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Soft Skills and Critical Thinking Disposition: Its Relation to Self-reported Professional Competence among Bachelor's Degree Staff Nurses

Mervat Abd Elmonem Noeman[1], Nadia Taha Mohamed[2], Eman Ismail Ibrahim Elksas[3]

[1]Assistant Professor of Nursing Administration,
[2]Assistant Professor of Nursing Administration,
Faculty of Nursing, Cairo University, Egypt.
[3]Lecturer of Nursing Administration,
[1,3]Faculty of Nursing, Damanhour University, Egypt.

Abstract: Background: In the evolving landscape of healthcare, the professional role of bachelor's degree staff nurses extends beyond technical proficiency to include interpersonal, cognitive, and reflective competencies, which reflect their confidence and readiness to provide high quality and holistic care. **Purpose**: To examine soft skills and critical thinking disposition; and its relation to self-reported professional competence among bachelor's degree staff nurses. **Research design**: A descriptive, correlational research design was utilized. **Setting**: This study was carried out at Kafr El-Dawar General Hospital. **Sampling**: A convenience sampling, including all bachelor's degree staff nurses (n=141), who were working at the previously mentioned settings. **Instruments**: Three instruments were used) Soft Skills Assessment Scale; Critical Thinking Disposition Questionnaire; and Self-reported Competence Scale). **Results**: Current study indicated that the majority of bachelor's degree staff nurses (79 %) had high level of soft skills; 76% of them had high level of critical thinking disposition; and 67.7 % of them had high level of self-reported professional competence. **Conclusion**: There was a highly statistical significant positive correlation between soft skills, critical thinking disposition, and self-reported professional competence among bachelor's degree staff nurses. **Recommendations**: Hospital policies prioritize professional development in both technical and non-technical competencies through the provision of workshops, programs, and conferences that enhance bachelor's degree staff nurses' soft skills and strengthen their critical thinking disposition.

Key words: *Bachelor's Degree Staff Nurses, Critical Thinking Disposition, Self-reported Professional Competence, Soft Skills*

Introduction

In today's complex healthcare environment, nurses are expected to demonstrate not only clinical expertise but also a wide range of non-technical abilities that ensure safe and effective patient care (Lenssen et al., 2025). As frontline providers, bachelor's degree staff nurses face diverse challenges that require effective communication, decision making, flexibility, and analytical abilities in addition to their technical knowledge (Yang et al., 2025). Furthermore, their academic preparation equips them with critical thinking, troubleshooting, leadership, and soft skills, which strengthen organizational efficiency and patient outcomes; and making them essential pillars in achieving organizational goals and advancing healthcare excellence (Ilaslan et al., 2023).

In the highly demanding and rapidly changing healthcare context, soft skills are increasingly recognized as indispensable attributes that enhance patients' safety and satisfaction; and overall nursing performance (Song et al., 2024). Soft skills refer to personal cross-functional competencies that include social abilities, communication and language proficiency, teamwork capacity, friendliness, and other personality attributes that shape how individuals interact and build relationships with others (Cimatti, 2016). Moreover, Ernawati & Bratajaya, (2021) specified it as the set of interpersonal, social, and personal attributes that complement clinical knowledge and technical competence.

Phuti et al., (2023) identified four dimensions of soft skills, namely: perseverance that involves the capacity to sustain effort, remain resilient, and maintain commitment toward achieving professional goals despite obstacles, stress, or setbacks in clinical practice; civic virtue, which reflects the willingness to uphold organizational values, actively participate in workplace responsibilities, and contribute to the collective well-being of the healthcare team; communication that includes the capacity to share and interpret information clearly, empathetically, and efficiently to enhance patient care, teamwork, and professional collaboration; and finally, teamwork, which refers to the ability to collaborate and coordinate with healthcare colleagues to achieve common goals and ensure effective patient care.

Soft skills enable bachelor's degree staff nurses to build therapeutic interactions with patients and their families; participate efficiently with multidisciplinary professionals; manage challenges in dynamic healthcare settings; and deliver safe, holistic, and patient-focused care (Laari et al., 2022). In addition, staff nurses with well-developed soft skills are more likely to engage in reflective dialogue; consider multiple perspectives; analyze information, question, and assumptions; make sound clinical judgments; and create supportive environments that foster critical thinking disposition (Song et al., 2024; Moropa et al., 2025).

Critical thinking disposition refers to the constant tendency, willingness, and stimulus to engage in critical thinking

whenever the situation demands it (Wu & Lu, 2023). It extends beyond the possession of cognitive abilities such as invesigation, evaluation, and rational thinking to encompass the internal inclination to apply these skills in decision making and problem solving contexts (Zhang et al., 2022). Therefore, it is not only about the capacity to think critically but also about the habitual motivation to use that capacity especially where reflective judgement and adaptability to complex situations are required (Yuan et al., 2019).

Wang et al., (2019) classified critical thinking disposition among bachelor's degree staff nurses into three dimensions, as follows: open-mindedness, truth seeking, and systematicity/analyticity. Open-mindedness involves the willingness to consider diverse viewpoints, remain receptive to new evidence, and evaluate ideas without bias or prejudice (Zhang et al., 2022). Truth seeking refers to the inclination to pursue the best possible knowledge in a given context, even when it challenges personal beliefs, preferences, or long held assumptions (Yuan et al., 2019). Systematicity/ analyticity describes the tendency to address challenges in an organized, logical, and methodical approach, while carefully examining the details of evidence and arguments (Wang et al., 2019; Maharani et al., 2019).

Bachelor's degree staff nurses with a strong inclination toward critical thinking are more prone to practice reflective judgment, evaluate evidence systematically, and make sound clinical decisions, which leads to improved quality and patient safety care (Tavakoli et al., 2024). Additionally, they demonstrate adaptability in complex and unpredictable situations, which fosters reducing the risk of medical errors and enhancing problem solving in clinical practice (Rosado, 2022). Therefore, critical thinking disposition serves as the motivational foundation that drives bachelor's degree staff nurses to consistently apply their cognitive skills in clinical practice, thereby strengthening their self-efficacy and professional competence (Park & Jeong, 2024).

