychological safety. Humble leadership was measured using Owens et al.'s (2013) nine-item scale, and psychological safety was assessed using Edmondson's (1999) seven-item scale. More specifically, Owens et al. (2013) developed a nine-item scale to measure humble leadership, ranging from 1 to 5, strongly agree to strongly disagree. An example of an item is "This leader frequently compliments the strengths of others." This instrument's Cronbach's alpha was 0.88 (Wang et al., 2018) and 0.93 in the current study. The seven-item scale developed by Edmondson (1999) assessed psychological safety on a scale of 1 to 5, from strongly agree to strongly disagree. Some items are reverse-coded, indicating that higher agreement means lower psychological safety. An example of a scale statement is, "It is difficult to ask other members of the organization's team for assistance." This instrument's Cronbach's alpha was 0.76 (Wang et al., 2018) and 0.70 in the current study.

Data Analysis

According to the variables' measurement level, descriptive statistics of means, standard deviations, frequencies, and percentages were reported. Gender, marital status, age, time commitment, level of education, whether the organization of work is accredited or if they have official quality initiatives (yes vs. no), tenure (a tenured employee is someone who has worked for an organization for several years), team size, and sector type were all measured in the sample. The Statistical Package for Social Sciences (SPSS), version 26 (IBM, 2019) was used to analyze the data at an alpha of 0.05.

Pearson's correlation was used to compare the continuous humble leadership scores of academic nursing and non-nursing leaders to the psychological safety and sample characteristics of nursing and non-nursing faculty members (Polit & Beck, 2019). Categorical variables (such as gender, marital status, sector) were dummy-coded to enable Pearson's r computation (Cohen, 1988; Edmondson, 1999). When Pearson's r is computed for a dummy-coded variable, the correlation reflects the association between being in the coded category (1) and the continuous variable. For example, if gender is coded as Male = 0, Female = 1, a positive correlation with humble leadership means female faculty tending to report higher humble leadership scores; magnitude and direction: Positive r → the coded category (1) is associated with higher values of the continuous variable, while negative r → the coded category (1) is associated with lower values; interpretation caution: These correlations do not imply causation; they are sensitive to how categories are coded (which group is 0 vs. 1); and they do not capture variability within categories, but only the difference between two groups (Cohen, 1988; Edmondson, 1999). It is important to mention that the cut points for age (≤34 vs. >34 years), tenure (≤4 vs. >4 years), and team size (≤15 vs. >15 members) were informed by prior research and organizational norms in nursing and academic contexts (Edmondson, 1999; El-Gazar et al., 2022; Mudallal et al., 2023; Pincha Baduge et al., 2023; Zhang & Song, 2020).

Before conducting inferential analyses, assumptions were tested. Normality was assessed using Shapiro-Wilk tests ($p > 0.05$), and homogeneity of variance was checked with Levene's test ($p > 0.05$). Linearity was confirmed through scatterplots, and multicollinearity was evaluated using VIF (< 5), indicating no serious violations of assumptions (Cohen, 1988; Polit & Beck, 2019). The strength of the correlations was assessed according to Cohen's (1988) criteria: correlations with $r < 0.30$ are considered weak, those with r between 0.30 and 0.50 are moderate, and those with $r > 0.50$ are considered strong in magnitude (Polit & Beck, 2019).

The sample's characteristics were compared between nursing and non-nursing academics using the chi-square test. Using independent t-tests, total scores and individual items, nursing and non-nursing leaders' humble leadership scores, and nursing and non-nursing faculty members' psychological safety were compared between nursing and non-nursing academics. The General Linear Model (GLM) was used to determine whether the humble leadership of nursing and non-nursing leaders predicts the psychological safety of nursing and non-nursing faculty members. The humble leadership and sample characteristics of academic nursing and non-nursing leaders were set as independent variables, and the psychological safety of nursing and non-nursing faculty members was set as a dependent variable (Polit & Beck, 2019).

