

▪ **Basic Research**

Critical Thinking Disposition and Problem-Solving Aptitudes among Nursing Interns

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Abstract

Background: Critical thinking and problem-solving skills of nursing interns can enhance their competence and ensure quality care delivery. **Aim:** to investigate the development of critical thinking disposition and problem-solving aptitude during internship exposure. **Design:** Descriptive correlational research. **Setting:** teaching university hospitals in Cairo governorate. **Sample:** A convenience sample of 80 interns who passed level 4 of the graduate nursing program. **Instruments:** California Critical Thinking Disposition Inventory scale and the Problem-Solving Questionnaire. **Ethical considerations:** Approval was obtained from the Research Ethics Committee. **Data Collection:** The instruments were distributed to interns before they begin their training and after 12 months. Data were analyzed using descriptive statistics and paired sample t-tests to examine mean differences between pre-training and post-training. **Results:** Nursing interns generally scored moderately on critical thinking and problem-solving skills. The highest average percentage was observed in the "Inquisitiveness" item for critical thinking, while the lowest mean percentage was for the "Maturity". Interns with secondary school entry levels and those from technical nursing institutes displayed significantly different avoidance styles. **Recommendations:** Nursing education programs and clinical training to provide targeted interventions and strategies to enhance critical thinking and problem-solving skills among nursing interns are needed during their internship.

Keywords: Critical Thinking Disposition, Problem-Solving Aptitudes, and Nurse Interns

1. Introduction:

Nursing manpower is one of the most important resources for the success of healthcare organizations, with continuous increase in intensity and complexity of patient care particularly with the shortage of nurses put them in highly stressful situations, which require the necessity of strengthening their higher-order cognitive abilities, including critical thinking, decision-making, and problem-solving methods (**Ibrahim, Shazly & Saad, 2020**). Current nursing literature focuses on the importance of preparing nurses for the future through the internship to have a wide range of clinical skills with the ability to function in a variety of settings, as internship considers the first contact with reality and helps in shaping and enhancing their clinical skills and **experience (Poorchangizi, Borhani, Abbaszadeh, Mirzaee, and Forokhzadian, 2019)**.

A nursing intern is a person who is still within the framework of formal and accountable post-academic education where cognitive, attitudinal, and psychomotor skills are initially mastered. A student who can integrate the knowledge and theory they have gained in the classroom with practical application and the development of skills in a professional setting is one who is prepared for academic work as a nursing intern. This gives students the chance to gain beneficial real-world experience and form connections with people in the professional fields they are considering as career paths (**Safan, and Ebrahim, 2018**).

Nurses must think critically to provide effective care while coping with the expansion in role associated with the complexities of current healthcare systems. Critical thinking is considered an essential outcome in all educational settings, particularly higher education (**Meinke, 2021**). Academic educational programs should provide students with the knowledge and abilities to do research, utilize and change information, think critically and reflectively, and make higher-order decisions to survive in this highly competitive environment. Thinking is the capacity to approach problems, find irrational or rational solutions, and offer a plausible justification for the chosen course of action. Thinking can be developed, just like any other talent, in accordance with **Alsaleh (2020)**. Thinking abilities include critical thinking, problem-solving, writing, reading comprehension, scientific reasoning, creative reasoning, and problem-solving creativity.

Identification, analysis, and implementation of the best solutions are all aspects of problem-solving abilities. According to **Skeriene and Juceviciene (2020)**, how well someone perceives and experiences various parts of dealing with a problem has a significant impact on how they perceive and experience that situation. Critical thinking and problem-solving are terms used to describe the capacity to use information, facts, and data to solve problems successfully. Although you don't necessarily need to know the

answer right away, you must be able to think quickly, analyze issues, and come up with solutions.

Fitriani, Asy'ari, Zubaidah, and Mahanal (2018) define critical thinking disposition as an ability or mental habit that is incorporated into one's beliefs or actions, allowing to produce successful decisions that are the result of thought. Learners should build their own knowledge, through inquiry processes, both independently and mentally, which to perform these processes requires the willingness, sensitivity, and ability to solve the problems encountered, thus thinking critically as a skill component of lifelong learning, can be done well. Furthermore, **Boonsathirakul, (2021)**, describes the critical thinking disposition of seven characteristics, namely, truth-seeking, Analyticity, Systematicity, self-confidence, inquisitiveness, open-mindedness, and maturity.

