

# Exploring Critical Thinking Dispositions among Fourth Year BSc Nursing Students of Various Colleges of Nursing, Pakistan

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## Abstract

**Background:** Critical Thinking (CT) dispositions in nursing are prominent predictors of competence in delivering high-quality care, and of professionalism, in newly graduated nurses. CT skills, in isolation of CT dispositions, do not guarantee success in the workplace, because Critical Thinking Dispositions (CTD) are important elements of intellectual reasoning that simulate a person towards using the CT skills. Therefore, nursing educational programs should promote lifelong learning rather than focusing on transferring the content of nursing knowledge only. And for this purpose, quality education is the key. Education should focus on teaching from diverse perspectives, incorporating various teaching learning strategies that are congruent with the modern era. **Purpose:** The purpose of this study is to explore critical thinking dispositions among final year Baccalaureate Nursing students of various military colleges of nursing, in Pakistan. **Methodology:** A descriptive qualitative exploratory study design was used to investigate the CTD of BSc final year nursing students. The study population included twelve willing nursing students, from six military colleges across the country. Demographic information and consent was taken from the participants of the study. In-depth interviews, through a semi structured interview guide, and probes were used to obtain data related to personal experiences of CTD amongst the nursing students. **Results:** Data analysis showed two broad themes: 1) Perceptions of CT, and 2) Experiences of CT dispositions. In theme one, the emerging category was: Clarity of CT; whereas in theme two, the categories that emerged were: a) Truth Seeking, b) Open Mindedness, c) Inquisitiveness, and d) Self Organization. **Conclusion:** The findings of the study revealed positive dispositions towards truth seeking, open mindedness, and self-organization, whereas disposition towards inquisitiveness was weak. Self-confidence and maturity also

emerged as positive factors that the students possessed. This study recommends that faculty and learners should extend their concept of CTD, and emphasizes its application in daily routine. Additionally, faculty should modify their instructional strategies and focus on the cultivation of dispositions of inquisitiveness, curiosity, and allow questioning by students in the class.

## Keywords

Critical Thinking, Critical Thinking Disposition, Nursing Students

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## 1. Introduction

Critical Thinking (CT) in nursing is a significant element in high-quality care and professionalism which is achieved through the quality of education. Hence, the quintessence of teaching and learning has its roots in developing CT Dispositions in nursing students so that they are able to meet the 21st-century challenges and are equipped to tackle unpredictable situations in highly diversified environments [1]. Furthermore, graduate nurses experience a high level of apprehension and anxiety while moving from a familiar educational setting into the acute care hospitals as a practicing nurse. This transition becomes increasingly difficult as it carries a heavy burden of expectations to rapidly function as a person with CTD [2].

According to Reference [3], CT has a deep association with personal skills, attitudes, and dispositions required of a critical thinker. They further state, “critical thinking disposition represents an inclination of a person to use possessed skills such as: analyzing, applying standards, discriminating, information seeking, logical reasoning, predicting and transforming knowledge” (p. 357). Based on the 1990 Delphi study expert consensus, Reference [4] describes CTD in these words: truth-seeking, inquisitiveness, fair-mindedness, analyticity, flexibility, systematicity, self-confidence, maturity and respect to entertain diverse viewpoints.

The National Policy on Education, Pakistan, indicates that the curriculum of nursing education should inculcate critical thinking, problem-solving skills, inquiry habits, autonomous learning, and group dynamics among learners [1]. Moreover, active teaching methods encourage the use of higher-order thinking and enhance CTD. Some of these strategies are problem-based learning, reflective writing, concept maps, jigsaw simulations, etc. [5]-[10]. However, developing CTD in students is often overlooked by teachers who use traditional teaching pedagogies and find it difficult to shift to the usage of student centered pedagogies [11]. Another reason could be that, in nursing education, the focus is more on teacher directed learning, content coverage, and disease-oriented learning pedagogies, with the sole purpose of instilling basic and relevant theoretical knowledge required for practice. The assumption here is that this aspect of CTD is neglected in the content of nursing education. So, there is a need to identify the

gaps and find the areas of improvement in pedagogical practices, and to train faculty to promote the development of nursing students who are critical thinkers, and are able to handle complex situations with absolute knowledge and scientific evidence.