Results

Sample Characteristics

Of 112 faculty members invited, 99 completed the survey; the response rate was 88.00%. No follow-up responses were excluded for missing data. Most academics were young to middle-aged female nursing and non-

nursing faculty members who worked on a full-time basis in governmental universities that had accreditation and quality initiatives. Participants' ages ranged from 28 to 58 years (M = 39.60, SD = 7.40). The nursing and non-nursing faculty members reported being tenured for four years or more (above average tenure; the average is commonly four years) in a middle to large team with more than fifteen members (the ideal collaborative team size is between 4 and 8). Tenure ranged from 1 to 20 years (M = 8.20, SD = 4.60), and team size ranged from 5 to 30 members (M = 16.80, SD = 6.20). Using chi-square, there were no significant differences between nursing and non-nursing samples' characteristics (Table 1).

Table 1. Nursing vs. non-nursing samples' characteristics (N=99)

	Nursing academics (*n*=56)	**Non-nursing academics (*n*=43)**		
Characteristics	***n*(%)**	***n*(%)**	**chi-square**	***p***
Gender			1.20	0.283
Male	15(26.80)	16(37.20)		
Female	41(73.20)	27(62.80)		
Marital status			3.67	0.092
Single	17(30.40)	6(14.00)		
Married	39(69.60)	37(86.00)		
Age			3.31	0.106
≤34 years	13(23.20)	4(9.30)		
>34 years	43(76.80)	39(90.70)		
Time commitment			1.40	0.399
Full-time work	54(96.40)	39(90.70)		
Part-time work	2(3.60)	4(9.30)		
Level of education			4.14	0.056
Baccalaureate degree (clinical instructor)	15(26.80)	20(46.50)		
Master's degree or more (faculty member)	41(73.20)	23(53.50)		
PhD (faculty member)	-	-		
Accreditation initiatives in organizations			4.04	0.067
Yes	51(91.10)	43(100.00)		
No	5(8.90)	-		
Quality initiatives in organizations			0.12	1.00
Yes	51(91.10)	40(93.00)		
No	5(8.90)	3(7.00)		
Number of tenures			3.16	0.083
≤4 years	21(37.50)	9(20.90)		
>4 years	35(62.50)	34(79.10)		
Team size			0.21	0.688
≤15 members	30(53.60)	21(48.80)		
>15 members	26(46.40)	22(51.20)		
The sector of work			0.91	0.472
Governmental	41(73.20)	35(81.40)		
Private	15(26.80)	8(18.60)		

Participants' ages ranged from 28 to 58 years (M = 39.60, SD = 7.40). Tenure ranged from 1 to 20 years (M = 8.20, SD = 4.60), and team size ranged from 5 to 30 members (M = 16.80, SD = 6.20). The cut points for age (≤34 vs. >34 years), tenure (≤4 vs. >4 years), and team size (≤15 vs. >15 members) were informed by prior research and organizational norms in nursing and academic contexts (Edmondson, 1999; El-Gazar et al., 2022; Mudallal et al., 2023; Pincha Baduge et al., 2023; Zhang & Song, 2020).

Leaders' Humble Leadership: Nursing vs. Non-Nursing Disciplines

The 1-5 Likert scale was categorized into three levels for interpretation*:* low (mild) = 1.00-2.33, moderate = 2.34-3.67, and high (strong) = 3.68-5.00, following commonly accepted classification guidelines for Likert-type scales (Huh & Gim, 2025; Polit & Beck, 2019), academics perceived their leaders as moderately humble overall (M = 3.65, SD = 0.88). Nursing faculty rated their leaders' humble leadership at M = 3.68 (SD = 1.06, 95% CI [3.48, 3.88]), while non-nursing faculty rated it slightly higher at M = 3.95 (SD = 0.59, 95% CI [3.74, 4.08]). The difference was not statistically significant (t = 0.35, p = 0.723).

Item-level analysis (Table 2) showed overlapping confidence intervals for all nine items, confirming no significant differences. For example, "actively seeks feedback" scored 3.68 (95% CI [3.32, 4.04]) for nursing vs. 3.91 (95% CI [3.74, 4.08]) for non-nursing faculty (p = 0.261). Similarly, "open to ideas" scored 3.80 (95% CI [3.48, 4.12]) vs. 3.74 (95% CI [3.49, 3.99]) (p = 0.775). These overlapping CIs reinforce the lack of significant differences.