Truth-seeking is to seek the best knowledge in each context, be courageous about asking questions, honest and objective about pursuing inquiry even if the findings do not support one's self-interests or one's preconceived opinions. There are numerous steps involved in the process of seeking the truth. A critical thinker must analyze and evaluate the amount of information available (**Manassero, Moreno-Salvo, and Vazquez-Alonso, 2022**). Meanwhile, analyticity examines the different parts or details of something by using evidence to fully understand or explain it. It is conceivable that the analytically inclined nurse clinician could be anticipated to foresee problems, such as situations that can endanger the safety or restrict the health potential of a certain patient, and to attempt to intervene (**Kabeel, and Eisa, 2016**).

Meherali, (2016), asserts that systematicity involved having effective plans and being focused while doing something; it is measured by being organized, orderly, focused, and diligent in inquiry. Few would argue that being organized is not an important element in competent clinical practice. In addition to **Ennis, (2018)** mentioned that self-confidence is believing in one's capabilities and indicates the trust one places in one's reasoning processes. A person's ability to think critically and their level of maturity both rise along with their level of self-confidence. Inquisitiveness demonstrates intellectual curiosity and a drive to learn, even when the use of the knowledge is not immediately obvious. The liberally educated individual is known for having intellectual curiosity and a thirst for knowledge (**Bellaera, Weinstein-Jones, Ilie, and Baker, 2021**).

Open-mindedness addresses being willing to listen to other people's facts that are opposite from our established beliefs and consider new ideas, suggestions, and opinions. It's important to keep an open mind if we want to be competent critical thinkers (**Quinto, 2016**). **Ordem, (2017)**. Maturity means that a person is inclined to make wise decisions. A mature person is one who approaches problems, inquiry, and decision-making with the awareness that some problems are inevitably poorly structured, some circumstances admit

of more than one plausible solution, and often judgments must be made based on standards, contexts, and evidence that preclude certainty.

Aim of study:

The aim of the study was to investigate the development of critical thinking disposition and problem-solving aptitude during internship exposure.

Significance of study:

According to the National Association of Colleges and Employers (2022), an internship is a sort of experiential learning that integrates knowledge and theory given in the classroom with practical application and skill development in a professional setting. Students get the chance to network in hospitals they are considering for future pathways and gain vital practical experience through internships.

For nurses to succeed, they must go above and beyond the responsibilities at hand to provide superior patient care. The internship year will give interns to apply what they gained before graduation and the program give them the opportunity to perform nursing-related tasks typically under the direction and supervision of a registered nurse in the hospital or medical office and can vary from technical to direct patient care. Internships also offer the opportunity to interact with real patients and will help increase the intern's confidence and familiarity with the medical field and the medical processes they have been studying. This experience will become vital when they eventually look for a full-time position. There are a lot of things that can't be learned in the lab or classroom, and this will offer them the opportunity to learn new skills.

This research is crucial as it helps understand the critical thinking abilities and problem-solving skills of nursing interns and provides insights into the competencies and readiness of future nurses to effectively handle complex healthcare situations.

Subjects and Methods:*Research Design*

A descriptive correlational research design was used in carrying out this study. Descriptive research, according to Best and Kahn (2006), uses quantitative methods to describe what is, record, analyze, and interpret conditions that exist.

Research Questions

1. What is the level of critical thinking disposition before and after the internship exposure?
2. What is the level of problem-solving skills before and after the internship exposure?

Setting

To achieve the aim of the present study data were collected from different clinical areas which are: the stroke unit, pediatric hospital; neonate, kidney, and emergency units, and intensive care unit, in teaching university hospitals in Cairo governorate.

Study Sample

A convenient sample of 80 nursing interns was utilized in this study. The sample consisted of all bachelor nursing program completers who were interns. These interns were trained in the same clinical areas but at different timing according to their rotation and providing care to different types of patients with different diagnoses.