Professional competence of bachelor's degree staff nurses involves the integrated set of knowledge, skills, attitudes, and judgment that enable them to deliver nursing care, which is safe, efficient, and based on scientific evidence within healthcare settings (Wit et al., 2023). Furthermore, American Association of Colleges of Nursing, (2021) specified that it means being capable of applying theoretical knowledge gained through academic preparation to real world practice, adapting to complex clinical situations, and continuously developing through lifelong learning. Consequently, the professional competence ensures baccalaureate nurses' ability to meet patients' holistic needs, uphold professional standards, and contribute to quality improvement in healthcare organizations (Rosado, 2022).

In addition, Martinsen et al., (2024) specified six dimensions of self-reported professional nursing competence as: nursing care that reflects their perception of how well they can assess patients' conditions,

plan and implement appropriate interventions, provide comfort and support, and evaluate outcomes. Value-based nursing care, which involves their ability to provide care that is guided by ethical principles, professional values, and respect for human dignity. Medical and technical care that highlights their confidence in handling clinical procedures, adapting to advances in healthcare technology, and maintaining patient safety through precision and competence in technical tasks. Care pedagogics, which refers to their ability to educate, guide, and support patients, families, and colleagues in understanding health conditions, treatments, and self-care practices (Jose et al., 2022).

Documentation and administration of nursing care includes their capacity to accurately record, organize, and manage all aspects of patient care in a systematic and professional manner. Finally, development, leadership and organization of nursing care that specifies their ability to guide, coordinate, and continuously improve the delivery of nursing services within the healthcare team (Jiang, 2024). By evaluating the own professional competence, bachelor's degree staff nurses gain insight into their strengths and areas for improvement, which fosters self-awareness, supports lifelong learning, and helps identify gaps between perceived and actual competence to guide targeted training, mentorship, and professional development initiatives (Willman et al., 2020).

Significance of the study

In today's healthcare environment, nurses are expected to deliver safe, high-quality, and patient-focused care while adapting to complex and rapidly changing clinical situations, which place new demands on the professional competence of bachelor's degree staff nurses to go beyond technical knowledge and clinical skills and include non-technical skills such as soft skills and critical thinking skills to enhance their both interpersonal and analytical abilities, leading to improved performance, professional growth, and better patient outcomes (Alghazali & Alkhaqani, 2024; Kurtović et al., 2024).

Purpose of the study:

To examine soft skills and critical thinking disposition; and its relation to self-reported professional competence among bachelor's degree staff nurses.

Research question:

What is the relation between soft skills, critical thinking disposition and self-reported professional competence among bachelor's degree staff nurses?

Methods

Research design:

A descriptive correlational research design was used to conduct this study.

Setting:

This study was carried out at Kafr El-Dawar General Hospital which is attached to the Ministry of Health and Population with a bed capacity of 318 beds. It is one of the largest hospitals at El-Beheira Governorate that started

serious steps to fulfill the requirements of the general authority for healthcare accreditation and regulation. Data were collected from all inpatient care units, including Medical and Surgical units as well as Intensive Care Units (ICUs) (n=21). Medical units (n=5), as follows: Medical, Obstetric and Gynecology, Pediatric, Urology, and Hematemesis units. Surgical units (n=6), namely: General Surgery (A), General Surgery (B), Neuro-Surgery, Orthopedic, Vascular, and Ears, Nose and Throat units. ICUs (n=10), as follows: General ICU, Coronary (A), Coronary (B), Pediatric, Neuro-Surgery, Dialysis, High Risk, Toxicology, Burn, and Eclampsia units.

Sampling:

A convenience sampling, including all bachelor's degree staff nurses (n=141), who were actively working at the aforementioned setting during the period of data collection, had at least one year of experience, and showed their willingness to contribute in this study.

Instruments:

Three instruments were used in this study.

Instrument one: Soft Skills Assessment Scale (SSAS): It included:

- **Part 1**: **Demographic data sheet of bachelor's degree staff nurses**. It was developed by researchers. It consisted of data, such as age, gender, working unit, educational qualification, years of nursing experience, and years of unit experience.
- **Part 2: Soft Skills Assessment Scale**. It was developed by Phuti et al., (2023) and adapted by the researchers to measure soft skills of bachelor's degree staff nurses. It composed of four dimensions with 14 items, as follows: perseverance (5 items); civic virtue (3 items); communication (3 items); and finally, teamwork (3 items).

Scoring system:

The participants' responses were assessed using a 5-point Likert scale, where poor =1, fair =2, good =3, very good =4 and excellent =5. Scoring was calculated as follows: <33.3% for low level of soft skills; 33.3% - 66.6% for moderate level of soft skills; and > 66.6% for high level of soft skills.

Instrument two: Critical Thinking Disposition Questionnaire (CTDQ).

It was developed by Wang et al., (2019) and adopted by the researchers to measure critical thinking disposition among bachelor's degree staff nurses. It included 18 items grounded in three dimensions, as follows: open-mindedness (7-item); truth seeking (5-item); and finally, systematicity/ analyticity (6-item).

Scoring system:

Participants' responses were scored using a 5-point Likert scale, as strongly disagree =1, disagree =2, neutral =3, agree =4 and strongly agree =5. Scoring was calculated as follows: <33.3% for low critical thinking disposition level; 33.3% - 66.6% for moderate critical thinking disposition level; and > 66.6%

for high critical thinking disposition level.

Instrument three: Self-reported Competence Scale.

It was developed by Martinsen et al., (2024) and adapted by the researchers to measure self-reported professional competence of bachelor's degree staff nurses. It consisted of 35 items grounded in six dimensions, as follows: nursing care (5-item); value-based nursing care (5-item); medical and technical care (6-item); care pedagogics (5-item); documentation and administration of nursing care (8-item); and finally, development, leadership and organization of nursing care (6-item).

Scoring system:

Participants' responses were assessed using a five-point Likert scale, where strongly disagree =1, disagree =2, neutral =3, agree =4 and strongly agree =5. Scoring was calculated as follows: <33.3% for low self-reported professional competence level; 33.3% - 66.6% for moderate self-reported professional competence level; and > 66.6% for high self-reported professional competence level.

Validity

Instruments of the study were translated into Arabic and presented in both languages to five academic specialists (three professors of nursing administration, Faculty of Nursing, Damanhour University; and two professors of nursing administration, Faculty of Nursing, Alexandria University) to examine their content and face validity. The specialists evaluated the relevance of each item to its corresponding dimension using a 3-point scale: irrelevant =1, relevant with minor revisions =2, relevant =3. The three instruments were valid where their content validity indices were 0.89, 0.93 and 0.98, respectively. Face validity was evaluated through the specialists' judgments concerning the general appearance, clarity, and suitability of the instruments.