### **1.1. Purpose of Study**

The study purpose was to explore the critical thinking dispositions present among the final year BSc Nursing students in the various Colleges of Nursing, Pakistan.

### **1.2. Study Question**

What are the critical thinking dispositions present among final year BSc nursing students of various Colleges of Nursing in Pakistan?

### **1.3. Significance of the Study**

A detailed literature review showed that promoting CTD was a neglected content in nursing education in Pakistan. The few studies that have been conducted on CT in Pakistan have focused on the curriculum at the school and college level [12]; some on strategies enhancing CT in students [9]; and one study focused on how CT is perceived and practiced by educators in higher education [12]. However, to the best of the researcher's knowledge, this study will be the first study to explore the CT dispositions in nursing students of military colleges across the country.

## **2. Literature Review**

A comprehensive and structured search was conducted to analyze the published literature in relation to CT dispositions among nursing students.

### **2.1. Historical Perspective of Critical Thinking**

Critical thinking, tracing its roots back to the eighteenth century [13], gained specific terminology in 1989 [14]. Ancient philosophers like Socrates emphasized the importance of questioning, with Plato and Aristotle further defining it as a dialogue within the soul and a combination of abstract and moral reasoning [15]. Critical thinking has since been linked to reflective judgment, problem-solving, and the scientific method [4]. Its teaching began in kindergarten and was later emphasized in nursing education programs [12], with ongoing global efforts to describe and teach this essential skill.

Delphi Survey, 1990: Various authors have provided definitions of critical thinking, reflecting its complex nature. This diversity led to confusion, prompting [16] to coordinate a consensus on the definition. The American Philosophical Association conducted a Delphi Survey, involving 46 experts from North America, resulting in a comprehensive definition. Critical thinking, as per this survey, encompasses a range of qualities, including curiosity, rationality, open-

mindfulness, honesty, and persistence [16]. Importantly, it integrates cognitive skills with affective dispositions.

## 2.2. CT Skills and Dispositions

The key factor in the interpretation of CT is that it is not a method but a process or, in other words, it is mind orientation encompassing the affective and cognitive domains [17]. Cognitive skills are necessary for judgment, by engaging in analyzing, interpreting, evaluating, and regulating self [7]; whereas affective or personality attributes refer to dispositions or inclination, sensitivity, as well as the ability [17].

## 2.3. Critical Thinking Dispositions

The person is considered a critical thinker who is able to apply CT dispositions or habits of minds in his actions, beliefs and thoughts, which are determined judiciously.

Reference [16], explained a person's dispositions as follows:

**Open-mindedness.** The ability to appreciate different perspectives or willing to respect people having alternative opinions.

**Inquisitiveness.** Curiosity and enthusiasm in wanting to acquire information about working on things, even though the application is not required immediately.

**Truth-Seeking.** Possessing the courage to ask questions to gain knowledge, even if the knowledge obtained is against beliefs.

**Analyticity.** Analyzing and utilizing verified information with the application of reasoning to anticipate consequences.

**Systematicity.** Approaching different levels of complex problems with focus and diligence.

**Self-Confidence.** Trusting one's thinking or decision making skills, which are rational or scientific, and respond to societal as well as individual values.

**Maturity.** Making timely decisions even when faced with complex situations and issues.

## 2.4. Studies Related to CT Disposition

CT dispositions are highly regarded in nursing and have been extensively researched globally. Reference [18] conducted a literature review revealing differences in CTD between Asian and non-Asian nursing students. Among 795 articles reviewed, only 73 focused on nursing students' CT skills and dispositions, with just 15 assessing CTD specifically. These studies highlighted a limited focus on CT dispositions in educational practices, with Asian students tending to score lower than their non-Asian counterparts.

Reference [19], conducted a study in Egypt, finding a positive correlation between learning approaches and CTD in nursing students. The study recommended integrating diverse learning methods into the curriculum to enhance

CT skills. However, many students showed low truth-seeking scores, possibly due to passive learning methods and reluctance to ask questions.