Instruments

Data for this study were gathered using two different tools, namely:

1. *California Critical Thinking Disposition Inventory Scale (CCTDI)*. The California Critical Thinking Disposition Inventory scale was developed by (Facione, 2000). It is an international standardized tool that is valid and reliable and aims at assessing critical thinking dispositions divided into two parts:

Part 1: Socio-demographic data about the study subjects such as age, gender, and previous education if the student joined the university after secondary or nursing technical institute.

Part 2: The California Critical Thinking Disposition Inventory which was developed by Facione (2000). It consists of 75 items grouped into seven dispositional characteristics as follows: 1-truth seeking (12 items), 2-analyticity (11 items), 3-systematicity (11 items), 4-self-confidence (9 items), 5-inquisitiveness (10 items), 6-open mindedness (12 items), and 7-cognitive maturity (10 items). Responses were scored on a Likert scale with 1 representing "strongly disagree" and 5 representing "strongly agree."

2. *Problem-Solving Questionnaire*. The purpose of this instrument is to evaluate nursing students' problem-solving skills. The instrument, created by Heppner in 1988, contains 27 items divided into three domains: (a) self-confidence (9 items), (b) avoiding problems (14 items), and (c) personal control (4 items). It is valid and reliable. On a 5-point Likert scale, responses were scored from "strongly agree" = 5 to "strongly disagree" = 1.

Reliability in the current study is generally considered acceptable when Cronbach's Alpha exceeds 0.70. Based on this criterion, some of the measures fall below the desired threshold, specifically Systematicity in Critical Thinking Before (0.45) and Avoidance

Style in Problem Solving Before (0.56). These measures may have lower internal consistency, indicating that the items within these scales may not correlate strongly with each other. On the other hand, most of the measures demonstrated good reliability, with Cronbach's Alpha values ranging from 0.68 to 0.86. Particularly, Self Confidence, Inquisitiveness, Open-Mindedness, and Personal Control consistently exhibit high reliability across different time points.

Ethical Consideration

From the Private University in Cairo's Research Ethics Committee, the approval of this study was received. Participation in the study is voluntary, each intern has the right to withdraw from the study at any time. Nursing interns were assured that data will not be reused in other research without their permission, and the confidentiality of their information maintained.

Fieldwork

After official permission was obtained from the president of the private University in Cairo and the dean of the Faculty of Nursing- private University in Cairo and. After explaining the nature and purpose of the study to the interns, oral consent was obtained to participate in the study. Then, the tools were distributed by hand to nursing interns before they start the training of internship to investigate the level of critical thinking disposition and problem-solving skills and were collected immediately from the participants. The same tools were provided as an electronic copy link after the 12-month training completion.

Statistical Analysis

The collected data were coded and entered statistical package for the Social Sciences (SPSS) program version 25. Data were analyzed using the appropriate statistical methods. Descriptive statistics were used to explain the participants' demographic data and the main variables (mean and standard deviation). To answer the study research question, the paired sample t-test (dependent sample t-test) was used to determine whether the mean difference between two sets of observations is zero (before and after completing the internship). For numerical data, a correlation test was used. Reliability assessed by Cronbach Alpha.

Results:

Table 1 shows that the highest mean percentage is observed in the "Inquisitiveness" item for critical thinking before , with a mean percentage of 82%. The lowest mean percentage, however, is seen in the "Maturity" item for critical thinking before internship, with a mean percentage of 46%.

Table 2 Paired sample t-test was conducted to evaluate the impact of the internship experience on nursing interns' critical thinking and problem-solving skills. The results showed that there were no significant differences between before and after internships for nursing interns' critical thinking and problem-solving skills.

Table 3 An Independent sample t-test was performed to compare male and female nursing students' critical thinking and problem-solving skills. The results indicated that there were no significant differences between before and after internships for nursing interns' critical thinking and problem-solving skills in relation to gender.

Table 4 There were no significant differences in nursing Interns' critical thinking and problem-solving skills between nursing interns whose entry-level was technical nursing institute and whose level was secondary school except for avoidance style as one of the problem-solving subscales. Nursing interns whose entry-level was secondary school were significantly higher ($M = 3.65$, $SD = 0.33$) than interns whose entry-level was technical nursing institutes ($M = 3.45$, $SD = 0.34$) $t(78) = -1.99$, $p = 0.05$ for before.