Pilot study

It was conducted on 14 bachelor's degree staff nurses, representing 10 % of the total sample size rather than the study subjects, who were randomly selected from various departments at Itay El-Baroud General Hospital. It was done to ascertain that the instruments are clear, practical, and suitable for the study; recognize potential challenges and difficulties that might arise at the time of data collection; and determine the amount of time required to complete the instruments.

Reliability

The Cronbach's alpha coefficient test was utilized to evaluate the reliability of the study instruments. The three instruments were approved to be highly reliable where Cronbach's alpha were 0.933, 0.904 and 0.972, respectively.

Field work

Data were collected from the beginning of May 2025 to the mid of June 2025 (four days / week). The researchers approached the participants in their respective work units, introduced themselves, clarified the aim of the study, and obtained informed consent. Approximately 25 bachelor's degree

staff nurses responded to the instruments weekly. Each participant took approximately 30-35 minutes to fulfil the instruments. The process was carried out in the presence of the researchers to offer guidance when needed, make sure all items were completed accurately, and verify that the participants' responses remained unbiased.

Ethical considerations

The Scientific Research Ethical Committee of the Faculty of Nursing at Damanhour University granted formal authority to carry out this study under approval number 108-a on 9/1/2025. Additionally, the authorities at the study settings formally authorized the researchers to proceed after confirming the study's objectives. The informed consent was secured from all participants following a through explication of the study nature and purpose. The confidentiality and privacy of the gathered data, along with the anonymity of all participants were maintained throughout the study to safeguard their identities and encourage truthful responses. The participants' freedom to decline or leave the study at any time was assured.

Statistical analysis

The gathered data were revised, categorized, coded, computerized, tabulated and analyzed using the Statistical Package for Social Sciences (SPSS) version 25. All statistical analysis was done using two-tailed tests and an alpha error as results were considered significant at $P \leq 0.05$ and considered highly significant at $P \leq 0.01$. Cronbach's alpha coefficient test was measured to ensure the reliability of the instruments. Descriptive statistics comprised the mean and standard deviation for the numerical data, while percentages were used to represent the frequency of each category in the categorical data. Moreover, inferential statistics comprised Pearson correlation test that utilized to evaluate the statistical relationship between variables; independent samples test that used to determine if the difference in the average scores of two distinct groups was statistically significant; and one way ANOVA that was applied to assess whether statistically significant differences existed among the means of three or more independent groups.

Results

Table 1 illustrates that nearly half of bachelor's degree staff nurses (46.8%) had from 25 to less than 35 years old. Moreover, more than three quarters of them (78.0%) were females. In relation to working unit, more than half of bachelor's degree staff nurses (54.6%) were working in intensive care units. Furthermore, nearly two thirds of them (61.7%) hold bachelor degree of nursing science; and 7.8% of them hold master degree of nursing science. Pertaining to years of nursing experience, about one third of bachelor's degree staff nurses (33.3%) had from 10 to less than 15 years of this experience. In addition, above one third of them (35.5%) had from 5 to less than 10 years of unit experience.

Table 2 shows that bachelor's degree staff nurses had a high mean score percent of overall soft skills (79.87%)

with a total mean 55.91±9.35. In relation to soft skills dimensions, also they had a high mean score percent for all dimensions. Furthermore, civic virtue dimension had the highest mean score percent (83.69%) with a total mean 12.55±2.28, while the lowest mean score percent was related to perseverance dimension (76.09%) with a total mean 19.02±3.76.

Figure 1 shows that the majority of bachelor's degree staff nurses (79 %) had high soft skills level, while 19 % of them had moderate level of soft skills and only 2% had low level of soft skills.

Table 3 portrays that bachelor's degree staff nurses had a high mean score percent of overall critical thinking disposition (79.20%) with a total mean 71.28±11.46. Pertaining to critical thinking disposition dimensions, also they had a high mean score percent for all dimensions. Moreover, systematicity/ analyticity dimension had the highest mean score percent (80.47%) with a total mean 24.14±4.34, whereas the lowest mean score percent was related to truth seeking dimension (78.52%) with a total mean 19.63±3.38.

Figure 2 indicates that more than three quarters of bachelor's degree staff nurses (76%) had high critical thinking disposition level, whereas 21% of them had moderate critical thinking disposition level and only 3 % had low critical thinking disposition level.

Table 4 reveals that bachelor's degree staff nurses had a high mean score percent of overall self-reported professional competence (74.60%) with a total mean 130.84±18.86. In relation to self-reported professional competence dimensions, they had a high mean score percent for all dimensions. In addition, value-based nursing care dimension had the highest mean score percent (78.91%) with a total mean 18.98±3.95, while the lowest mean score percent was related to nursing care dimension (70.74%) with a total mean 18.39±2.93.

Figure 3 illustrates that more than two thirds of bachelor's degree staff nurses (67.7 %) had high self-reported professional competence level, while 27.3 % of them had moderate self-reported professional competence level and only 5 % had low self-reported professional competence level.

Table 5 portrays that there was a highly statistical significant positive correlation between soft skills and critical thinking disposition among bachelor's degree staff nurses (r=0.906, P =0.000). Moreover, there was a highly statistical significant positive correlation between soft skills and self-reported professional competence among bachelor's degree staff nurses (r=0.894, P =0.000). In addition, there was a highly statistical significant positive correlation between critical thinking disposition and self-reported professional competence among bachelor's degree staff nurses (r=0.877, P =0.000).

Table 6 indicates that there was a positive statistically significant relation between total soft skills; and age, gender, educational qualification and years of unit experience, where P = 0.018, 0.014, 0.027 and 0.028, respectively. Furthermore, there was statistically significant positive relation between total critical thinking disposition; and age, gender,

educational qualification and years of unit experience, where P = 0.027, 0.014, 0.015 and 0.014, respectively. Moreover, there was a positive statistically significant relation between total self-reported professional competence; and age, gender, years of nursing experience and years of unit experience, where P = 0.017, 0.010, 0.021 and 0.023, respectively.

Table 1 :Distribution of the study subjects according to their demographic characteristics data (n=141).

