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# aSelf-Efficacy, Emotional Intelligence, and Critical Thinking: Demographic Insights among Nursing and Midwifery Students at Islamic Azad University Branches, Iran

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**Abstract**

**Background and Purpose:**

Students' self-efficacy is considered a crucial concept in education. Various factors, including emotional intelligence and critical thinking, can influence self-efficacy. This study aimed to explore the relationship between self-efficacy (belief in one's ability to organize and complete tasks to achieve specific goals), emotional intelligence (the ability to recognize and manage emotions), critical thinking (evaluating one's own and others' knowledge to improve behavior), and demographic characteristics in nursing and midwifery students.

**Method:**

This descriptive-analytical study was conducted on nursing and midwifery students enrolled in 2020-2023 at Islamic Azad Universities of Firozabad and Kazeroon branches. 185 students were randomly selected to fill out the questionnaires on self-efficacy, critical thinking, and emotional intelligence. Data were analyzed in SPSS version 24 using Pearson's correlation coefficient; a p-value of <0.5 was considered significant.

**Findings:**

Out of the 185 participants, 78.9% were women, 66.5% were under 25 years old, and 76.2% were nursing students. Pearson's test indicated no significant relationship between critical thinking and self-efficacy (r=0.078, p=0.130). However, the creativity dimension of critical thinking was positively correlated with self-efficacy (r=0.304, p=0.001). A significant relationship was found between emotional intelligence and self-efficacy (r=0.047, p=0.046), particularly in the dimensions of self-awareness (r=0.235, p=0.001) and communication management (r=0.001, p=0.246).

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**Conclusion:**

The study revealed no significant relationship between critical thinking and self-efficacy in the students. However, a significant association was observed between emotional intelligence and self-efficacy, specifically in self-awareness and communication management. It is recommended that educational institutions should enhance their students' critical thinking and self-efficacy through courses on emotional intelligence.

**Keywords:** self-efficacy, emotional intelligence, critical thinking, nursing students

## Introduction

Learning and academic achievement have always been central to the concerns of psychologists and education experts. In recent years, efforts have been made to identify key variables that can enhance academic achievement. Among the most significant of these variables are self-efficacy, critical thinking, and emotional intelligence, which play crucial roles in students' success(2 ,1)..

Self-efficacy beliefs occupy a special place in our daily lives, influencing individual decision-making, thought processes, and approaches to problem-solving(3).. As a motivational construct, self-efficacy has a profound impact on the development of critical thinking skills. It is not only a well-known concept, defined as an individual’s belief in his/her ability to successfully perform tasks but also a reliable predictor of higher-level cognitive strategies, such as critical thinking(4).

In the nursing profession, self-efficacy is particularly influential, serving as a critical determinant of both professional performance and patient outcomes. It shapes the actions and behaviors of nurses as they care for patients, influencing not only their motivation and decision-making processes but also the way they prioritize and execute interventions. Nurses with high self-efficacy are better equipped to handle the demands of the profession and demonstrate greater resilience and adaptability in the face of challenges, such as high patient loads, complex medical cases, or emotionally taxing situations. Their resilience allows them to maintain a high level of performance even under pressure, contributing to better patient outcomes and more effective management of healthcare environments(6 ,5).. In contrast, nurses with lower self-efficacy often struggle to cope with the stresses inherent in the profession(7).. They are more likely to

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experience higher levels of burnout, which can lead to emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. Burnout not only affects their well-being but also has serious implications for patient care, potentially leading to decreased quality of care, increased errors, and lower patient satisfaction.

Moreover, self-efficacy is recognized as a key factor in fostering strong nurse-patient relationships, which are essential for effective care delivery. Nurses with high self-efficacy are more confident in their abilities, which enhances their communication with patients, promotes trust, and encourages patient engagement in their own care. These interactions are crucial in creating a therapeutic environment where patients feel valued and understood, ultimately leading to better health outcomes.(8, 9).

The impact of self-efficacy extends beyond individual patient interactions; it also plays a significant role in the broader context of healthcare teams. Nurses with high self-efficacy are more likely to take initiative, contribute to team discussions, and lead efforts to improve care processes. This proactive behavior helps to create a collaborative work environment where best practices are shared and implemented, further enhancing the overall quality of care provided by the healthcare team.