Table 5 A correlation between interns' age ($M = 22.69$, $SD = 1.10$) and their critical thinking and problem-solving skills before and after internship were indicated in Table 5. There was no significant linear correlation between interns' age and their critical thinking and problem-solving skills before and after the internship.

Table 1: Descriptive Statistics and Reliability for Nursing Interns' Critical Thinking and Problem-Solving Skills Sum Scores (N=80)

	Items#	Min.	Max.	Mean	SD	Mean %	Cronbach's Alpha Reliability
Critical Thinking Before Internship							
Truth Seeking	12	32	60	42.91	6.30	72	.74
Analyticity	11	21	54	38.73	5.35	72	.68
Systematicity	11	30	52	38.56	4.29	74	.45
Self Confidence	9	21	45	36.26	4.49	81	.81
Inquisitiveness	10	30	50	40.86	4.24	82	.74
Open Mindedness	12	32	59	44.65	5.07	76	.66
Maturity	10	20	72	33.18	8.43	46	.60
Problem Solving Before Internship							
Confidence	9	26	45	34.10	4.04	76	.71
Avoidance Style	14	41	64	50.73	4.77	79	.56
Personal Control	4	4	20	10.90	3.70	55	.84
Critical Thinking After Internship							
Truth Seeking	12	30	58	41.61	6.02	72	.70
Analyticity	11	30	55	39.66	4.86	72	.70
Systematicity	11	29	55	38.73	5.56	70	.81
Self Confidence	9	18	45	35.86	4.93	80	.83
Inquisitiveness	10	17	50	41.24	5.02	82	.82
Open Mindedness	12	22	60	44.29	5.81	74	.86
Maturity	10	22	50	32.86	5.91	66	.79
Problem Solving After Internship							
Confidence	9	26	45	34.15	4.44	76	.75
Avoidance Style	14	38	70	49.98	6.45	79	.77
Personal Control	4	5	20	11.0	3.80	55	.83

Table 2: Nursing Interns' Critical Thinking and Problem-Solving Skills Before and After Internship (N=80)

Variable	Before		After		t	P-Value	
	Mean	SD	Mean	SD			
Critical Thinking	Truth Seeking	3.58	0.53	3.47	0.50	1.29	.19
	Analyticity	3.52	0.49	3.61	0.44	-1.13	.26
	Systematicity	3.51	0.39	3.52	0.51	-.19	.84
	Self Confidence	4.03	0.50	3.98	0.55	.52	.59
	Inquisitiveness	4.09	0.42	4.12	0.50	-.57	.56
	Open Mindedness	3.72	0.42	3.69	0.48	.42	.67
	Maturity	3.32	0.83	3.28	0.59	.28	.77
Problem Solving	Confidence	3.78	0.44	3.68	0.49	1.42	.16
	Avoidance Style	3.62	0.34	3.57	0.46	0.80	.43
	Personal Control	2.72	0.92	2.92	0.95	1.35	.18

Table 3: Gender Differences in Nursing Interns' Critical Thinking and Problem-Solving Skills (N=80)

Variable	Before				t	P-Value	After				t	P-Value	
	Male (n=41)		Female (n=39)				Male (n=41)		Female (n=39)				
	Mean	SD	Mean	SD			Mean	SD	Mean	SD			
Critical Thinking	Truth Seeking	3.58	0.44	3.56	0.60	0.16	0.87	3.48	0.48	3.45	0.53	0.25	0.80
	Analyticity	3.44	0.50	3.60	0.46	-1.46	0.15	3.56	0.32	3.66	0.54	-1.02	0.31
	Systematicity	3.52	0.39	3.49	0.39	0.31	0.76	3.47	0.41	3.58	0.59	-0.95	0.34
	Self Confidence	4.00	0.46	4.06	0.54	-0.53	0.60	3.91	0.53	4.07	0.56	-1.34	0.18
	Inquisitiveness	4.04	0.41	4.14	0.44	-1.02	0.31	4.06	0.49	4.19	0.51	-1.10	0.27
	Open Mindedness	3.72	0.43	3.72	0.42	0.06	0.95	3.63	0.49	3.75	0.47	-1.07	0.29
	Maturity	3.36	0.95	3.28	0.71	0.45	0.65	3.28	0.49	3.29	0.69	-0.09	0.93
Problem Solving	Confidence	3.70	0.42	3.89	0.46	-1.92	0.06	3.64	0.39	3.73	0.59	-.81	0.42
	Avoidance Style	3.59	0.34	3.66	0.35	-0.83	0.41	3.49	0.38	3.65	0.52	-1.53	0.13
	Personal Control	2.87	0.99	2.57	0.83	1.47	0.15	3.04	0.91	2.80	0.99	1.14	0.26

