

## **Critical thinking and nursing administration clinical judgment skills for baccalaureate nursing students at Damanhour University**

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### **Abstract**

Critical thinking and clinical judgment skills are one of the most important concepts in the field of education. Although many studies have been published on nursing students' critical thinking and, clinical judgment skills some suggest that there is not enough evidence supporting the relationship between the content of nursing education programs and nursing students' critical thinking and, clinical judgment skills. This study aimed to assess critical thinking and nursing administration clinical judgment skills for baccalaureate nursing students at Damanhour University. Research design: A descriptive research design was used in this study. Setting: the study was carried out in the Faculty of Nursing at Damanhour University. Subject: All baccalaureate nursing students who had finished the course of nursing administration in the Faculty of Nursing at Damanhour University in the academic years 2018-2019 with the total number (n=240). Tools: A structured self-administer questionnaire included demographic data, California Critical Thinking Disposition Inventory scale, and clinical judgment skills. Result: the Nursing student had achieved clinical thinking with the highest mean scores. There was a statistically significant difference between critical thinking and clinical judgment according to sex and residence ( $p < 0.1001^{**}$ ). Recommendation: Enhancement of the learning experiences in the development of clinical thinking and clinical judgment skills, attributes and knowledge of nursing students during their placement in the clinical learning environment.

**Keywords:** Critical thinking, clinical judgment skills, nurses student

### **Introduction**

Critical thinking skills in nursing include analysis, interpretation, judgment, problem-solving, evaluation, and reasoning Doyle *et al.*, (2016) [9]. Critical thinking is one of the most important concepts involved in the field of education. Enabling nursing students to think critically is not only the main purpose of higher education, but also permits the dynamics of academies and universities and helps them persist, develop and supports scientific societies. Athari *et al.*, (2019) [4].

The concept of critical thinking into nursing education is a rotating point in the process of professionalization. Despite different definitions for critical thinking, no consent has yet been reached. Anajafi *et al.* (2019) [2]. Conversely, critical thinking is generally defined as "a process of purposeful, interactive reasoning, criticism and judgment about what we believe and do". Several have also defined critical thinking in nursing as "the process of reflective and reasonable thinking about nursing problems without a single solution and is focused on deciding what to believe and do". Amini & Fazlinejad (2019) [1].

Some nursing authors have written about teaching methods used to reinforce CTS, there are at least two main reasons for student nurses to learn CTS. Firstly, thinking is the key to problem-solving; while, nurses without such skills are themselves part of the problem. Secondly, in critical

situations, nurses should be able to take the most important decisions, individually and quickly. Critical thinking skills help them to identify essential data and discriminate problems requiring immediate intervention from those that are not life-threatening. Thus, they will be able to consider the possible consequences of each action and make the right decision Eslami-Akbar &, Moarefi (2017) [10].

Critical thinking is considered a main concern in nursing education, and therefore, an essential element for professional nurse preparation. The Commission on Collegiate Nursing Education (CCNE), one of the two accrediting bodies for nurse education, includes critical thinking as an outcome indicator for undergraduate baccalaureate nursing education. Nursing education's other accrediting body, the National League for Nursing Accreditation Commission (NLNAC), also offers guidelines that call for nurse educators to create learning opportunities that promote the development of critical thinking skills. One basis for these guidelines is the belief that nurses need critical thinking skills, in addition to high levels of vigilance, to detect patient status changes and make clinical judgments about which, if any, nursing interventions are needed Bakalis (2016) [6].

Clinical judgment skill is one of the main attributes of nursing student professional practice. It is a requirement for establishing a professional identity and is mostly based on

nursing student knowledge and experience as well as their intellectual, intuition, clinical thinking, and evidence-based practice skills. A nursing student uses these skills to assess patients and the environment and to process and interpret patient information to identify and fulfill patient needs. This process results in the formation of nursing diagnoses, effective clinical decision-making, problem-solving and the improvement of care quality. Labarre *et al.* (2018) [13].