Demographic characteristics data	Study subjects (n=141)	
	Frequency No.	Percent %
Age (years)		
< 25	18	12.8
25 – <35	66	46.8
35 – <45	43	30.5
≥ 45	14	9.9
Gender		
Female	110	78.0
Male	31	22.0
Working unit		
Medical units	41	29.1
Surgical units	23	16.3
Intensive care units	77	54.6
Educational qualification		
Bachelor of nursing science	87	61.7
Post graduate diploma	43	30.5
Master of nursing science	11	7.8
Years of nursing experience		
<5	22	15.6
5-<10	41	29.1
10-<15	47	33.3
≥15	31	22.0
Years of unit experience		
<5	45	31.9
5-<10	50	35.5
10-<15	28	19.8
≥15	18	12.8

Table 2: Descriptive statistics of soft skills among study subjects (n=141).

Dimensions of soft skills			No of items	Mean	Std. Deviation	Skewness	Kurtosis	Mean score percent
				Statistic	Statistic	Statistic	Statistic	
Perseverance	Low	5 – 11.67	5	19.02	3.76	-1.14	1.41	76.09%
	Moderate	11.68 -18.33						
	High	18.34 -25						
Civic virtue	Low	3 – 7	3	12.55	2.28	-1.65	3.73	83.69%
	Moderate	7.01 – 11						
	High	11.01 - 15						
Communication	Low	3 – 7	3	12.27	2.08	-1.41	3.17	81.80%
	Moderate	7.01 – 11						
	High	11.01 - 15						
Teamwork	Low	3 – 7	3	12.06	2.23	-1.23	1.97	80.43%
	Moderate	7.01 – 11						
	High	11.01 - 15						
Total soft skills	Low	14 – 32.67	14	55.91	9.35	-1.69	3.74	79.87%
	Moderate	32.68 – 51.33						
	High	51.34 - 70						

Low mean<33.3%; moderate mean 33.3% - 66.6%; high mean > 66.6%

Figure 1: Levels of soft skills among study subjects (n=141).

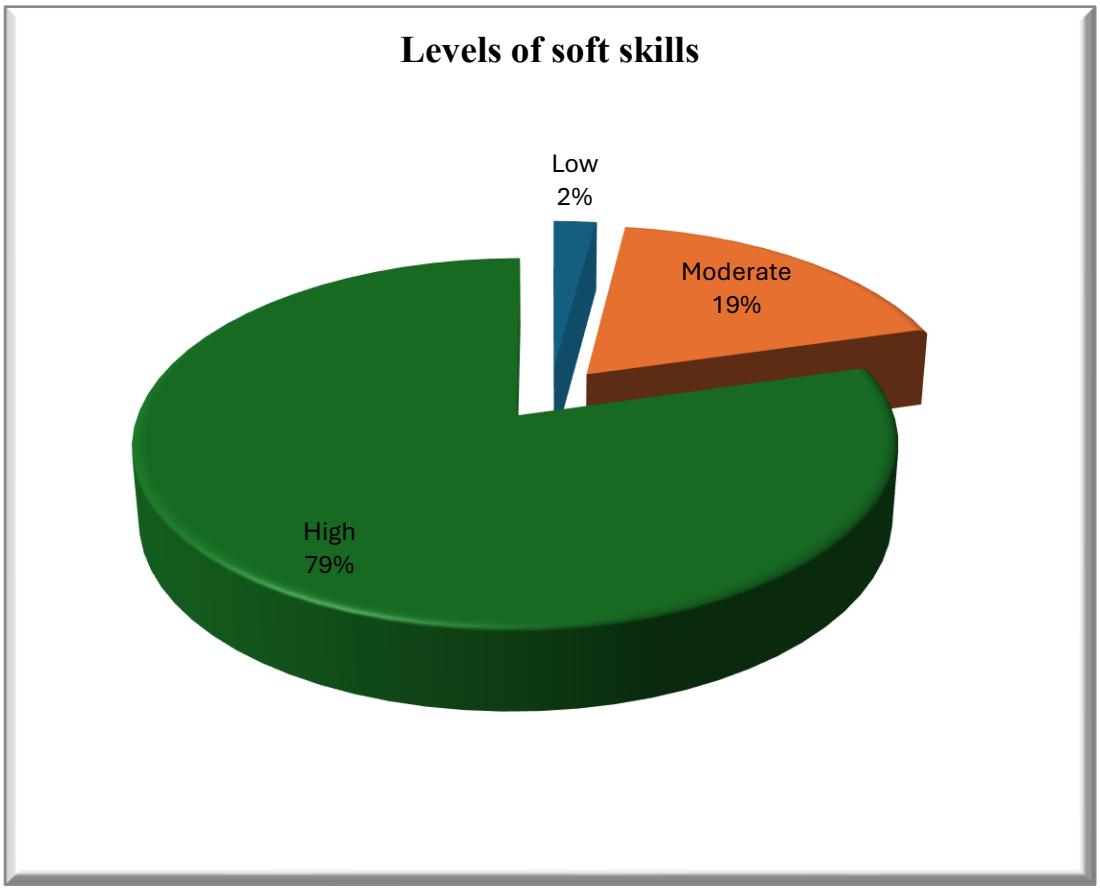

Table 3: Descriptive statistics of critical thinking disposition among study subjects (n=141).

Dimensions of critical thinking disposition			No of items	Mean	Std. Deviation	Skewness	Kurtosis	Mean score percent
				Statistic	Statistic	Statistic	Statistic	
Open-mindedness	Low	7 -16.33	7	27.51	4.52	-1.43	2.83	78.60%
	Moderate	16.34 – 25.67						
	High	25.68 -35						
Truth seeking	Low	5 -11.67	5	19.63	3.38	-1.02	0.92	78.52%
	Moderate	11.68 -18.33						
	High	18.34 -25						
Systematicity/ analyticity	Low	6 – 14	6	24.14	4.34	-1.24	2.08	80.47%
	Moderate	14.01 -22						
	High	22.01 - 30						
Total critical thinking disposition	Low	18 -42	18	71.28	11.46	-1.40	2.48	79.20%
	Moderate	42.01 - 66						
	High	66.01 - 90						

Low mean<33.3%; moderate mean 33.3% - 66.6%; high mean > 66.6%

Figure 2: Levels of critical thinking disposition among study subjects (n=141).