Educational trends in Pakistan still focus on teacher centered approaches and allow minimum amount of CT promotion in students [20]. This is supported by reference [21], where they indicated that in the Pakistani education system, the main focus is on rote learning, where transfer of factual information is a priority and emphasis is on superficial knowledge, neglecting underlying meaning. Reference ([20], p. 131) states that teaching in Pakistan “heavily relies on dictation” and “examinations are the tests of memory” this particular issue is also signaled previously by various other scholars in Pakistan [22] [23]. Educational reforms are needed to “develop students, not as a memorizer of given information but as a searcher and explorer of the information” ([24], p. 2020).

Cultural stereotypes persist in education, with the expectation of complete silence in class reflecting respect for teacher authority [20]. This traditional approach has been criticized by Pakistani educationist [22] for hindering the development of critical thinking (CT) and logical reasoning skills. In Pakistan, institutions often limit CTD by emphasizing reverence for teachers as spiritual figures [20].

Moreover, teachers themselves have limited knowledge about how to cultivate CT amongst students. The research survey conducted on 309 Turkish prospective teachers [25], also highlighted that CT dispositions of teachers is at a medium to low level. Therefore, developing CTD of the educators first is very vital. Although, in Pakistan, there is awareness amongst educators regarding the need for a paradigm shift to modern educational strategies, but, as yet, this has not been achieved [26] [27].

Educational institutes in Pakistan, focus on the rote learning [28] and teachers usually take the role of information givers rather than that of a facilitator [23] [29] [30]. Moreover, in the Pakistani educational system, classes are lecture-based, notes are dictated, and students listen to the lectures, with the purpose of enabling them to transmit textbook knowledge [20]. No study was found on nursing students of Pakistan that identified their CTD, especially in the military setting, where the education system is quite different from other colleges.

### 3. Methodology

A descriptive qualitative exploratory study design was utilized to explore the student nurses' CT dispositions. The study population included nursing students of final year BSc nursing program from all six military nursing colleges located in different cities of Pakistan. The purpose of selecting all six military colleges was to study the phenomenon in a variety of locations and contexts. For creating a heterogeneous purposive sample, students from each military college were chosen.

#### 3.1. Sampling Protocol

Purposive sampling was utilized to answer the research question and to recruit

the study participants based on the inclusion criteria. Permission to gather data from six nursing colleges was obtained from the concerned authority and approval to conduct this study was taken from the Ethics Review Committee of the Aga Khan University, Karachi, Pakistan. Written informed consent was obtained from the nursing students for participation. Moreover, the privacy, confidentiality and anonymity of the participants was also maintained.

The sampling process involved obtaining lists of final year BSc nursing students from each college's administration department. Study participants were then recruited from these lists, briefed about the study details, and selected based on predetermined criteria. Full time nursing cadets who were final year BSc Nursing Students were selected. The final sample size was two participants from each setting, which made a total of twelve participants. Appropriate data saturation was achieved at the tenth interview in this study. However, two additional interviews were carried out to ensure saturation.

### **3.2. Data Collection and Analysis**

Participant's demographic data was gathered before conducting in-depth interviews exploring critical thinking dispositions in nursing students. Interviews were conducted in various locations, respecting participant preferences, and recorded with consent in both English and Urdu. Non-verbal cues were noted via field notes. Transcriptions of interviews were coded and securely stored, followed by content analysis to identify themes and categories. Relevant data was extracted and grouped into codes, refined through repeated recognition and revision. Themes were generated and interpreted, with literature review aiding in refinement. Conclusions were drawn, verified against existing literature, and supplemented by interview field notes.

## **4. Findings**

The demographic details of the participants have been described in **Table 1**.

### **4.1. Perceptions of CT and Experiences of CT Dispositions**

The interview data focused on describing what is CT and CTD. **Figure 1** depicts these two themes, categories, and their subcategories.

#### **4.2. Theme 1: Perceptions of CT**

From the first theme, one category emerged: clarity of CT. which represents the students' understanding of CT, and their attributes. In response to a question about what is CT, the participants gave various definitions. They defined CT, as problem-solving skills, management or handling of critical situations, decision making, analysis, deep rational thinking, and utilizing CT skills, such as intellect, evidence-based practice, exploring a problem, and reaching a conclusion. However, when participants were asked to define the attributes of a critical thinker, they were unable to differentiate between CT skills and dispositions, and some merged both the terms.