In educational settings, self-efficacy is especially important because, as Bandura noted, these environments are ideally suited for the development and reinforcement of self-efficacy beliefs(10). Students who believe in their ability to succeed in their studies are more motivated, make greater efforts, persist longer in completing their tasks, and possess higher confidence in their abilities. Self-efficacy also determines how students approach and overcome obstacles. Individuals with high self-efficacy are more likely to persist and succeed by enhancing their self-management skills, whereas those with low self-efficacy may give up easily when faced with challenges(11 ,4).

Interestingly, self-efficacy is not necessarily related to an individual's skills and abilities, but rather to their belief in their capability in specific situations. This can sometimes lead to a discrepancy between a person's behavior and their true abilities, or cause individuals with similar levels of knowledge and skills to behave differently(13 ,12).

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The relationship between self-efficacy and critical thinking has been well documented. Studies have shown that students with higher self-efficacy tend to exhibit stronger critical thinking skills. As such, self-efficacy should be considered a crucial motivational factor in the development of critical thinking, and it can also be regarded as a predictor of a student's ability to think critically(5) . Critical thinking, a cognitive process involving the examination of evidence, analysis of studies, and reasoned decision-making, has been a subject of scholarly interest since ancient time(14).. The cultivation of critical thinking skills is now one of the primary objectives of educational systems worldwide(15). Scholars such as Nolen, quoting Moore and Parker(16)., define critical thinking as the careful and reflective decision-making process concerning whether to accept, reject, or defer judgment. Similarly, Pagg associates critical thinking with higher-level cognitive processes, including analysis, synthesis, and evaluation(17). This study aimed to explore the interplay between self-efficacy, emotional intelligence, and critical thinking among nursing and midwifery students at Islamic Azad University branches in Iran, providing demographic insights into these critical educational constructs.

## Materials and methods

### Study Design

This is a descriptive-analytical, cross-sectional study conducted in 2024. The study focused on students admitted between 2021 and 2024 in the midwifery and nursing programs at the Islamic Azad Universities of Firoozabad and Kazeroon.

### Research Setting

The study was carried out at the Islamic Azad Universities of Firoozabad and Kazeroon.

### Study Population

The population for this study comprised 360 students admitted between 2021 and 2024 in the midwifery and nursing programs at the Islamic Azad Universities of Firoozabad (170 students) and Kazeroon (190 students).

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**Research Sample**

The sample size for this study was determined using the Morgan table, resulting in a sample of 186 students, but one questionnaire was excluded due to incomplete responses, leaving 185 students for analysis. The samples were selected using a stratified sampling method proportional to the population size, with one stratum comprising nursing and midwifery students from Firoozabad and the other from Kazeroon.

**Characteristics of the Study Units**

Inclusion Criteria: Nursing and midwifery students admitted from 2021 onwards and willingness to cooperate and participate in the research.

Exclusion Criterion: Lack of unwillingness to continue cooperation and presence in the study

**Data Collection Instruments**

Data were collected using a researcher-made demographic questionnaire and valid and reliable instruments measuring general self-efficacy, critical thinking, and emotional intelligence.

**Demographic Information Questionnaire:**

This researcher-developed questionnaire included seven questions on age, gender, marital status, academic major, university, year of entry, and academic term.

**Sherer and Maddux Self-Efficacy Scale:**

To assess self-efficacy, we used the 17-item Sherer and Maddux (1982) questionnaire. This scale measures individual beliefs in their ability to overcome various situations, using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." Scoring ranges from 1 to 5 for each item, with items 1, 3, 8, 9, 13, and 15 scored from low to high, and the remaining items scored inversely. The maximum score of 85 indicates "high self-efficacy," while the minimum score of 17 indicates "low self-efficacy." Sherer and Maddux (18)reported a reliability coefficient of 0.86.

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The scale has been translated and validated in Iran, with a Cronbach's alpha of 0.79 reported by Asgharnezhad and colleagues in 2004(19).