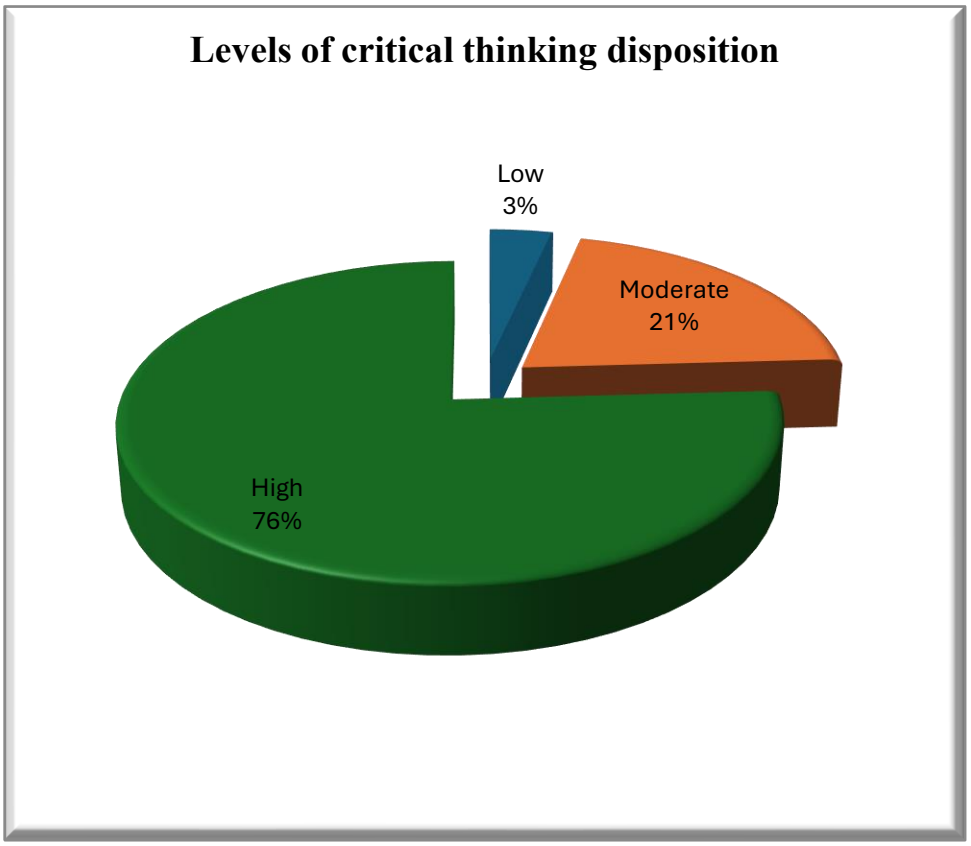

Table 4: Descriptive statistics of self-reported professional competence among study subjects (n=141).

Dimensions of self-reported professional competence			No of items	Mean	Std. Deviation	Skewness	Kurtosis	Mean score percent
				Statistic	Statistic	Statistic	Statistic	
Nursing care	Low	5 -11.67	5	18.39	2.93	-0.87	0.59	70.74%
	Moderate	11.68 – 18.33						
	High	18.34 -25						
Value-based nursing care	Low	5 -11.67	5	18.98	3.95	-1.39	2.85	78.91%
	Moderate	11.68 – 18.33						
	High	18.34 -25						
Medical and technical care	Low	6 -14	6	22.44	3.92	-1.11	1.45	73.47%
	Moderate	14.01 -22						
	High	22.01 -30						
Care pedagogics	Low	5 -11.67	5	18.44	3.09	-1.14	2.25	74.48%
	Moderate	11.68 – 18.33						
	High	18.34 -25						
Documentation and administration of nursing care	Low	8 – 18.67	8	29.37	4.60	-1.25	1.91	74.02%
	Moderate	18.68 -29.33						
	High	29.34 - 40						
Development, leadership and organization of nursing care	Low	6 -14	6	22.09	4.04	-1.39	2.84	76.03%
	Moderate	14.01 -22						
	High	22.01 -30						
Total self-reported professional competence	Low	35 – 81.67	35	130.84	18.86	-1.30	1.96	74.60%
	Moderate	81.68 – 128.33						
	High	128.34 - 175						

Low mean<33.3%; moderate mean 33.3% - 66.6%; high mean > 66.6%

Figure 3: Levels of self-reported professional competence among study subjects (n=141).

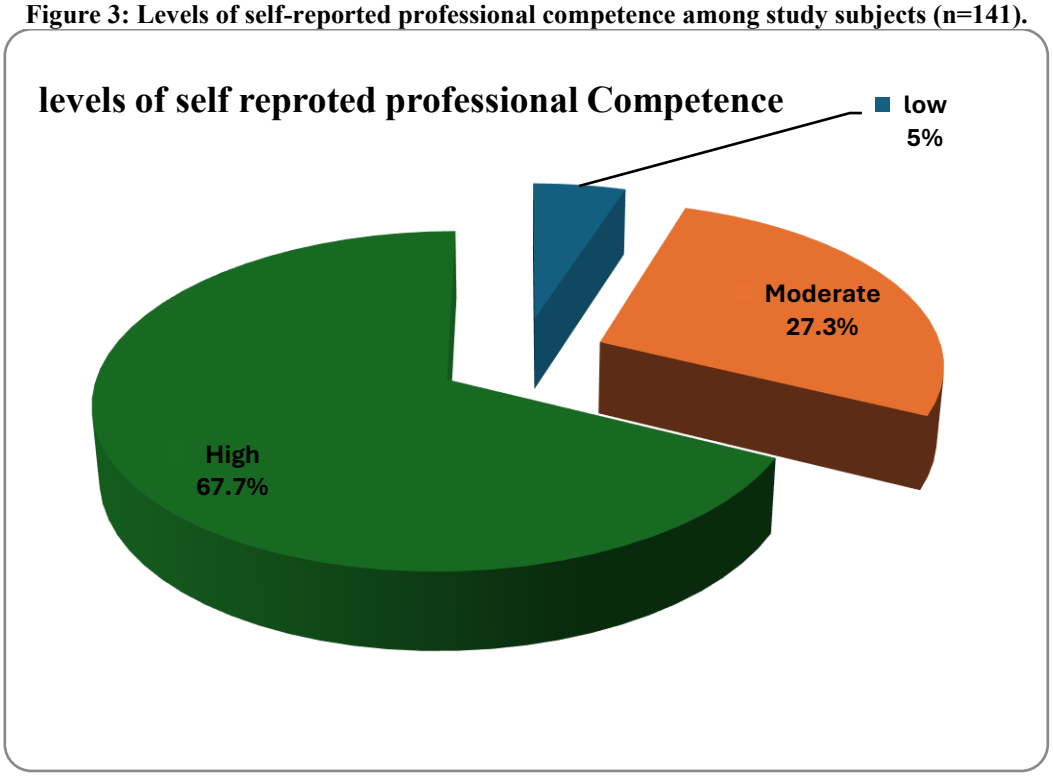

Table 5: *Correlation Matrix between soft skills, critical thinking disposition and self-reported professional competence among study subjects (n=141).*