Tanner (2018) [22] noted that only professional nursing student could go through this process. Such a structured approach to patient care is an important characteristic of structured professional judgment. Professionalization in clinical judgment is a major challenge of modern nursing and in spite of its critical importance, it is still poorly understood

Clinical judgment is not limited to identifying a problem; it also includes looking for a broad range of possibilities. Clinical judgment assists the nurses student to recognize the features of a given situation, to predict possible interventions to stabilize the condition of a patient, to articulate the nursing viewpoint for all situations which require care delivery, to determine which areas leave room realistically for personal improvement and development, and to make elaborate qualitative differences in critical areas of the profession. Popil (2016) [20], clinical judgment permits the nurse to associate pieces of information, to evaluate them, to establish relationships with known facts, and to analyze and interpret the data at hand from both a critical and rational side. Using clinical judgment lets the nurse identify, associate and interpret the signs or symptoms of a given situation. Bakalis (2016) [6].

### Significance of the study

Critical thinking is essential in the academic fields because it allows one to analyze, evaluate, explain and restructure their thinking, thus reducing the risk of adopting, acting on, or thinking with a false belief. Though, even with knowledge of the methods of logical inquiry and reasoning, mistakes can occur due to a thinker's incompetence to apply the methods or because of character traits such as egocentrism. Critical thinking contains identification of prejudgment, bias, advertising, self-deception, falsification, and fabrication. Given research in cognitive attitude, several educators consider that nurses student should focus on teaching their critical thinking skills and the cultivation of intellectual traits (Paul, 2018) [18]. Assessing the disposition of university nursing staff toward critical thinking provides essential information about how staff attitude toward critical thinking develops concerning their experience and also to identify which dimensions of critical thinking staff show strengths and which dimensions they are lacking Yildirim & Ozkahraman (2018) [25].

So our study needed to assess critical thinking and nursing administration clinical judgment skills because nurse's student members should be enabled to be critical thinkers and clinical judgment skills through the acquisition of specialized skills in critical thinking and clinical judgment skills.

### Aim of the study

This study aimed to assess critical thinking and nursing administration clinical judgment skills for baccalaureate

nursing students.

### Research question

Is there a relation between baccalaureate nursing student's critical thinking disposition and clinical judgment skills?

### Subject and Methods

**Research design:** A descriptive design was used in this study.

**Setting:** The study was conducted in a faculty of nursing, Damanhour University.

**Sample:** The total sample consisted of 240 undergraduate nursing students belonging to baccalaureate nursing students who finish the course of nursing administration in the Faculty of Nursing at Damanhour University in the academic year 2018-2019.

### Date collection

A self-structured questionnaire composed of three parts was used: The first part presented socio-demographic questions about the respondent. The second part was the California Critical Thinking Disposition Inventory (CCTDI). It adopted from (Saleh R, 2008) to collect data concerning the disposition of students towards critical thinking. It consisted of severity five-item grouped into seven dispositional factors: a) truth-seeking (12 items), b) open-mindedness (12 items), c) analyticity (11 items), d) systematicity (11 items), e) self-confidence (9 items), f) inquisitiveness (10 items) and g) cognitive maturity (10 items). All items of the seven dispositional characteristics with scoring system are four points Likert scale ranging from "strongly agree (4)" to "strongly disagree"(1) total score of the questionnaire classified into three levels first level mild ranged from (75-150), second-level moderate ranged from (151-225), and third-level high ranged from (226-300). The third part was clinical judgment skills: it developed by (Janis and Mann, 1977), it used to collect data concerning the assessment of baccalaureate nursing students' clinical judgment. It consisted of (40 items) grouped into four factors are (a) search for alternatives or options (3 items, 10 sub-items), (b) canvassing of objectives and objectives and values (3 items, 10 sub-items), (c) evaluation and reevaluation of consequences (2 items, 10 sub-items), (d) search for information and unbiased assimilation of new information (3 items, 10 sub-items). All items of the four areas with the scoring system are three points Likert scale ranging from "agree (3)" to "disagree" (1). The total score of the questionnaire is classified into two levels first low to middle range from (40-80). And second level middle to high ranged from (81-140). Liker 5= mostly agree, 4=agree, 2= neutral, 3= disagree and 1= mostly disagree.