Table 2. Variables of academic nursing vs. non-nursing leaders' humble leadership (N=99)

	Nursing academics (*n*=56)		**Non-nursing academics (*n*=43)**			
Items	**mean(SD)**	**95%(CI)**	**mean(SD)**	**95%(CI)**	***t-test**	***p***
This leader actively seeks feedback, even if it is critical.	3.68(1.36)	(3.32, 4.04)	3.91(0.57)	(3.74, 4.08)	-1.13	0.261
This leader admits it when he/she does not know how to do something.	3.36(1.35)	(3.01, 3.71)	3.26(0.97)	(2.97, 3.55)	0.43	0.667
This leader acknowledges when others have more knowledge and skills than himself/herself.	3.52(1.30)	(3.18, 3.86)	3.40(1.02)	(3.10, 3.70)	0.52	0.603
This leader takes notice of others' strengths.	3.79(1.15)	(3.49, 4.09)	3.86(0.67)	(3.66, 4.06)	-0.40	0.688
This leader often compliments others on their strengths.	3.68(1.19)	(3.37, 3.99)	3.49(0.88)	(3.23, 3.75)	0.91	0.364
This leader shows appreciation for the unique contributions of others.	3.91(1.11)	(3.62, 4.20)	3.77(0.94)	(3.49, 4.05)	0.69	0.492
This leader shows a willingness to learn from others.	3.64(1.21)	(3.32, 3.96)	3.49(0.88)	(3.23, 3.75)	0.73	0.465
This leader shows that he/she is open to the advice of others.	3.77(1.22)	(3.45, 4.09)	3.70(0.91)	(3.43, 3.97)	0.32	0.744
This leader shows that he/she is open to the ideas of others.	3.80(1.21)	(3.48, 4.12)	3.74(0.84)	(3.49, 3.99)	0.28	0.775
Total Mean Score	33.14(9.54)	(30.64, 35.64)	32.60(5.32)	(31.01, 34.19)	0.35	0.723

This 9-item scale is rated from 1 (strongly disagree) to 5 (strongly agree). CI=Confidence Interval.
*Equal variance is not assumed.

Faculty Members' Psychological Safety: Nursing vs. Non-Nursing Disciplines

Considering higher agreement means lower psychological safety, the 1-5 Likert scale was categorized into three levels for interpretation*:* low (mild) = 1.00-2.33, moderate = 2.34-3.67, and high (strong) = 3.68-5.00, following commonly accepted classification guidelines for Likert-type scales (Huh & Gim, 2025; Polit & Beck, 2019). In this scale, higher scores indicate higher disagreement with the statement about psychological safety. The overall psychological safety was borderline (M = 3.10, SD = 0.64). Nursing faculty reported M = 3.18 (SD = 0.80, 95% CI [2.97, 3.39]), while non-nursing faculty reported M = 2.99 (SD = 0.31, 95% CI [2.90, 3.08]); the difference was not significant (p = 0.098). However, item-level analysis (Table 3) revealed significant differences in two items: "Mistakes held against you": Nursing M = 3.25 (95% CI [2.94, 3.56]) vs. Non-nursing M = 2.65 (95% CI [2.41, 2.89]), p = 0.004; and "Difficult to ask for help": Nursing M = 3.02 (95% CI [2.71, 3.33]) vs. Non-nursing M = 2.47 (95% CI [2.15, 2.79]), p = 0.017(Table 3).

Other items showed overlapping CIs, indicating no significant differences. In conclusion, nursing faculty perceived slightly higher psychological safety than non-nursing faculty, though differences were not statistically significant.

Table 3. Variables of nursing vs. non-nursing faculty members' psychological safety (N=99)