Study variables		Perseverance	Civic virtue	Communication	Teamwork	Total soft skills	Open-mindedness	Truth seeking	Systematicity / analyticity	Total critical thinking disposition	Nursing care	Value-based nursing care	Medical and technical care	Care pedagogics	Documentation and administration of nursing care	Development, leadership and organization of nursing care	Total self-reported professional competence
Perseverance	r	1															
	P																
Civic virtue	r	0.699**	1														
	P	0.000															
Communication	r	0.704**	0.820**	1													
	P	0.000	0.000														
Teamwork	r	0.724**	0.833**	0.794**	1												
	P	0.000	0.000	0.000													
Total soft skills	r	0.902**	0.906**	0.895**	0.909**	1											
	P	0.000	0.000	0.000	0.000												
Open-mindedness	r	0.751**	0.800**	0.828**	0.776**	0.867**	1										
	P	0.000	0.000	0.000	0.000	0.000											
Truth seeking	r	0.779**	0.733**	0.726**	0.714**	0.824**	0.820**	1									
	P	0.000	0.000	0.000	0.000	0.000	0.000										
Systematicity/ analyticity	r	0.748**	0.809**	0.737**	0.775**	0.847**	0.832**	0.778**	1								
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Total critical thinking disposition	r	0.810**	0.839**	0.820**	0.811**	0.906**	0.952**	0.913**	0.937**	1							
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000								
Nursing care	r	0.693**	0.694**	0.647**	0.707**	0.760**	0.669**	0.657**	0.745**	0.740**	1						
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Value-based nursing care	r	0.797**	0.735**	0.739**	0.746**	0.842**	0.762**	0.693**	0.807**	0.811**	0.707**	1					
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Medical and technical care	r	0.713**	0.633**	0.627**	0.649**	0.735**	0.675**	0.652**	0.707**	0.727**	0.764**	0.761**	1				
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Care pedagogics	r	0.762**	0.746**	0.731**	0.770**	0.835**	0.729**	0.735**	0.805**	0.810**	0.715**	0.830**	0.758**	1			
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Documentation and administration of nursing care	r	0.739**	0.760**	0.734**	0.750**	0.825**	0.735**	0.703**	0.815**	0.806**	0.756**	0.811**	0.756**	0.829**	1		
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Development, leadership and organization of nursing care	r	0.748**	0.773**	0.758**	0.738**	0.834**	0.794**	0.749**	0.818**	0.844**	0.688**	0.769**	0.747**	0.788**	0.870**	1	
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Total self-reported professional competence	r	0.822**	0.805**	0.785**	0.806**	0.894**	0.809**	0.775**	0.870**	0.877**	0.849**	0.900**	0.883**	0.908**	0.942**	0.909**	1
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

* Pearson correlation test

Table 6: Relationship between soft skills, critical thinking disposition and self-reported professional competence among study subjects and their demographics characteristics data (n=141).

Demographic characteristics data	Total soft skills	Total critical thinking disposition	Total self-reported professional competence
	Mean ± SD	Mean ± SD	Mean ± SD
Age (years)			
< 25 years	49.94±12.35	64.00±14.75	125.11±29.81
25 – <35 years	56.61±9.17	71.56±10.34	129.99±17.29
35 - <45 years	57.81±6.95	73.42±10.18	130.12±13.98
≥ 45 years	54.43±9.94	72.79±12.93	129.29±18.39
Test of sig.(p)	F=3.451(0.018)*	F=3.156(0.027)*	F=3.525(0.017)*
Gender			
Female	54.89±9.83	70.04±11.89	130.35±18.91
Male	59.52±6.28	75.71±8.51	132.71±10.24
Test of sig.(p)	t=2.478(0.014)*	t=2.480(0.014)*	t=2.609(0.010)*
Working unit			
Medical units	53.83±9.86	69.34±12.42	133.12±22.51
Surgical units	54.17±10.82	69.48±14.04	134.35±26.15
Intensive care units	57.53±8.36	72.86±9.90	135.40±17.08
Test of sig.(p)	F=2.633(0.075)	F=1.615(0.203)	F=2.313(0.103)
Educational qualification			
Bachelor of nursing science	54.59±9.98	69.54±12.14	131.78±21.93
Post graduate Diploma	59.07±4.56	75.47±6.34	134.53±11.06
Master of nursing science	54.00±14.72	68.73±17.06	135.91±25.82
Test of sig.(p)	F=3.697(0.027)*	F=4.344(0.015)*	F=2.993(0.053)
Years of nursing experience			
<5	51.05±12.18	65.82±15.10	124.55±25.10
5-<10	56.66±9.56	71.15±10.85	134.98±17.68
10-<15	56.72±7.89	72.09±10.20	132.43±16.27
≥15	57.13±8.10	74.13±10.25	135.06±17.30
Test of sig.(p)	F=2.442(0.067)	F=2.460(0.065)	F=3.357(0.021)*
Years of unit experience			
<5	52.47±12.17	66.87±14.13	125.60±26.22
5-<10	57.38±7.22	72.56±9.56	132.98±14.85
10-<15	57.64±6.69	73.71±8.96	131.46±15.22
≥15	57.72±8.28	75.00±9.61	130.93±15.21
Test of sig.(p)	F=3.132(0.028)*	F=3.690(0.014)*	F=3.292(0.023)*

T: Independent Samples Test F: One Way ANOVA

Discussion

The concept of nursing professional competence is complex and includes skills, values, knowledge, and attitudes that nurses require to provide efficient, safe, and superior patient care (Prendi et al., 2022). Hard skills are essential for performing nursing procedures and handling patient data, also soft skills are equally vital for maintaining positive patient interactions, collaborating with healthcare teams, and addressing the challenging healthcare environment (Ernawati & Bratajaya, 2021; Aridi et al., 2023). Moreover, critical thinking disposition is a fundamental nursing competency that entails a methodical approach to problem-solving and decision-making, going beyond conventional methods to address particular patient requirements and unpredictable situations (Urhan et al., 2022; Ateş et al., 2023). The study intended to examine soft skills and critical thinking disposition; and its relation to self-reported professional competence among bachelor's degree staff nurses.