### Validity and reliability

It was established for face and content validity by a panel of five experts from nursing faculty, Damanhour and Alexandria University. Their opinions elicited regarding the format, layout, consistency, accuracy, and relevancy of the tools. Reliability the pretest was carried out to test the reliability (Cronbach's Alpha = .862).

**Pilot study:** A pilot study was conducted among 10 percent (24 student nurses) of the nursing students who consented as respondents to the questionnaire. This pilot runs aimed to test the feasibility and comprehensiveness of the survey design. After this, fundamental changes were done on the study design and the implementation process based on expert opinions on the initial results of the survey.

**Data collection procedure**

Permission to conduct the study was obtained from the Dean of the Faculty of Nursing. The teaching staff was informed before administering the survey. Before the distribution of questionnaires to the respondents, they were oriented about the study process and the most proficient method to. They were instructed on how to fill out the questionnaire completely and truthfully with utmost honesty. Data collection and tabulation took a period of six months/ from December 2018 to May 2019.

**Statistical analysis**

Data collected from the studied sample was revised, coded and entered using Personal Computer (PC). Computerized data entry and Statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 22. Data were presented using descriptive statistics in the form of frequencies, percentages. A chi-square test ( $X^2$ ) was used for comparisons between qualitative variables. Spearman

correlation measures the strength and direction of the association between two ranked variables.

**Significance of the results**

Highly significant at p-value <0.01.

Statistically significant was considered at p-value <0.05

Non-significant at p-value>0.05.

**Results**

**Table 1:** Demographic characteristics of studied subjects; (n=240)

Demographic characteristics	Rural		Urban		Total		X2 test	p-value
	No	%	No	%	No	%		
<b>Sex</b>								
Male	35	58.4	25	41.6	60	100.0	1.182	0.675
Females	80	44.4	100	55.6	180	100.0		
<b>Age</b>								
20<22	113	49.1	117	50.9	230	100.0	2.552	0.118
>23	2	20.0	8	80.0	10	100.0		

Table 1 the table illustrates that (75.0%) of the study sample were females. While 25.0% were males, and 52.9% of them were from an urban area, 47.1% of the study subject was from a rural area. Regarding the study subject age 95.8% of them 20> 23 years. There was no statistically significant difference between males and females and residence in nursing students.

**Table 2:** Total of critical thinking scores among the study sample (n= 240)

Critical thinking	Range	Mean ± SD	Median
Trust seeking	26-45	33.01±4.39	41
Analyticity	24-44	33.27±4.31	37
Systematicity	24-49	31.39±4.73	38
Self –confidence	18-42	26.19±5.80	35
Inquisitiveness	20-46	31.49±7.10	39
Open-Mindedness	26-47	36.01±5.39	41
Maturity	22-41	30.68±4.66	36
Total critical thinking	170-293	222.05±26.64	266.5

Table 2 represent the total of critical thinking among the study sample, as clarifies that, the highest Range between (26-47) with the highest mean score (36.01±5.39), highest

medium score (41) was related to open-mindedness. Also the lowest mean score (26.19±5.80), lowest median score (35) at self -confidence.

**Table 3:** relation between total scores levels of critical thinking and clinical judgment skills according to sex & residence among nursing students (n=240)

Item	Rural (115)		Urban (125)		X2	P-value	Male (60)		Females (180)		X2	P-value
	No	%	No	%			No	%	No	%		
<b>Total score levels of critical thinking</b>												
Moderate	85	73.9	70	56.0	0.255	0.643	40	66.6	100	55.5	0.162	0.001**
High	30	26.1	55	44.0			20	33.4	80	44.5		
<b>The total score of clinical judgment</b>												
Low to middle	90	78.2	45	36.0	0.375	0.564	30	50.0	90	50.0	2.445	0.1001**
Middle to high	25	21.8	80	64.0			30	50.0	90	50.0		

Table 3 the table shows that nurse students had a positive correlation more than males and students from urban had a positive correlation more than a rural area. There was a statistically significant difference between critical thinking and clinical judgment according to sex and residence ( $p<_0.1001^{**}$ ).