	Nursing academics (*n*=56)		**Non-nursing academics (*n*=43)**			
Items	**mean(SD)**	**95%(CI)**	**mean(SD)**	**95%(CI)**	***t-test**	***p***
If you make a mistake on this team, it is often held against you.	3.25(1.19)	(2.94, 3.56)	2.65(0.81)	(2.41, 2.89)	2.96	0.004
Members of this team can bring up problems and tough issues.	3.09(1.13)	(2.79, 3.39)	3.12(1.01)	(2.82, 3.42)	-0.12	0.901
People on this team sometimes reject others for being different.	3.11(1.23)	(2.79, 3.43)	3.00(1.04)	(2.69, 3.31)	0.46	0.641
It is safe to take a risk on this team.	3.13(1.08)	(2.85, 3.41)	3.07(0.82)	(2.82, 3.32)	0.28	0.774
It is difficult to ask other team members for help.	3.02(1.18)	(2.71, 3.33)	2.47(1.07)	(2.15, 2.79)	2.42	0.017
No one on this team would deliberately act in a way that undermined my efforts.	3.14(1.05)	(2.86, 3.42)	3.09(0.99)	(2.79, 3.39)	0.24	0.810
Working with members of this team, my unique skills and talents are valued and utilized.	3.57(1.07)	(3.29, 3.85)	3.53(0.96)	(3.24, 3.82)	0.17	0.859
Total Mean Score	22.30(5.60)	(20.83, 23.77)	20.93(2.18)	(20.28, 21.58)	1.67	0.098

This 7-item scale is rated from 1 (strongly disagree) to 5 (strongly agree). CI=Confidence Interval.
*Equal variance is not assumed.

The Relationship between Leaders' Humble Leadership and Faculty Members' Psychological Safety

Pearson's correlation was used to compare the continuous humble leadership scores of academic nursing and non-nursing leaders to the psychological safety and sample characteristics of nursing and non-nursing faculty members (Polit & Beck, 2019). Categorical variables were dummy-coded to enable Pearson's r computation (Cohen, 1988; Edmondson, 1999).

Table 4 presents Pearson's correlations between leaders' humble leadership and faculty members' psychological safety for nursing and non-nursing academics. Humble Leadership and Psychological Safety were analyzed as continuous variables, while all other characteristics were dummy-coded, as shown in the table. Correlations involving dummy-coded variables indicate the association between belonging to the coded category (value = 1) and the continuous variable. A positive correlation suggests that individuals in the coded category tend to have higher scores on the continuous variable, whereas a negative correlation suggests lower scores.

For non-nursing academics, level of education showed a strong positive correlation with humble leadership (r = 0.444, p = 0.01) and psychological safety (r = 0.337, p=0.05), indicating that faculty with a master's degree or higher perceived greater humble leadership and psychological safety. Sector was also positively correlated with both outcomes (r = 0.343 and r = 0.320; p = 0.05), suggesting that faculty in private institutions reported higher scores. Conversely, among nursing academics, quality initiatives were negatively correlated with humble leadership (r = -0.303, p = 0.05), indicating lower perceived humble leadership in organizations with quality initiatives. Across both groups, humble leadership and psychological safety were strongly and positively correlated (r = 0.410 for nursing; r = 0.491 for non-nursing, p = 0.01), demonstrating that higher humble leadership is associated with greater psychological safety.

Table 4. Pearson's correlations between leaders' humble leadership and faculty members' psychological safety: nursing vs. non-nursing academics (N=99)

Variable	Dummy Coding Scheme	Nursing Academics (n = 56) Humble Leadership (r)	Nursing Academics (n = 56) Psychological Safety (r)	Non-Nursing Academics (n = 43) Humble Leadership (r)	Non-Nursing Academics (n = 43) Psychological Safety (r)
Gender	Male = 0, Female = 1	0.086	0.011	-0.158	-0.225
Marital status	Not married = 0, Married = 1	-0.228	-0.215	-0.005	-0.137
Age	≤34 = 0, >34 = 1	0.084	0.060	0.037	-0.233
Time commitment	Part-time = 0, Full-time = 1	0.099	-0.028	-0.067	-0.064
Level of education	Baccalaureate degree = 0, Master's degree or more = 1	0.018	0.019	**0.444	*0.337
Accreditation initiatives	No = 0, Yes = 1	-0.031	0.051	—	—
Quality initiatives	No = 0, Yes = 1	*-0.303	-0.197	-0.153	0.093
Number of tenures	≤4 = 0, >4 = 1	0.179	0.168	0.157	0.195
Team size	≤15 members; Small = 0, >15 members; Large = 1	0.171	*0.336	0.059	0.098
Sector	Public = 0, Private = 1	-0.001	-0.185	*0.343	*0.320
Humble Leadership	Continuous	1.00	**0.410	1.00	**0.491
Psychological Safety	Continuous	**0.410	1.00	**0.491	1.00