Table 4: Before and After Internship Program Differences in Nursing Interns' Critical Thinking and Problem-Solving Skills based on Their Entry Education (N=80)

Variable	Before				t	P-Value	After				t	P-Value	
	Technical nursing institute (n=12)		Secondary school (n=68)				Technical nursing institute (n=12)		Secondary school (n=68)				
	Mean	SD	Mean	SD			Mean	SD	Mean	SD			
Critical Thinking	Truth Seeking	3.42	0.46	3.60	0.53	-1.14	0.26	3.44	0.29	3.47	0.53	-0.17	0.86
	Analyticity	3.51	0.40	3.52	0.50	-0.10	0.92	3.46	0.50	3.63	0.43	-1.22	0.22
	Systematicity	3.40	0.44	3.52	0.38	-1.00	0.32	3.52	0.42	3.52	0.52	0.02	0.99
	Self Confidence	4.14	0.37	4.01	0.52	0.82	0.41	3.91	0.48	4.00	0.56	-0.53	0.60
	Inquisitiveness	4.10	0.43	4.08	0.43	0.12	0.90	4.05	0.49	4.14	0.51	-0.55	0.58
	Open Mindedness	3.57	0.50	3.75	0.41	-1.35	0.18	3.78	0.30	3.68	0.51	0.67	0.50
	Maturity	3.49	1.30	3.29	0.74	0.76	0.45	3.43	0.46	3.26	0.61	0.88	0.38
	Confidence	3.74	0.34	3.80	0.47	-0.40	0.69	3.85	0.34	3.65	0.51	1.29	0.20
Problem Solving	Avoidance Style	3.45	0.34	3.65	0.33	-1.99	0.05	3.61	0.27	3.56	0.49	0.30	0.76
	Personal Control	2.67	0.69	2.74	0.96	-0.24	0.81	2.90	0.77	2.93	0.98	-0.12	0.91

Table 5: Correlation Matrix among the Nursing Interns Age; and Their Critical Thinking and Problem-Solving Skills

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Age	-																			
2. Truth Seeking Before	.05	-																		
3. Analyticity Before	.12	.61*	-																	
4. Systematicity Before	-.11	.57*	.47**	-																
5. Self Confidence Before	.09	.05	.20	.13	-															
6. Inquisitiveness Before	-.06	.02	.37**	.16	.54**	-														
7. Open Mindedness Before	-.18	.24*	.33**	.30**	.24*	.37**	-													
8. Maturity Before	.09	.58*	.40**	.39**	-.04	-.02	.24*	-												
9. Confidence Before	.17	.21	.32**	.25*	.35**	.29**	.34**	.22	-											
10. Avoidance Style Before	-.01	.21	.30**	.44**	.12	.10	.41**	.20	.51**	-										
11. Personal Control Before	.13	.40*	.26*	.22	-.04	-.27*	.04	.37**	-.06	.23*	-									
12. Truth Seeking After	-.11	-.06	.01	-.13	.06	.08	.12	.02	-.07	-.17	-.02	-								
13. Analyticity After	-.10	-.08	-.04	-.09	-.13	.10	.11	-.02	.00	.03	-.04	.57**	-							
14. Systematicity After	-.01	.06	.01	-.10	.00	.08	.06	-.06	.09	.05	.10	.62**	.71**	-						
15. Self Confidence After	.04	.16	.07	.08	-.03	.07	.17	.14	.07	.08	.08	.31**	.48**	.53**	-					
16. Inquisitiveness After	.02	.11	.13	.17	.17	.22	.05	.04	.15	.05	.01	.24*	.42**	.45**	.62**	-				
17. Open Mindedness After	.08	-.01	-.08	-.11	.01	-.09	.02	-.09	.09	-.06	.07	.49**	.60**	.67**	.52**	.54**	-			
18. Maturity After	-.01	-.06	-.06	-.07	.02	-.02	.08	-.06	-.08	-.12	.03	.67**	.48**	.64**	.41**	.26*	.71**	-		
19. Confidence After	.11	.06	.10	-.01	-.03	.06	.27*	.08	.01	.09	-.00	.51**	.53**	.60**	.60**	.39**	.57**	.63**	-	
20. Avoidance Style After	.04	-.03	-.003	-.24*	-.03	-.06	.05	-.01	-.00	-.11	.01	.65**	.60**	.69**	.54**	.39**	.68**	.65**	.69**	-
21. Personal Control After	-.12	-.23	-.21	-.22*	-.02	-.13	-.13	-.16	-.06	-.08	.01	.52**	.37**	.50**	.06	.11	.49**	.49**	.21	.52**