Today's critical thinking and clinical judgment skills have come to be a vital focus of education, particularly in nursing. Within this focus, there has been a major debate concerning the general is the ability of specificity of critical thinking. The main issue in this connection appears to have been whether critical thinking needs to be strictly linked with traditional disciplines. If critical thinking is as vital as its proponents maintain, then it will also be important in

**Discussion**

applied fields such as teacher education. The clinical judgment skills, exercise intrinsic motivation and the perception of being in control of learning should contribute positively to the academic and professional performance of teachers completing the educational level. (Telemaque *et al.*, 2014) [23-24].

This study was conducted to assess critical thinking and nursing administration clinical judgment skills for baccalaureate nursing students in Damanhour University.

Concerning to total critical thinking, in the current study, the results revealed that in the majority of total student nurses showed positive critical thinking .that mean scores were high median score related in open-mindedness followed by trust seeking, on the other hand, the mean scores were lowest median score related in maturity followed by self-confidence. This study similar to Mloon (2015) [16] who studied "The Impact of Critical Thinking Disposition in Learning Using Business Simulation" that stated the majority of nursing students' low confidence score and high in open-minded. This study dissimilar to Devitt (2018) [8] who studied "Critical Thinking in Health and Social Care Thinking Critically about Critical Thinking" that stated the majority of the study subject was high in self-confidence and low in truth-seeking.

Regarding total clinical judgment skills in the current study, the results revealed that in the majority of total nurses student showed positive clinical judgment skills .that mean scores were high median score related in information and unbiased assimilation of new information factors followed by canvassing of objective and values, on the other hand, the mean scores were lowest median score related to alternative or options factors. The result of current study denoted that the mean score of nursing student in information and unbiased assimilation of new information factors were high, which push educators to have a highest positive inclination toward open-mindedness and this may be due to educators are committed and desired to know different worldwide views, to understand how other people think and different teaching strategies used in teaching. This result is consistent with King *et al.* (2015) [12] who stated "Designing the instructional process to enhance critical thinking across the curriculum: Inquiring minds do want to know" were at high information and unbiased assimilation of new information factors. On the other hand, this result is different from the result of Telemaque (2014) [23-24] who studied "The Relationship of Academic Achievement between Critical judgment and Associated Dispositions: A Canonical Correlation Analysis" and found failed to demonstrate a positive attitude toward information and unbiased assimilation of new information factors mindedness. This result is similar to the findings of Aرسال *et al.* (2015) [3] who studied "The Effects of Microteaching on the Critical judgment Disposition of Pre-Service Teachers" and stated that the mean score of educators toward information and unbiased assimilation of new information factors were low. On the other hand, the finding of the current study is in dissimilarity with a study performed by Devitt (2018) [8] who studied "Critical judgment in Health and Social Care Thinking judgment about Critical judgment skills "that found that nursing participant had positive dispositions toward information and unbiased assimilation of new information factors.

There is a negative relationship between critical thinking disposition and age whenever the all age the more the experience in critical thinking study. This study similar to Telemaque *et al.* (2014) [23-24] who studied "The Relationship of Academic Achievement between Critical Thinking and Associated Dispositions: A Canonical Correlation Analysis" that stated no relation between critical thinking and age. These findings are dissimilar to Lily *et al.* (2014) [15] who studied "A Study to Compare The Critical Thinking Dispositions Between Chinese and American College Students National Council for Excellence in Critical Thinking." the study shows no relation between critical thinking disposition and age.