* Significance level 0.05.
** Significance level 0.01.
Pearson's correlation was applied for continuous variables, and categorical variables were dummy-coded to enable Pearson's r computation (Cohen, 1988; Edmondson, 1999).
Dummy coding involved assigning binary values (0 and 1) to categories (e.g., Male = 0, Female = 1). Correlations involving dummy-coded variables should be interpreted as the association between belonging to the coded category (value = 1) and the continuous variable. A positive correlation indicates that participants in the coded category tend to have higher scores on the continuous variable, whereas a negative correlation indicates lower scores. This approach follows recommendations by Cohen (1988) and Edmondson (1999).

Predictors of Faculty Members' Psychological Safety

The GLM was performed using nursing and non-nursing academia leaders' humble leadership, subjects' characteristics as independent variables, and nursing and non-nursing faculty members' psychological safety as dependent variables (Polit & Beck, 2019) as: Nursing academics: Humble leadership (B = 0.192, 95% CI [0.028, 0.356], p = 0.024) and team size (B = 3.525, 95% CI [0.086, 6.964], p = 0.046) predicted psychological safety. The model approached significance ($F(11) = 1.87$, $p = 0.069$), explaining 15% of variance ($R^2 = 0.320$, 95% CI [0.115, 0.525]); and non-nursing academics: Humble leadership (B = 0.182, 95% CI [0.051, 0.313], p = 0.009) and quality initiatives (B =2.600, 95% CI [0.088, 5.112], p = 0.046) predicted psychological safety. The model was significant ($F(10)=2.68$, $p = 0.016$), explaining 28.6% of variance ($R^2=0.456$, 95% CI [0.246, 0.666]). Confidence intervals for R^2 were calculated for both disciplines to confirm the robustness and accuracy of the explained

variance estimates. Both models indicate that humble leadership is a meaningful predictor, but other factors also contribute to psychological safety among faculty.

Table 5. Academic nursing vs. non-nursing leaders' humble leadership and samples' characteristics as predictors of nursing vs. non-nursing faculty members' psychological safety using GLM (N=99)

Dependent and significant predictors	***B****	**t-test**	***p***	****R^2**	***adjusted R^2***	**f-test (df) **(*p*)**
Nursing academics (n=56)						
The total score of psychological safety				0.320	0.150	1.87(11) (0.069)
The total score of humble leadership	0.192	2.34	0.024			
Gender	-1.706	-0.94	0.352			
Marital status	-1.074	-0.59	0.555			
Age	-1.138	-0.54	0.590			
Time commitment	-1.392	-0.35	0.725			
Level of education	-0.460	-0.24	0.812			
Accreditation initiatives in organizations	2.978	1.08	0.282			
Quality initiatives in organizations	-2.056	-0.77	0.442			
Number of tenures in work	0.368	0.20	0.842			
Team size at work	3.525	2.05	0.046			
The sector of work	-2.225	-1.19	0.237			
Dependent and significant predictors	***B****	**t-test**	***p***	****R^2**	***adjusted R^2***	**f-test (df) **(*p*)**
Non-nursing academics (n=43)						
The total score of psychological safety				0.456	0.286	2.68(10) (0.016)
The total score of humble leadership	0.182	2.78	0.009			
Gender	-0.373	-0.47	0.636			
Marital status	-1.007	-0.97	0.336			
Age	-2.345	-1.61	0.115			
Time commitment	-0.432	-0.32	0.745			
Level of education	0.251	0.30	0.759			
Accreditation initiatives in organizations	-	-	-			
Quality initiatives in organizations	2.600	2.07	0.046			
Number of tenures in work	0.871	1.07	0.292			
Team size at work	0.721	0.93	0.355			
The sector of work	0.417	0.442	0.662			

*B = Unstandardized coefficients; **P<0.001 (2-tailed); **P<0.001 (2-tailed), df= degree of freedom.

** Confidence Interval (CI) for nursing academics: $R^2 = 0.320 \rightarrow$ 95% CI ≈ (0.115, 0.525); the model approached the significance, and non-nursing academics: $R^2 = 0.456 \rightarrow$ 95% CI ≈ (0.246, 0.666); the model was significant.