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

Discussion:

Nowadays, nurses faced lots of challenges and unstable clinical conditions that require different methodologies to solve problems. Critical thinking considers one of the most important compartments in the educational process when it is included in university strategies. Therefore, problem-solving as educational strategies deem a masterpiece of critical thinking among Interns during academic studies, which will become a lifestyle after graduation.

The results of the current study showed that the "Inquisitiveness" item for critical thinking had the highest mean percentage, indicating that the nursing interns were highly motivated and interested in career advancements and innovations, which led to open minds to solve uncommon patient problems and the potential for leadership positions in the future. The study's findings also showed that nursing interns have high levels of confidence, which may contribute to their readiness for professional advancement and their ability to make the best decisions for patients' care. These decisions could lead to better nursing care plans, accurate assessments, and appropriate actions, all of which would reduce errors. This result aligns with previous studies by **Mohamed & Mohammed (2016)** and **Kabeel & Eisa (2016)**, which also found high mean scores for self-confidence and inquisitiveness, indicating a confirmed disposition toward critical thinking among nursing interns.

In terms of critical thinking maturity, interns rated lower compared to other skills, possibly due to their limited clinical experience and exposure to various healthcare roles. The transition from a controlled university environment to an unpredictable clinical setting may require more time for development. This finding is consistent with a previous study by **Mohamed & Mohammed (2016)**, which also reported a negative disposition in maturity among a significant portion of subjects.

In relation to the high rate of avoidance style in problem-solving skills which may be attributed to the interns' new exposure to the external environment, which can lead to fear of making mistakes and facing challenges under pressure. Providing social support for students, especially those with high rates of avoidance style, is crucial, as emphasized by **(Li, Han, Wang, Sun & Cheng, 2018)**.

There were no significant differences found between before and after internship training for nursing interns' critical thinking and problem-solving skills, likely due to the effective educational strategies used in the university. The integration of problem-solving courses throughout the curriculum with real practical situations may contribute to this outcome, as supported by **Ar-yuwat et al. (2019)**, who found positive impacts on critical thinking dimensions in nursing students. **Abdelwahid and Attis (2020)** used a quasi-

experimental design with 80 nurse interns in Egypt, showing significant improvements in critical thinking disposition scores after the program. This suggests that nursing educators should encourage reflective practices to enhance students' critical thinking.

Gender differences in nursing interns' critical thinking and problem-solving skills were not significant in the study sample, possibly due to the increasing number of males in the nursing profession. This change has influenced the perception that nursing is no longer exclusively reserved for women, leading to increased self-affirmation, work efficiency, and productivity in the profession. Male nurses' clear roles and responsibilities have provided them with ample opportunities to excel in their work and enhance overall performance. This finding contrasts with **Liu and Li (2017)**, who suggest that men in nursing may face challenges due to gender role transformation, dual gender power struggles, and ambiguous roles and characteristics.

Regarding the comparison between nursing interns whose entry-level was technical nursing institute and secondary school in critical thinking and problem-solving skills, no significant differences were found except for avoidance style in problem-solving. Secondary school entry level scored significantly higher in this subscale. The preference for avoiding problem-solving is more common among nursing interns who entered the field after secondary school, potentially due to teaching methods that unintentionally encourage this approach. Additionally, interns who entered through a technical nursing institute may have entered the profession earlier, allowing them to gain more experience with challenging situations, which may impact their problem-solving abilities.