**Table 1.** Demographic characteristics of the participants.

Characteristics	N (12)	(%)
<b>Institution</b>		
College of Nursing 1	2	16.6
College of Nursing 2	2	16.6
College of Nursing 3	2	16.6
College of Nursing 4	2	16.6
College of Nursing 5	2	16.6
College of Nursing 6	2	16.6
<b>Age</b>		
21 years	2	58.3
22 years	7	25
23 years	3	0
<b>Gender</b>		
Male	0	100
Female	12	0
<b>Marital status</b>		
Married	0	100
Unmarried	12	91.6
<b>Qualification</b>		
Intermediate (FSc)	11	8.3
Undergraduate (BSc In Zoology)	1	16.6

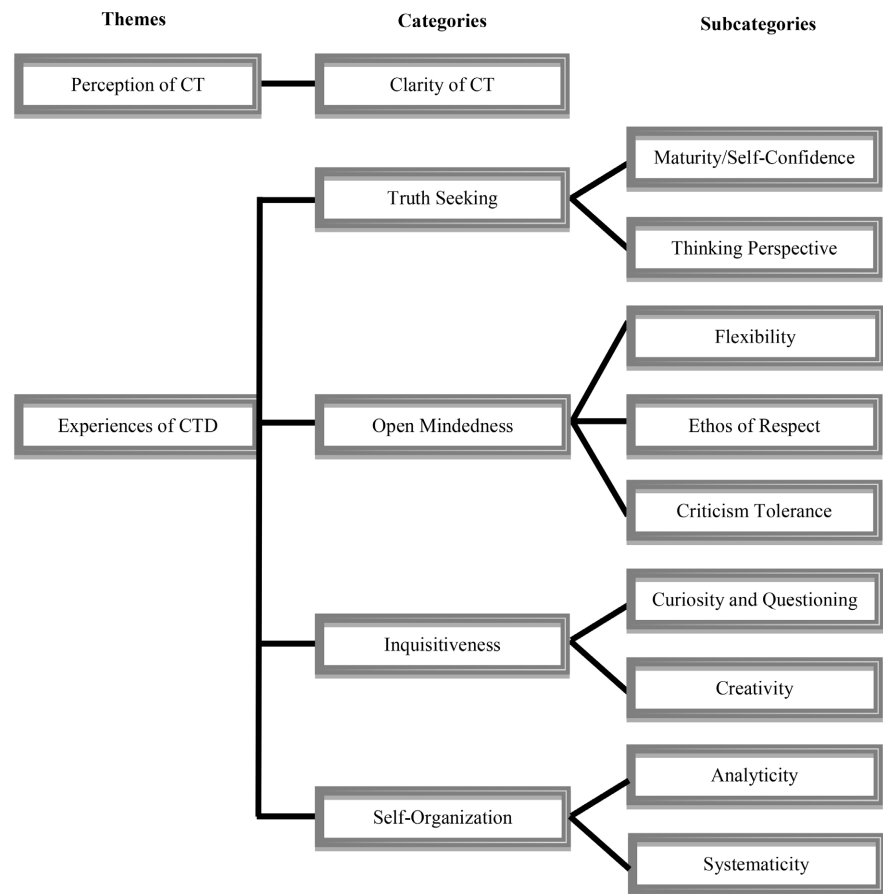
### 4.3. Theme 2: Experiences of CT Dispositions

The second theme that emerged from different excerpts of the participants was experiences of CTD. It consists of four categories: truth-seeking, open-mindedness, inquisitiveness, and self-organization. The theme is described as follows:

#### 4.3.1. Category 1

**Truth seeking.** Questions to explore truth-seeking, resulted in two subcategories as many participants' expressed their maturity and self-confidence as explanation of truth seeking disposition, and they talked about how they trust their thinking skills while pursuing truth. Therefore, the subcategories are: Maturity/Self-Confidence and thinking perspective.

**Maturity and Self-Confidence.** Questions related to pursuit of truth and approach towards problems in life, produced response about their internally and externally driven support system to manage problems. A participant, referring to an internally driven personal resource, was confident on self-effort to collect all the required information for grasping the gist of the situation, clarifying ideas,



**Figure 1.** Study themes, categories and subcategories.

and thinking of all possible solutions that one can undertake for arriving at a conclusion. Few talked about the use of external resources and said: “*It is wise to take guidance from your teacher, parents, friends, siblings or a skilful person around you*” (2c4). Some students responded that they exhibited anxiousness, frustration, and tension when they faced problems and they did not disclose them.