**Ricketts Critical Thinking Questionnaire:**

This 33-item questionnaire includes three subscales: creativity, cognitive maturity, and engagement. Each item is rated on a 5-point Likert scale from "strongly disagree" to "strongly agree," with scores ranging from 1 to 5 per item. The maximum score on this test is 165, while the minimum is 33. The reliability and validity of this questionnaire have been confirmed in various studies, with Cronbach's alpha for the overall critical thinking tendency reported at 0.76 by Pakmehr (2013)(20) and 0.86 by Karkashki (2014)(21) . Bayat(22). evaluated the validity of the test through test-retest correlations, yielding satisfactory results (r=0.77, r=0.88, and r=0.67 for the total sample, females, and males, respectively).

**Bradberry and Greaves Emotional Intelligence Scale:**

This 28-item scale, developed by Bradberry and Greaves (2004) and translated and validated by Ganji (2005), measures four components: self-awareness, self-management, social awareness, and relationship management. Items are rated on a 6-point Likert scale ranging from "never" to "always," with total scores ranging from 28 to 168(23). The reliability of the scale was reported as 0.88 in Ganji's study, with validity confirmed by experts and a Cronbach's alpha of 0.76 reported by Golestan(24).

**Research Procedure**

This descriptive-analytical study was conducted after obtaining the necessary approvals and ethical clearance from the university research vice-chancellor. The study was carried out by attending the Islamic Azad Universities of Firoozabad and Kazeroon and presenting an introduction letter to the relevant authorities. The sample was selected from each stratum (52.78% from Kazeroon and 47.22% from Firoozabad) using simple random sampling based on random numbers. The selected students were invited to participate in the study, and informed consent was obtained from them. They were then provided with the questionnaires, including the researcher-developed demographic questionnaire, Sherer General Self-Efficacy Scale, Ricketts

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Critical Thinking Questionnaire, and Bradberry and Greaves Emotional Intelligence Scale, which they completed.

**Data Analysis**

After data collection, the information was coded and analyzed using SPSS version 24. Descriptive statistical methods such as mean, standard deviation, frequency, and percentage were used to describe the variables under study. Pearson's correlation coefficient was employed to examine the relationships between the variables.

**Implementation Challenges and Solutions**

One of the main challenges encountered was the lack of cooperation from participants in completing the questionnaires. To address this issue and increase participation, we explained the study objectives to the participants.

**Ethical Considerations**

Following approval from the university research vice chancellor, sampling was conducted. Participants were informed about the research objectives, and informed consent was obtained. They were assured of the confidentiality and anonymity of their data by the use of coded questionnaires, and they were informed of their freedom to withdraw from the study at any time.

**Results**

The study analyzed data from 185 nursing and midwifery students who participated in the research. The demographic characteristics of the participants are detailed in Table 1.

**Table 1: Demographic Characteristics of the Participants**

| Characteristic | Category | Frequency | Percentage (%) |
|---|---|---|---|
| **Gender** | Male | 39 | 21.1 |

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| | | | |
|---|---|---|---|
| | Female | 146 | 78.9 |
| **Age** | Under 25 | 123 | 66.5 |
| | 25-30 | 55 | 29.7 |
| | 35-40 | 7 | 3.8 |
| **Field of Study** | Nursing | 141 | 76.2 |
| | Midwifery | 44 | 23.8 |
| **University** | Firoozabad | 87 | 47.2 |
| | Kazeroon | 98 | 52.8 |
| **Year of Entry** | 2021 | 50 | 27.0 |
| | 2022 | 54 | 29.2 |
| | 2023 | 81 | 43.8 |
| **Academic Term** | First | 12 | 6.5 |
| | Second | 80 | 43.2 |
| | Third | 6 | 3.2 |
| | Fourth | 53 | 28.6 |
| | Fifth | 4 | 2.2 |
| | Sixth | 30 | 16.2 |

Hypothesis 1: The relationship between critical thinking and self-efficacy

To address the first research objective, determining the relationship between critical thinking and self-efficacy among nursing and midwifery students, we used Pearson's correlation test. The results are summarized in Table 2.