The study found that age does not significantly impact nursing interns' critical thinking and problem-solving skills, possibly due to the narrow age range and varying experiences, education, training, and individual differences among interns. This aligns with the findings of **Azazi Fini et al. (2015)**, who also reported an insignificant correlation between critical thinking and age among nursing students.

Conclusion

The study found that the highest mean percentage for critical thinking was observed in Inquisitiveness, followed by self-confidence. However, maturity in critical thinking was rated lower than other skills. There were no significant gender differences in the study sample. Additionally, the only significant difference in problem-solving subscales was for avoidance style.

Recommendations

Based on these findings the subsequent recommendations should be followed:

1. Training should be conducted for interns to support critical thinking skills.
2. Prior to enrollment, a student's critical thinking and problem-solving abilities must be evaluated during the interview process for nursing college admission.
3. Periodic evaluations of nursing students' capacity for problem-solving and critical thinking should be developed.
4. The study suggests future research should investigate critical thinking dispositions and problem-solving skills among nursing students in diverse settings, utilizing a larger sample size, and qualitative questions, and exploring additional variables such as educational methods, teaching strategies, clinical experiences, and self-efficacy beliefs.
5. Future research could explore the effectiveness of interventions aimed at enriching critical thinking and problem-solving skills among nursing interns. Intervention programs, such as workshops, simulations, or reflective exercises, can be designed and implemented to assess their impact on skill development and performance.

Limitations:

1. Convenience sampling: Convenience sampling: The results may not be as generalizable when convenience sampling is used. Due to the selection process's potential for bias and its restriction of the representation of the greater community of nursing interns, participants were chosen based on their accessibility and availability.
2. Reliability of some measures: Some measures exhibited lower reliability (e.g., systematicity in critical thinking before and avoidance style in problem solving after). This may affect the internal consistency and accuracy of the measurements, potentially influencing the results and interpretations. However, the reliability of all measures after was high.

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الملخص العربي

مهاره التفكير الناقد وجداره حل المشكلات بين طلبة تمرير الإمتياز

مقدمة: يمكن لمهارات التفكير النقدي وحل المشكلات لطلبة تمرير الإمتياز من تعزيز كفاءتهم وضمان تقديم رعاية عالية الجودة. **هدف الدراسة:** التحقيق في تطور التفكير النقدي والقدرة على حل المشكلات أثناء التعرض للتدريب. **تصميم البحث:** تم تطبيق البحث الوصفي الارتباطي. **مكان الدراسة:** بعض أقسام من مستشفيات المعاهد التعليمية بالقاهرة. **عينة الدراسة:** عينة ملائمة من 80 متدرِّبًا اجتازوا المستوى 4 من برنامج التمريض للخريجين. **أدوات الدراسة:** مقياس قائمة الجرد لكالفورنيا للتفكير النقدي واستبيان حل المشكلات. **نتائج الدراسة:** تم توزيع الأدوات على المتدربين قبل أن يبدأوا تدريبهم وبعد 12 شهرًا. تم تحليل البيانات باستخدام الإحصاء الوصفي واختبارات t للعينة المزدوجة لفحص متوسط الفروق بين ما قبل التدريب وبعد التدريب. **خلاصة الدراسة:** خلصت الدراسة على حصول تمرير الإمتياز عمومًا على درجات متوسطة في مهارات التفكير النقدي وحل المشكلات. ولوحظت أعلى نسبة مئوية في بند "حب الاستطلاع" للتفكير النقدي، بينما كانت أدنى نسبة مئوية في بند "النضج". طلبة الإمتاز من المدارس الثانوية وأولئك من المعاهد الفنية التمريض أظهروا إختلاف ملحوظ في أساليب تجنب المشاكل. **التوصيات:** هناك حاجة لبرامج تعليم التمريض والتدريب السريري لتوفير تدخلات واستراتيجيات هادفة لتعزيز التفكير النقدي ومهارات حل المشكلات بين المتدربين في التمريض أثناء فترة تدريبهم.

الكلمات الدالة: مهارة التفكير الناقد، مهارات حل المشكلات ، طلبة الإمتياز