Discussion

The present research examined the differences between and predictors of academic nursing and non-nursing leaders' humble leadership and nursing and non-nursing faculty members' psychological safety. The nursing and non-nursing faculty members *reported* their academic leaders' humble leadership highly; however, the nursing and non-nursing faculty members' psychological safety was on the border. It is important to note that psychological safety is widely recognized as

an influential factor associated with team members' productivity in various work environments (De Smet et al., 2021) and bootlegging innovation behaviors (Huang, 2023). To the best of our knowledge, however, previous research has seldom explored associations between humble leadership and psychological safety in academic settings, particularly in an Arabic environment (El-Gazar et al., 2022; Mudallal et al., 2023). The current study adds to existing knowledge by describing patterns of humble leadership and psychological safety in nursing and non-nursing academic environments rather than implying causality.

Most nursing academics participating in this study were single, female, and holding post-graduate degrees compared with non-nursing academics. This demographic pattern may reflect the demanding nature of the work and the long hours required for the nursing profession, which could influence personal life decisions (Pincha Baduge et al., 2023).

Leaders' Humble Leadership

The participants in the study all agreed with each other that their leaders are practicing humble leadership. This conclusion aligns with previous research evaluating humble leadership, which found that expressed humility [humble leadership] tends to be high (Kelemen et al., 2023; Rego et al., 2021). Although there are no significant differences between nursing and non-nursing academic leaders in terms of their perceived humble leadership, academic nursing leaders exhibited a higher degree of humble leadership. This difference may be related to educational attainment, as nursing academics had a better level of education than non-nursing academics. According to Al-Worafi and Alsergai (2024), the majority of nursing academics are employed by organizations that have been acknowledged for their pursuit of quality and accreditation certification. Such organizational contexts may encourage behaviors aligned with humility, although this interpretation should be considered cautiously.

One factor that has a positive correlation between academic leaders' humble leadership and faculty members' psychological safety is the level of education. This association might indicate that humble leaders continually seek out fresh information (Mudallal et al., 2023) (Blinded for Peer Review), which aligns with the notion that psychological safety benefits from environments that support learning and development (Center for Creative Leadership, 2023).

Faculty Members' Psychological Safety

Nursing and non-nursing faculty members ranked their psychological safety in the workplace on the borderline. This result is congruent with the findings of Ito et al.'s (2022) concept analysis of psychological safety. Most employees feel psychologically unsafe when voicing concerns or asking challenging questions in work environments (Ito et al., 2022). The current data indicated that nursing faculty members reported lower levels of psychological safety in their work environments than their non-nursing faculty members, similar to the nursing sample in (Mudallal et al., 2023) (Blinded for Peer Review). This difference may relate to clinical practice norms emphasizing patient safety, which could influence communication behaviors in academic settings. Clinical outcomes may diminish if the clinical decision-maker is too distracted by the amount of information from team members in a high psychological safety work environment (Agency for Healthcare Research and Quality, 2022; Ali et al., 2021; Luo et al., 2022). Also, the risk of confusion among the team members may grow if numerous perspectives are presented (Agency for Healthcare Research and Quality, 2022). From a different academic point of view, this is because nursing faculty members avoid conflict to prevent interpersonal risk and maintain surface concord, both of which imply endangered psychological safety (Qu et al., 2022).

The Relationship between Leaders' Humble Leadership and Faculty Members' Psychological Safety

It is important to note that psychological safety is widely recognized as an influential factor associated with team members' productivity in various work environments (De Smet et al., 2021) and bootlegging innovation behaviors (Huang, 2023). To the best of our knowledge, previous research has seldom explored associations between humble leadership and psychological safety in academic settings, particularly in an Arabic environment (El-Gazar et al., 2022; Mudallal et al., 2023). The current study adds to existing knowledge by describing patterns of humble leadership and psychological safety in nursing and non-nursing academic environments rather than implying causality. In both disciplines, humble leadership was a strong indicator of psychological safety, similar to Kumagaya

et al. (2025), who reported that psychological safety among employees increases their job engagement. However, these associations should not be interpreted as causal relationships. This finding may reflect contextual challenges, such as the labor-intensive nature of accreditation processes, which could be perceived as incompatible with humility-driven leadership styles. These interpretations remain speculative and warrant further investigation.