**Table 2: Correlation Between Critical Thinking and Self-Efficacy**

| **Critical Thinking Dimension** | **Mean ± SD** | **Self-Efficacy Mean ± SD** | **Significance Level (p-value)** | **Correlation Coefficient (r)** |
|---|---|---|---|---|
| **Creativity** | 3.85 ± | 2.81 ± 0.416 | 0.001 | -0.304 |

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| | | | | |
|---|---|---|---|---|
| | 0.572 | | | |
| **Cognitive Maturity** | 4.06 ± 0.667 | | 0.345 | 0.070 |
| **Engagement** | 3.69 ± 0.525 | | 0.804 | 0.018 |
| **Overall** | 3.76 ± 0.495 | | 0.078 | 0.130 |

According to the results in Table 2, Pearson's correlation test revealed no significant relationship between critical thinking and self-efficacy among the students studied. Only the creativity dimension of critical thinking was significantly correlated with self-efficacy.

Hypothesis 2: The relationship between emotional intelligence and self-efficacy

For the second research objective, the relationship between emotional intelligence and self-efficacy was examined using Pearson's correlation test, as shown in Table 3.

**Table 3: Mean and Standard Deviation of Emotional Intelligence and Self-Efficacy**

| **Emotional Intelligence Dimension** | **Mean ± SD** | **Self-Efficacy Mean ± SD** | **Significance Level (p-value)** | **Correlation Coefficient (r)** |
|---|---|---|---|---|
| **Self-Awareness** | 4.29 ± 0.826 | 2.81 ± 0.416 | 0.001 | -0.235 |
| **Self-Management** | 3.97 ± 0.726 | | 0.612 | 0.038 |
| **Social Awareness** | 4.26 ± 0.752 | | 0.301 | -0.076 |
| **Relationship Management** | 4.23 ± 0.728 | | 0.001 | -0.246 |
| **Overall** | 4.17 ± 0.643 | | 0.046 | -0.147 |

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As shown in Table 3, Pearson's correlation test showed a significant relationship between emotional intelligence and self-efficacy. Further, the self-awareness and relationship management dimensions of emotional intelligence were significantly correlated with self-efficacy.

Hypothesis 3: The relationship between critical thinking, self-efficacy, emotional intelligence, and demographic features

For the third research objective, the relationship between critical thinking, self-efficacy, emotional intelligence, and demographic variables was examined using Pearson's correlation test. The results are presented in Table 4.

**Table 4: Correlation Between Demographic Variables and Self-Efficacy, Critical Thinking, and Emotional Intelligence (Significance Level)**

| **Variable** | **Gender** | **Age** | **Marital Status** | **Field of Study** | **University** | **Year of Entry** | **Academic Term** |
|---|---|---|---|---|---|---|---|
| **Self-Efficacy** | 0.937 | 0.263 | 0.216 | 0.079 | 0.005 | 0.292 | 0.005 |
| **Critical Thinking** | 0.969 | 0.547 | 0.516 | 0.731 | 0.001 | 0.025 | 0.495 |
| **Emotional Intelligence** | 0.920 | 0.081 | 0.786 | 0.246 | 0.149 | 0.127 | 0.253 |
| **Emotional Intelligence Dimensions** | | | | | | | |
| Self-Awareness | 0.418 | 0.131 | 0.636 | 0.227 | 0.228 | 0.079 | 0.256 |
| Self-Management | 0.499 | 0.173 | 0.758 | 0.741 | 0.125 | 0.734 | 0.320 |
| Social Awareness | 0.384 | 0.144 | 0.982 | 0.898 | 0.665 | 0.116 | 0.508 |
| Relationship Management | 0.826 | 0.171 | 0.944 | 0.083 | 0.256 | 0.023 | 0.211 |
| **Critical Thinking Dimensions** | | | | | | | |
| Creativity | 0.643 | 0.161 | 0.637 | 0.745 | 0.234 | 0.093 | 0.176 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cognitive Maturity | 0.821 | 0.183 | 0.380 | 0.690 | 0.111 | 0.357 | 0.425 |
| Engagement | 0.673 | 0.940 | 0.717 | 0.427 | 0.001 | 0.011 | 0.922 |

Pearson's correlation test results shown in Table 4 revealed no significant relationship between emotional intelligence and the demographic variables of the participants. However, significant correlations were observed between self-efficacy and the university attended and academic term. Additionally, significant correlations were found between critical thinking and both the university attended and the year of entry. No significant relationships were found between age, gender, marital status, and field of study with critical thinking, self-efficacy, or emotional intelligence.