**Thinking perspectives.** Thinking perspectives is about expression of own thinking attributes. Majority of the participants elaborated that they re-evaluated their ideas through related articles and standing operating procedures (SOPs) etc., which helped them to understand the flaws and provided them a chance of filling the gaps; improved their work and produced better results.

#### 4.3.2. Category 2

**Open-mindedness.** The subcategories of flexibility, ethos of respect, and acceptance of criticism emerged from the participants’ excerpts when asked about open-mindedness.

**Flexibility.** This was questioned in terms of how much flexibility was there as an individual and as a part of military organization. Some said that the military culture was very strict in inculcating discipline, self-control, good communica-



tion, and positive attitude and behavior. One participant expounded: “*Frankly speaking, before joining military college, I was very rigid in terms of attitude and self-control, but now I’m flexible*” (3c6). Moreover, few said that it was their professional demand to be flexible, especially towards patients and families. Furthermore, 80% students admitted their mistakes.

**Ethos of Respect.** As far as acceptance of peer’s viewpoint was concerned, 100% students responded that as the military culture has an ethos of respecting others, it has taught them to accept people with different cultures, background, religion, and languages.

**Criticism tolerance.** Open-mindedness is also explained as tolerance of criticism. Majority of participants took it positively, as a way of learning from mistakes, guidance for betterment, and personality improvement approach. However, a student also said: “*Criticism is just like a mother-in-law’s taunting*” (3c6).

### 4.3.3. Category 3

**Inquisitiveness.** Various perceptions emerged when the participants were asked questions related to inquisitiveness.

**Curiosity and Questioning.** This subcategory describes participants’ intellectual curiosity and learning desire. When the participants were asked about asking questions in the classroom, they replied that questioning keep them alert, lecture more absorbing and interactive class enhance learning. However, majority students said that they do not ask questions during class. One student shared: “*I don’t ask questions, I try to answer my question by myself*” (4c3, 6). The attitude of the faculty was considered responsible for reluctance in asking questioning, as verbalized by one participant: “*Teachers mostly mind our asking questions. They become irritated, because they think that we are asking questions to test and degrade them*” (4c3, 9). A few students even verbalized negative remarks by the faculty upon asking questions, which disheartened them. For example: “*I used to ask many questions but, later, I quit and regret that thing because most of my questions were not answered... teacher’s response was “It is not of your level” and Google for details. If I have to Google things, then why the hell I’m sitting in the classroom?*” (4c3, 6). One student said: “*Yes it’s very fearful to ask a question to the senior*” (8c3, 3). One more student said: “*I interrupted my teacher and asked the question while she was explaining us something. She said, have some patience, you will get the answer later*” (8c3, 4). Additionally, one student replied, “*There are teachers who mind questioning... although many times my concept is not clear... later, I have to search on my own*” (4c3, 9). Similarly, one student said: “*We hesitate and get frightened to ask questions... I see the mood of our teacher and then ask questions but I think hundred times about the appropriateness of the question*” (8c3, 8).

**Creativity.** Inquisitiveness is the key to creativity and innovation. When students were asked about their reaction to experiencing different innovations, the majority replied that innovation relieves stress, increases curiosity about modern discoveries, and this helps in better learning.

#### 4.3.4. Category 4

**Self-Organization.** In order to explore students' sense of organization, questions were asked, like whether students were systematic, could anticipate the consequences or did they rush into decisions quickly.

**Systematicity.** This subcategory explains participants' being an organized, focused, and orderly individual. Almost all the participants showed a positive perception about systematicity, prioritization and organizational skills in the daily schedule. For example, one participant replied, "*I feel that I live on the watch*" (6c2, 11). Furthermore, one student replied: "*I like to follow the schedule. Laziness kills me*" (6c2, 6).

**Analyticity.** The second subcategory explored students with respect to not only being alert to problematic situations but also valuing the analysis and application of evidence. Questions were asked about one's potential to anticipate consequences, to which majority replied that they had a sharp sixth sense, alerting mechanism and predicting consequences. For example, one respondent replied: "*I feel that my sixth sense is strong, and I get to know when something is going to be wrong*" (5c3, 5).