Predictors of Faculty Members' Psychological Safety

Several factors predicted faculty members' sense of psychological safety. For nursing academics, team size was a significant predictor, similar to Zhang and Song (2020), who reported a favorable impact of team size on psychological safety in the work environment. The team members may help each other grow as educators by participating in a professional learning environment, although this interpretation should be considered cautiously. In non-nursing academics, quality initiatives in the organizations predicted psychological safety. Based on personal experience, quality assurance projects set clear objectives, quality indicators, and systems for feedback, which may diminish uncertainty, a major barrier to psychological safety. Faculty members correlated significantly and positively with the sector where non-nursing faculty members worked. As the majority were working in governmental universities, these institutions generally provide tenure-track systems and civil service protections, which promote work environments where faculty feel empowered, a basic element of psychological safety. These findings align with prior research emphasizing organizational context and leadership behaviors as predictors of psychological safety (Edmondson, 1999).

Limitations

Although this study has valuable findings, it has some methodological drawbacks. Data was collected from universities in Jordan using convenience snowball sampling, limiting the generalizability of the results. Because the current study's cross-sectional methodology limited causality, other research designs should be used in future studies. Additionally, the reliance on self-reported data introduces potential information bias and social desirability bias, as participants may have provided responses that reflect favorable perceptions rather than actual behaviors. Because we tend to focus on the positive aspects of our leaders, more objective measures of humble leadership are required. Future studies should consider incorporating triangulation methods, such as peer evaluations or observational data, to reduce these biases and strengthen validity.

The study recognizes an important limitation affecting internal validity, tied to the way humble leadership was measured. Leadership behaviors were assessed through staff members' self-reported perceptions, which can introduce bias. Because the scale focused on evaluating a single leader, participants may have chosen leaders subjectively, leading to variability in interpretation. This issue is further influenced by the fact that all respondents held either bachelor's or master's degrees, as shown in Table 1, which may shape how leadership behaviors are perceived. Although PhD faculty were invited, none participated, raising concerns about representativeness. Their absence may reflect factors, such as administrative duties or non-teaching roles. To strengthen validity in future research, strategies could include clarifying leader selection criteria, incorporating multi-source data (e.g., peer or supervisor ratings), and ensuring participation from faculty across all academic ranks.

Conclusions

This study captured a picture of how humble leadership influences academic performance and contributes to understanding the effectiveness of humble leadership by verifying the effect that humble leadership has on psychological safety. The study findings allowed us to better understand how humble leadership works. The nursing and non-nursing faculty members rated their academic nursing and non-nursing leaders' humble leadership as high (agreed); however, the nursing and non-nursing faculty members rated their psychological safety as borderline. The nursing academic leaders' humble leadership correlated with faculty members' psychological safety based on the total scores of the concepts. The humbleness of nursing (approached significance) and non-nursing (more significant) academic leaders predicted the psychological safety of their faculty members.

Implications for Nursing

This study has several implications for research, policy, education, and research.

Implications for Practice and Policy

In practice, the results emphasize the importance of humble leadership in promoting nursing and non-nursing faculty members' psychological safety. Humble leadership should be taught and practiced (Rego et al., 2021; Wang et al., 2018), necessitating training programs to assist leaders in understanding and developing humble leadership behaviors. Moreover, academic nursing leaders should prioritize faculty members' psychological safety, because it can promote creative outcomes by encouraging supportive behaviors, such as encouraging followers to value and utilize their unique skills and talents and bring up problems and difficult issues (Rego et al., 2021; Wang et al., 2018), promoting open channels of communication, and encouraging leadership (Rego et al., 2021) rather than focusing on holding mistakes against faculty members (Wang et al., 2018); in turn, they will not seek help from others. Non-nursing faculty members have a higher level of psychological safety, indicating better academic workplace boundaries and supportive work environments, necessitating immediate interventions for nursing faculty members. Finally, the differences in the perceived psychological safety between nursing and non-nursing faculty members indicate that leadership interventions may need to be adapted based on discipline-specific challenges. Building trust and a team environment, resulting in psychological safety, is essential in university settings (Deredzai & Goronga, 2025). The researchers reported that trust and psychological safety influence the overall prosperity of academic organizations.