The current study revealed that bachelor's degree staff nurses had a high mean score percent of overall soft skills; also they had a high mean score percent for its all dimensions. Moreover, the majority of bachelor's degree staff nurses had high level of soft skills. Now soft skills such as communication, civic virtue, perseverance, and teamwork are widely recognized as vital for effective nursing practice; contributing to better patient outcomes, improved multidisciplinary collaboration, and enhanced career advancement (Ng, 2020; Song et al., 2024).

This result can be interpreted as nearly two thirds of study subjects hold bachelor degree of nursing science; nearly one third of them hold post graduate diploma; and about eight percent of them hold master degree of nursing science. This reasoning relies on the fact thatNational Academic Reference Standards (NARS) for higher nursing education encompass fifth domain entitled "Inter-professional communication", which emphasizes the development of these crucial non-technical abilities as team work and communication skills for ensuring that the graduated students are able to use it in healthcare setting and their life as a whole (NAQAA, 2017).

Moreover, the study setting is one of Egyptian hospitals which achieved valuable steps to comply with General Authority for Healthcare Accreditation and Regulation (GAHAR) standards; and it has clear accountability measures and routine monitoring system that reinforce the importance of its staff to be able to communicate and cooperate with patients, coworkers, and other healthcare team professionals to ensure the coordination and delivery of care for patients, their families, and community groups.

This point of view is supported by Widad & Abdellah, (2022) who reported that integrating practical experiences to teach soft skills has proven effective in nursing education. Also, Ng, (2020) highlighted that educational organizations have indeed recognized the importance

of soft skills. Moreover, Song et al., (2024) emphasized that soft skill competency standards for practice are keys for clinical nursing education especially in higher education. In addition to Keperling, (2025) who portrayed the crucial role played by nursing institutions and healthcare settings to guarantee that nursing students and staff nurses are adequately prepared with soft skills; this study also emphasized on the contribution of this interpersonal skills in patient and healthcare surviving. Align with this, more than half of study subjects are working in intensive care units; this is in the same line with Reader et al., (2006) and Henriksen et al., (2021), who illustrated that working in Intensive Care Units (ICUs) requires nurses to possess a range of soft skills as civic virtue, teamwork, communication skills, and empathy that are crucial for providing top-quality healthcare and maintaining effective team dynamics.

The study findings showed that among soft skills dimensions civic virtue dimension had the highest mean score percent, while the lowest mean score percent was related to perseverance dimension. Similar to this findings, the study of Pohl et al., (2023) showed constructive impact of nurses' job engagement on their civic virtue especially intensive care nurses. Also, more than three quarters of study subjects are females; this is in agreement with Khajoei et al., (2024) who stated that female nurses are more prone to increase civic virtue behavior. In the same respect Parker & McMillan, (2020) mentioned perseverance as emerged soft skill for students nurses.

Whereas the study of Altuntas & Baykal, (2010) reported that nurses demonstrated the civic virtue behavior less compared with other behaviors of soft skills. Also, Peddle et al., (2019) mentioned communication as the most important among the soft skills. Moreover, Aloustani et al., (2020) identified civic virtue as one of the categories of organizational citizenship behavior but does not specify it as the highest scoring dimension for bachelor's nurses, they also highlighted the significance of perseverance as non-technical skill for them.

The study result showed that bachelor's degree staff nurses had a high mean score percent of overall critical thinking disposition. Also they had a high mean score percent for its all dimensions. Moreover, more than three quarters of them had high critical thinking disposition level. This indicates that nurses with bachelor's degrees who participated in the study show a strong propensity or willingness to use critical thinking techniques and this may be related to the nature of their education which foster critical and analytical thinking. In this respect, the study of Kassaman & Corlett, (2019) and Westerdahl et al., (2022) suggested that higher levels of education, particularly bachelor's degrees, are associated with enhanced critical thinking skills and dispositions among nurses. In the same line, Westerdahl et al., (2020) and Victoria et al., (2022) mentioned that bachelor's degree

nurses have high level of critical thinking skills.

In relation to critical thinking disposition dimensions, the study findings showed that the systematicity/ analyticity dimension had the highest mean score percent, whereas the lowest mean score percent was related to truth seeking dimension. It can be interpreted as near to half of studied bachelor's degree staff nurses had from 25 to less than 35 years old, which means that they are newly graduated; and this reflect that the educational preparation at the bachelor's and postgraduate levels of nursing education may effectively foster critical thinking disposition as enhancing the internal motivation and habits of mind essential for applying critical thinking in real-world clinical scenarios. In addition, as mentioned before more than half of study subjects are working in intensive care units. According to Henriksen et al., (2021), working in intensive care units make nurses able to use critical thinking skills and solve related problems. In the same respect, Yildirim et al., (2012) reported that among critical thinking disposition nurses' high mean score was related to systematicity/ analyticity. Also, Hsu et al., (2017) and Chan, (2019) specified that truth seeking had the lowest mean percent score.

The study findings portrayed that bachelor's degree staff nurses had a high mean score percent of overall self-reported professional competence. They had a high mean score percent for its all dimensions. Also, more than two thirds of them had high self-reported professional competence level. This finding aligns with the expectation that higher education levels such as a Bachelor of Science in Nursing (BSN) and post graduate studies contribute to a more thorough comprehension of nursing concepts and theories, critical thinking skills, and evidence-based practice, thereby it enhance nurses' confidence in their professional capabilities.

Moreover, now many faculties of nursing in Egypt take actual steps for compliance with NARS as a framework that defines standards for skills and competencies, which are important for nurse graduate as understanding, technical, and transferable skills. Also, many of them granted national and international accreditation. In the same respect, studies support the notion that nurses with bachelor's degrees report higher professional competence level contrasted with those with associate degrees or diploma. They indicated that bachelor's degree nurses and post graduate nurses often feel more competent in areas such as value based nursing care; development, leadership, and organization of care; and care pedagogics (Gardulf et al., 2016; Martinsen et al., 2024; Davis et al., 2024; Davis, 2025).