There was a negative relationship between clinical judgment skills and age whenever the all age the more the experience in critical judgment study. This study similar to Mloon (2015) [16] who studied "The Impact of Critical judgment skills Disposition in Learning Using Business Simulation" that stated no relation between clinical judgment skills and age. This study dissimilar to Devitt (2018) [8] who studied "Clinical judgment skills in Health and Social Care Thinking Critically about Critical Thinking" stated a negative relationship between clinical judgment skills and age.

There was a relationship between critical thinking disposition and residence, there are highly statistically significant differences between rural and urban, these finding are similar to Nisbet (2014) [17] who studied "Evaluating the Impact of Consent & Capacity: Everyday Decision-Making In Long -Term Care On Staff Critical Thinking Disposition" found that more than half of the study sample were from urban are rural area.

In the current study, the result revealed that a positive correlation more than females students from urban had a positive correlation more than the rural area. There were highly statistically significant differences between all dimensions of critical thinking, clinical judgment skills according to sex and residence. This result similar to Lewis *et al.* (2012) [14] who studied "Critical Thinking Dispositions of Tennessee Agriculture Teachers" that stated there are highly statistically significant differences between all dimensions of critical thinking, clinical judgment skills according to sex and residence.

## Conclusion

The study concluded that there are highly statistically significant differences between nursing student members towards critical thinking disposition and clinical judgment skills within the Faculty of Nursing at Damanhour University.

The student nurses had achieved the highest mean scores in "Truth-seeking and Open-mindedness". Meanwhile, they achieved the lowest mean score in the dispositional level characteristics of "Self- Confidence, and Maturity". Also, the nurse's student had achieved the highest mean scores in "information and unbiased assimilation of new information". Meanwhile, they achieved the lowest mean score in the dispositional level characteristics of "alternative or options factors". There are highly statistical significance between total critical thinking, clinical judgment skills, and their residence,

## Recommendation

The study recommends that the academic staff members should apply the concepts of critical thinking and judgment skills to their nursing students for improving the educational organizations. Also, enhance the learning experiences in the development of clinical thinking and clinical judgment skills, attributes and knowledge of nursing students during their placement in the clinical learning environment.