Further analysis of the findings of the study indicated a statistically significant correlation between the mean scores of all dimensions of critical thinking and all dimensions of emotional intelligence (p=0.0001), as shown in Table 5.

**Table 5: Pearson Correlation Coefficient (r) between Emotional Intelligence and Critical Thinking Dimensions**

| **Dimension** | **Critical Thinking** | | |
|---|---|---|---|
| | **Creativity** | **Cognitive Maturity** | **Engagement** |
| **Emotional Intelligence** | | | |
| **Self-Awareness** | 0.611 | 0.595 | 0.505 |
| **Self-Management** | 0.469 | 0.847 | 0.547 |
| **Social Awareness** | 0.504 | 0.848 | 0.480 |
| **Relationship Management** | 0.716 | 0.653 | 0.563 |

## Discussion

This study aimed to explore the relationship between self-efficacy, emotional intelligence, and critical thinking; also, we sought to find out their association with demographic characteristics

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among nursing and midwifery students. The main findings revealed no significant correlation between self-efficacy and critical thinking, but a significant relationship was found between self-efficacy and emotional intelligence, particularly in the dimensions of relationship management and self-awareness. Additionally, a significant association was observed between emotional intelligence and critical thinking.

**Hypothesis 1:** The hypothesis that there is a relationship between critical thinking and self-efficacy among nursing and midwifery students was not supported by this study. Specifically, no statistically significant correlation was found between the overall scores of self-efficacy and critical thinking. However, a significant correlation was observed between the creativity subscale of critical thinking and self-efficacy. These findings are in contrast with those of previous studies by Dehghani et al. (2011), Shabani et al. (2011), Eisa Nazar et al. (2022), Basra et al. (2016), Argelo et al. (2018), Mohammadi et al. (2016), and Tabrizi et al. (2015), which reported positive and significant correlations between critical thinking and self-efficacy. The discrepancy may be due to differences in the tools used or the study populations.(29-25 ,13 ,12) .

Conversely, the present study results are in the same line with those of Fatahi et al. (2019).(30) , who found no significant relationship between critical thinking and self-efficacy among faculty members. Mafian and Ghanizadeh (31) , in their study on English language students, reported a significant relationship between critical thinking and self-efficacy, which differs from the current findings. For instance, Dehghani's study on "The relationship between critical thinking and self-efficacy beliefs among Ferdowsi University Students in Mashhad, Iran," conducted in a different location, might explain the variation in results. Similarly, Tabrizi's study on "The relationship between critical thinking, self-efficacy, and language comprehension ability," conducted on a different population, also yielded different results, likely due to differences in the study groups and the time elapsed since the study(29) .

Given that students' self-efficacy is a critical source of competitive advantage in any organization or university, educational managers should take measures to enhance the students' performance to achieve their educational goals. The significant relationship between emotional intelligence, critical thinking, and self-efficacy suggests that increasing the students' abilities, particularly through training in emotion regulation, could improve both self-efficacy and critical

thinking. In other words, empowering students to cope adaptively with life's challenges is likely to enhance their positive performance, flexibility, and self-efficacy.(33 ,32) .

**Hypothesis 2:** The hypothesis that there is a relationship between emotional intelligence and self-efficacy among nursing and midwifery students was supported by this study. Specifically, a statistically significant correlation was found between overall self-efficacy scores and emotional intelligence. The dimensions of self-awareness and relationship management within emotional intelligence were significantly associated with self-efficacy. These findings are consistent with those of the studies by Nasiri et al. (2019), Bagheri et al. (2019), Sayadi et al. (2016), and Abdolvahabi et al. (2016)(37-34) .