Pertaining to self-reported professional competence dimensions, value-based nursing care dimension had the highest mean score percent, while the lowest mean score percent was related to nursing care dimension. This is expected result as BSN and post graduate' curriculum instills courses as nursing ethics and professional ethics that include areas as professional values, patient advocacy,

confidentiality, justice, respect, and commitment to lifelong learning, which are crucial for ethical, high-quality and value-based care. In the same respect, Karami et al., (2017) and Bahlman-van Ooijen et al., (2025) emphasize on the role of nursing education in fostering nurses' value based nursing care, also the code of clinical and professional ethics consider one of the hospital accountability standards for nurses.

In relation to the lowest mean score percent, it was related to nursing care dimension. This may be related to the nature of BSN graduated role, which emphasize in many healthcare settings on leadership and supervisory roles than direct patient contact or nursing care. This point of view reinforced by Prendi et al., (2022) who mentioned that BSN graduated nurses are more competent in leadership role than patient direct care role. Conversely, Gardulf et al., (2016) illustrated that among competency dimensions the lowest mean score was related to development and organization of nursing care.

The results of this study revealed that there was a highly statistical significant positive correlation between total soft skills and total critical thinking disposition among bachelor's degree staff nurses. It can be reciprocal relationship, which indicates that a nurse with a high critical thinking disposition may be better at communication; and recognizing and resolving interpersonal problems within a team. Also, nurses with a strong soft skill may be better able to use their critical thinking dispositions skills to understand and manipulate each patient's condition (Midilli & Altas, 2020; Higgs et al., 2024). Also, Gezer et al., (2017) found positive relation between nurses' communication skills and their open mindedness. Moreover, the study of Soliman et al., (2025) reported positive highly statistical significant correlation between nurse interns' soft skills and their professionalism.

The results of this study disclosed that there was a highly statistical significant positive correlation between total soft skills and total self-reported professional competence among bachelor's degree staff nurses. This can be explained by the fact that nurses who possess greater soft skills may be more successful in their jobs, which could raise their perceived level of competence; alternatively, nurses who are more professionally competent may inherently acquire and apply their soft skills more skillfully.

In the same respect, Seutloadi, (2015) reported that there was a positive relation between nurse managers' soft skills and their management competence. Also, the study of Hartiti et al., (2020) highlighted that the implementation of transformational leadership model for improving nurses' competence is efficient to enhance their soft skills in the form of compliance, communication, teamwork, self-assurance, discipline, precision and problem solving. Furthermore, Sundary, (2023) emphasized that civic virtue as a soft skill is a part of organizational citizenship behavior of nurses can improve their professionalism and competence.

In addition, there was a highly statistical significant positive correlation between total critical thinking disposition and total self-reported professional competence among bachelor's degree staff nurses. It may be interpreted as nurses who are more inclined to think critically; be routinely curious, methodical, analytical, open minded; and believe in their problem-solving skills, are also more likely to be confident on their professional skills, knowledge, and abilities. Align with this idea, Park et al., (2016) mentioned that critical thinking is considered as a backbone of professional nursing that enable nurses to make sound clinical judgments, address complicated patient issues, and adapt to dynamic healthcare environments. Strong critical thinking dispositions enable nurses to prioritize care, examine patient data, foresee possible consequences, and assess the efficacy of interventions. These skills have a direct impact on how a competent nurse is seem to be (Chen et al., 2019).

The study findings illustrated that there was a positive statistically significant relation between total soft skills and age, gender, educational qualification and years of unit experience. Furthermore, there was statistically significant positive relation between total critical thinking disposition and age, gender, educational qualification and years of unit experience. Moreover, there was a positive statistically significant relation between total self-reported professional competence and age, gender, years of nursing experience and years of unit experience. This study finding is in the same line with those of many studies that reported significant positive correlation between nurses' age, work experience and work engagement with improved soft skills (Ng, 2020; Henriksen et al., 2021; Pohl et al., 2023). Also, Henriksen et al., (2021) emphasized that age and years of nurses' experience in the working unit influence their professional competence.

Moreover, Midilli & Altas, (2020) highlighted the positive relationship between nurses' critical thinking disposition and their age. In the same respect, many studies reported a positive correlation between baccalaureate nursing education and improved critical thinking scores, emphasizing the impact of a comprehensive curriculum on cognitive development (Zuriguel Perez et al., 2015; Karami et al., 2017; Chen et al., 2019; Prendi et al., 2022). Conversely, Kaya & Yalniz, (2012) reported that there was no significance relation between nurses' critical thinking skills and work experience.

Conclusion

The current study findings concluded that bachelor's degree staff nurses had a high mean score percent of overall soft skills; overall critical thinking disposition; and overall self-reported professional competence. In addition, there was a highly statistical significant positive correlation between soft skills and critical thinking disposition among bachelor's degree staff nurses. Moreover, there was a highly statistical significant positive correlation between

soft skills and self-reported professional competence among bachelor's degree staff nurses. Furthermore, there was a highly statistical significant positive correlation between critical thinking disposition and self-reported professional competence among bachelor's degree staff nurses.

Recommendations

Based on the study findings, the following is recommended:

For nursing administrators and managers:

- Provide clinical scenarios that require reflection, problem-solving, and systematic analysis; offer access to workshops, programs, and conferences that enhance bachelor's degree staff nurses' soft skills and strengthen their critical thinking disposition; and advocate for hospital policies that prioritize professional development in both technical and non-technical competencies.

For nursing educators:

- Integrate soft skills and critical thinking strategies into nursing curriculum, clinical training, and continuing education courses to prepare future nurses to handle complex healthcare situations with competence and confidence.

For bachelor's degree staff nurses:

- Engage in continuing education programs, workshops, and specialized training to enhance their soft skills, critical thinking development, and clinical competence; perform continuous self-assessment to identify their strengths and areas for improvement to foster their personal growth and professional excellence; and stay updated with current clinical guidelines, protocols, and evidence-based practices.

For further studies:

- Investigate the impact of organizational climate and administrative support on nurses' perceived professional competence.
- Examine the digital literacy and its relation to soft skills and critical thinking disposition.

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