## 5. Discussion

### 5.1. Perceptions and Clarity of Critical Thinking

The participants had an overall mixed and diverse understanding of CT and showed a lack of clear distinction between CT skills and dispositions which are consistent with the studies of reference [12] and [31].

### 5.2. Experiences of CT Dispositions

Participants shared four categories of CTD: truth seeking, open mindedness, inquisitiveness, and self-organization for the second theme. Three of the four categories, *i.e.*, Truth Seeking, Open Mindedness, and Inquisitiveness are highlighted by reference [16] as CTD. Whereas, fourth one, self-organization attribute, seem to be directly related to as being organized and disciplined. This finding is supported by reference [32], reinforces that nursing students' CTD are directly related with their personal attributes as being organized.

#### 5.2.1. Truth Seeking

The study participants were asked about their truth seeking attribute, the responses revealed their maturity and self-confidence in their ways of problem management, along with their thinking perspectives. The findings of study by reference [33] are similar to the findings of the current study. Participants also stated that re-evaluation helped them understand their mistakes, improved their work quality, and led to more learning. Reference [16] considered this disposition as maturity and self-confidence, but in this study it complemented the trait of the truth seeking disposition.

Reference [16], examined CTD of two groups of army officers and concluded that truth seeking scored the lowest. Similarly, truth seeking scores were found

to be the lowest in Asian nursing students in studies by references [34] and [35]. These findings resonate to some extent with the findings of the current study as the low scores of truth seeking dispositions in this study can be attributed to passive traditional instructional environment in nursing schools. This finding concurs with studies by references [20] [22] [23], whereby nursing students of the current study struggle with questioning their faculty, which affects negatively on their ability to seek truth. A plausible solution is discussed by reference [36], and the researcher's opinion based on own experience, show that educators must teach and respond to the curriculum differently.

### **5.2.2. Open Mindedness**

The second category, revealed by the current study was open mindedness. It was found that almost all the military students were open minded and showed flexibility, ethos of respect, and acceptance of criticism. Participants stated that the military culture had helped them to improve their attitude, respect the institutional ethos and the diversity of their peers. These findings are consistent with the findings by reference [35], where he measured CTD in Egyptian nurses, and reported high level scores for open-mindedness.

### **5.2.3. Inquisitiveness**

The students were explored by inquiring about perceptions related to their curiosity, asking questions, and experiencing innovation. Inquisitiveness has yielded the highest scores in several studies conducted on nursing students [34] [35] [37] [38], which is in contrast with the current study. The current study revealed that only few students asked questions from teachers. This is in contrast to the study done by reference [39], where military officers scored the highest for inquisitiveness. The current study also revealed that in the military nursing students are taught to respect, and follow their seniors. Similarly, reference [20] also reported that cultural stereotyping along with the notion of pin drop silence, and respect for teacher's authority, suppressed inquisitiveness [20]. A study by reference [21] reported that, in the Pakistani education system, rote learning is the main focus and priority is on transfer of factual and superficial information. This restricts the students from asking questions beyond the context of lecture. Moreover, many studies in Pakistan [20] [22] [23] [40] report limiting students' CT dispositions by forcing them to respect teachers, who ought to be heard and not questioned.

### **5.2.4. Self-Organization**

The participants were asked about their self-organization skills, as in the nursing profession being systematic is important and valued [41]. The participants had a positive perception about systematicity and analyticity, which, according to them, is promoted highly in the military culture and training. These findings concur with study conducted in Saudi Arabia, Hong Kong SAR and Chinese mainland, where students demonstrated high scores in systematicity and analy-

ticity [18] [41].

## 6. Conclusion

The findings of the study revealed positive dispositions towards truth seeking, open mindedness, and self-organization; whereas, disposition towards inquisitiveness was weak. The dispositions of self-confidence and maturity were also present positively. Furthermore, this study recommends enhancement of faculty knowledge regarding CT disposition and modification of the instructional strategies in order to promote the cultivation of truth seeking, open mindedness, inquisitiveness, analyticity, systematicity, self-confidence and maturity. This must be done through faculty development.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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