Regardless of the discipline, it is important to note that educational organizations should work to foster and shape the humble behaviors of team leaders. Team leaders may set the tone for such measures by, for instance, being humble enough to recognize their flaws, value the contributions of others, and accept any criticism as an opportunity for growth. Team leaders must ensure the psychological safety of their faculty members. Leaders may maintain a low profile, since this lowers the perceived interpersonal danger among workers and boosts productivity.

For policy, well-organized policies are needed to direct academic institutions, leadership development initiatives, and organizational quality efforts within academic environments. 1. Since humble leadership has a predictive value in creating psychological safety, organizations should embed leader humility in their policies on faculty wellness and performance evaluation because of its effect on engagement, retention, and collaboration. 2. The negative correlation observed between humble leadership and organizational quality initiatives points to a possible conflict between humility and performance-oriented metrics. In this regard, the policymakers need to reschedule quality frameworks, so that, in the process, they do not unintentionally discourage humble behaviors, but rather balance accountability with the necessity for relational trust and inclusivity. 3. Special pro-growth efforts should be planned to boost humble leading skills in school leaders, especially in nursing departments. The proof from this study should be used to back the need for humility-focused parts in leader teaching programs, showing the value of self-awareness, seeing others' strengths, and being open to feedback. 4. Common measures should be created for mental safety, so that they can be checked often in different groups. It is important to make sure that the teachers' mental safety is a key goal tied to how well leaders perform and the culture of the group, making sure that there are always ways for feedback between teachers and bosses. 5. Since nursing teacher bosses showed higher marks in modest leading and mental safety, rules should be placed that support the sharing of advice across fields where nursing leaders help build the skills of non-nursing teachers.

Implications for Education and Research

In education, because today's students will be tomorrow's professionals, humble leadership and psychological safety should be incorporated into all undergraduate and graduate curricula. In research, all disciplines of academic settings in Jordan are of a high-power distance culture and highly collectivist (as in Wang et al., 2018); thus, additional research in other countries is required.

More research is needed to understand the humble leadership of academic nursing and non-nursing leaders and the psychological safety of nursing and non-nursing faculty members, including qualitative and mediation studies. Larger, random samples, in other cultures, as well as other sample characteristics, should be used in research designs. Leadership training and development programs are required to develop the humble leadership of academic nursing and non-nursing leaders, because humble leadership contributes to faculty members'

psychological safety. Workplace boundaries and supportive work environments should be established to promote psychological safety for nursing and non-nursing faculty members. The focus of academic nursing leaders on holding mistakes against faculty members is harmful and should be stopped immediately. Non-nursing leaders should teach academic nursing leaders to be more humble and create better academic workplace boundaries and work environments.

Patient or Public Contribution: This study did not include patient or public involvement in its design, conduct or reporting.

Reporting Guidelines: This paper was prepared in accordance with Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

Authorship

The authors listed meet the authorship criteria according to the latest guidelines of the International Committee of Medical Journal Editors, and the authors agree with the manuscript. The authors have approved the content before submission or resubmission.

Ethics

The Institutional Review Board (IRB) of The Hashemite University- Jordan approved the study; the IRB number was 11/8/2021/2022, dated July 25th 2022.

Data Availability

The data that supports the findings of this study is available on request from the corresponding author. The data is not publicly available due to containing information that could compromise the privacy of research participants.

Consent to Participate

Written informed consent was obtained from all subjects involved in the study. Organizational and participant consents were obtained. Personal information that could identify individuals was not collected.

Acknowledgements

The researchers would like to thank the participants for their input in the current study.

Conflict of Interests

The authors have no conflict of interests to declare.

Funding or Sources of Financial Support

The authors declare that no financial support was received for the research, authorship, and/or publication of this article.

Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work, the authors used Grammarly to edit the language. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Author Contributions

Study Design: **MTM**. Data Collection: **MTM**. Data Analysis: **MTM**. Study Supervision: **MTM**. Manuscript Writing: **MTM, AA, HYA, AKA**. Critical Revision for Important Intellectual Content: **MTM**.

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