## References

1. Amini M, Fazlinejad N. Critical thinking skill in Shiraz University of medical sciences students. *Hormozgan Med J*. 2019; 14(3):213-8. [Google Scholar]
2. Anajafi F, Zera'at Z, Soltan Mohammadi Z, Ghabchipour K, Kohan F. Critical thinking skills of engineering and human sciences students. *Bimonthly Educ Strateg Med Sci*. 2019; 2(1):9-10. [Google Scholar]
3. Arsal E, Karimi-Noghondar M, Haghdoost A. Survey of critical thinking and clinical decision making in a nursing student of Kerman University. *Iran J Nurs Midwifery Res*. 2015; 17(6):440-4. [PMC free article] [PubMed] [Google Scholar]
4. Athari Z, Sharif M, Nematbakhsh M, Babamohammadi H. Evaluation of critical thinking skills in Isfahan University of medical sciences' students and its relationship with their rank in university entrance exam rank]. *Iran J Med Edu*. 2019; 9(1):5-12. [Google Scholar]
5. Babamohammadi H, Khalili H. Critical thinking in nursing students at Semnan University of Medical Science. *Iran J Med Edu*. 2018; 13:23-31. [Google Scholar]
6. Bakalis N. Clinical decision-making in cardiac nursing: a review of the literature. *Nurs Stand*. 2016; 21(12):39-46. Doi: 10.7748/ns2006.11.21.12.39.c6386. [PubMed]
7. Barkhordary M, Jalalmanesh S, Mahmodi M. The relationship between critical thinking disposition and self-esteem in third and fourth-year bachelor nursing students. *Iran J Med Edu*. 2019; 9(1):9-13. [Google Scholar]
8. Devitt H. A study on the nursing and midwifery students' trend to critical thinking and its relation with their educational status. *J Urmia Nurs Midwife*. 2018; 4(1):11-20. [Google Scholar]
9. Doyle S, Manoochehri H, Memarian R. Developing critical thinking skills in nursing students by group dynamics. *Internet J Adv Nurs Prac*. 2016; 7(2):1-12. [Google Scholar]
10. Eslami-Akbar R, Moarefi F. A comparison of the critical thinking ability in the first and last term baccalaureate students of nursing and clinical nurses of Jahrom University of Medical Sciences in 2007. *J Jahrom Univ Med Sci*. 2017; 8(1):37-45. [Google Scholar]
11. Janis IL, Mann L. *Decision making: A psychological analysis of conflict, choice, and commitment*. Free Press, 1977.
12. King WY, Lee DT, Lee IF, Chau JP, Wootton YS, Chang AM *et al.* Disposition towards critical thinking: a study of Chinese undergraduate nursing students. *J Adv Nurs*. 2015; 32(1):84-90. [PubMed] [Google Scholar]
13. Labarre, Karine et Clémence Dallaire. *Le savoir infirmier au cœur de la discipline et de la profession*. Montréal, Gaëtan Morin, chap. 13, p. 343. 21 Freely translated from Arthur Schopenhauer. *Aphorismes sur la sagesse dans la vie*. 9 10 - Leclerc, Claire-Andrée. (1991, révisé en 2007). Sur le chemin de l'expertise, 2018.
14. Lewis M, Rahnema F, Gol- Afrooz M, Mohsenpoor M. Assessment of critical thinking skill among senior student nurses. *J qual Res Health Sci*. 2012; 10(1):24-8. [Google Scholar]
15. Lily R, Saatsa S, Sharif Nia S, Molookzadeh S, Beheshti Z. [Evaluation of nursing students, critical thinking skills in Mazandaran University of medical sciences]. *Biannual J Med Educ Babol Univ Med Sci*. 2014; 2(1):29-34. [Google Scholar]
16. Mloon H. Critical thinking dispositions and learning styles of baccalaureate nursing students from China. *Nurs Health Sci*. 2015; 10(3):175-81. Doi: 10.1111/j.1442-2015.2008.00393.x. [PubMed] [CrossRef] [Google Scholar]
17. Nisbet TGS. The relationship between language, gender, age and level of critical thinking]. *Foreign language Stud*. 2014; 55:71-81. [Google Scholar]
18. Paul M. The nature of clinical judgment development in reflective journals. *Journal of Nursing Education*. 2018; 54(8):451-54.
19. Douglass, Kristie. *The Effect of the Developing Nurses' Thinking Model on Clinical Judgment in Nursing Students*, 2017
20. Popil I. Promotion of critical thinking by using case studies as a teaching method. *Nurse Educ Today*. 2016; 31(2):204-7. Doi: 10.1016/j.nedt.2010.06.002. [PubMed] [CrossRef] [Google Scholar]
21. Saleh R. *critical Thinking Disposition among Nurse Educator*. Master Thesis Submitted to Faculty of Nursing, Alexandria University, 2008, 18-19.
22. Tanner C. *Nursing education: current themes, puzzles, and paradoxes*. *Communicating Nursing Research*. 2018; 40(15):03-14.
23. Telemaque K, Seyed Zakerin M, Shahabi M, Yaghmaie F, Alavi Majd H. Comparing critical thinking skills of first-and last-term baccalaureate students of nursing, midwifery and occupational therapy of medical Universities of Tehran city. *Med Sci J Islamic Azad Univ*. 2014; 21(2):134-40. [Google Scholar]
24. Telemaque M, Sarmadi M, Ebrahimzadeh I, Zare H, Emami A, Gharib A *et al.* Enhancing critical thinking in a virtual medical education program: A qualitative study of faculty members' and students' experiences. *Strides Dev Med Educ*. 2014; 8(1):10. [Google Scholar]
25. Yildirim B, Ozkahraman S. Critical thinking in nursing process and education. *Int J Hum Social Sci*. 2018; 1(13):257-62. [Google Scholar]