Self-efficacy refers to the individuals' perceptions of their control over their lives. People strive to control events that affect their lives to prevent adverse outcomes. Emotional intelligence, which involves the capacity to perceive, express, understand, and manage emotions in oneself and others, aligns closely with this concept.(39 ,38) The positive relationship between these two constructs may stem from their conceptual similarities. High emotional intelligence is associated with success in various life domains, leading to greater satisfaction, productivity, and effectiveness. Individuals with high emotional intelligence possess better social skills, maintain long-term relationships, have greater conflict resolution abilities, are more responsible, and are more interested in learning and achieving success. They also exhibit higher self-confidence, perseverance, and problem-solving abilities (40 ,27)..

A study by Azizeh et al. (2022) (41) in Indonesia, which examined the relationship between emotional intelligence and self-efficacy on critical thinking skills, found that emotional intelligence positively and significantly impacts students' critical thinking skills and self-efficacy. Similarly, Khoshamiyan et al. (2022) (42) found that emotional intelligence and critical thinking were positively and significantly related to professional self-efficacy among employees . Bagheri et al. (2019) (43) also found a positive and significant correlation between emotional intelligence and critical thinking among nursing and midwifery students, which aligns with the present study results. Akbari et al. (2018) (44) found a significant positive relationship between critical thinking and emotional intelligence in their study on the academic performance of nursing students. Also, Ashouri (2014) also reported a positive and significant relationship

between self-efficacy and emotional intelligence in a descriptive-analytical study on nursing students' academic performance; his results are consistent with the present findings.

Furthermore, Sarmi et al. (2015) (45) found a strong and significant relationship between critical thinking, emotional intelligence, and creativity among elementary school administrators . Afshar and Rahimi (2014).(46) also found a positive and significant relationship between critical thinking, emotional intelligence, and speaking ability among language learners. Based on the present study results and the findings of these studies, it appears that the relationship between emotional intelligence and self-efficacy is robust, even considering differences in study populations, sample sizes, sampling methods, and assessment tools.

Additionally, the current findings support Elder's theory on emotional intelligence and critical thinking, which posits that critical thinking is a key determinant of emotional intelligence quality, with a strong interaction between these two constructs. Goleman also confirmed the reciprocal relationship between emotion and thought in his study.(47)

The results of the present study indicate that the lowest score in the emotional intelligence dimensions was in self-management, which is a crucial indicator of personal development and educational success. Nursing is a high-stress profession that requires strong self-management and emotional intelligence. Therefore, based on these findings, it is essential to take significant steps to empower nursing and midwifery students in self-management (48 ,18).

**Hypothesis 3:** The hypothesis that there is a relationship between critical thinking, self-efficacy, emotional intelligence, and demographic characteristics among nursing and midwifery students was not fully supported. Specifically, no statistically significant correlation was found among the overall scores of critical thinking, self-efficacy, and emotional intelligence with students' age, gender, marital status, or field of study. However, significant correlations were observed between self-efficacy and academic terms, and university they attended. Additionally, significant correlations were found between critical thinking and year of entry and university they attended. The findings of the present study are consistent with those of Eisa Nazar et al. (2022) (26). Similarly, a study by Gloudman et al. (2013) (49) on nurses found no significant correlation

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between critical thinking, self-efficacy, and educational level as a demographic variable, which aligns with the present findings.

**Conclusion**

Overall, the studies reviewed support the present study findings regarding the relationship between emotional intelligence and self-efficacy, and the relationship between emotional intelligence and critical thinking. The only discrepancy with previous studies is the lack of a significant relationship between critical thinking and self-efficacy. This discrepancy might be due to differences in the study populations, environments, or the tools used to measure critical thinking and self-efficacy.

**Limitations and Challenges**

This study faced several limitations that could have influenced the results. One challenge was the reliance on self-reported data collection for all three variables, which may have introduced bias due to participants' subjective perceptions. Additionally, the limited time available for students to complete the questionnaires posed a challenge, as it may have affected their ability to respond thoughtfully and accurately. The relatively large number of questions in each questionnaire further compounded this issue, potentially leading to respondents' fatigue. Moreover, some students demonstrated a lack of attention to the importance of research in the areas under study, which may have impacted the quality of the data collected.

در سیستم ونکوور عنوان مقاله فقط کلمه اول بزرگ هست و بقیه با کوچک و اسم مجله همه کلمات با بزرگ شروع میشوند

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