



Factors Influencing Empathy Among Nursing Students:

A narrative review

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Abstract

Background and purpose: Empathy is essential in nursing practice and has a significant impact on patient care and outcomes. However, nursing students often struggle to develop empathic skills due to various factors. This review aims to identify and analyze the key factors that influence empathy in nursing students and provide insights for educators and policy makers to improve empathy in nursing education.

Materials and method: This narrative review follows PRISMA guidelines and uses keywords such as empathy, nursing students, and nursing education. The search was conducted in several databases, including PubMed and Scopus, with a focus on full articles in Persian and English on the topic of empathy in nursing students.

Results: Seventeen articles met the inclusion criteria after duplicates were removed, seven of which were published in English. Key factors influencing empathy were classified into personal (e.g., age, gender), psychological, and educational factors. While clinical exposure can improve empathic skills, it can also cause emotional exhaustion and negatively impact students' empathic responses.

Conclusion: Understanding the various factors that influence empathy is critical to developing effective educational strategies. By considering these determinants, nursing programs can better prepare future nurses to provide compassionate care and ultimately improve patient outcomes.

Keywords: Empathy, Nursing Students, Factors Influencing Empathy, Nursing Education.

Introduction



Empathy is a fundamental component of effective healthcare, especially for nurses who must connect with patients on a personal level. This includes the ability to understand and communicate patients' subjective experiences and perspectives, which is essential to providing individualized care(1). Empathy is characterized as a cognitive-emotional process that allows healthcare providers to become aware of another person's emotional state, allowing for deeper connection and understanding(2). This dual nature of empathy includes both cognitive empathy, which involves recognizing and understanding the emotions of others, and emotional or affective empathy, which allows individuals to psychologically experience the feelings of others(3). However, the interplay of these cognitive and emotional components remains a subject of ongoing debate.

The development of empathy begins in early childhood and relies on complex interactions within brain networks that enable individuals to recognize and respond to the emotions of others(4). The early social environment has a significant impact on a child's ability to empathize, with primary caregivers playing a crucial role in promoting this ability(5, 6). While some argue that empathy is an innate quality, it is increasingly recognized as a skill that can be taught and developed through structured educational approaches. In nursing education, educators are tasked with exploring effective teaching strategies that promote student empathy(7). Empathy training often includes behavioral listening techniques and related micro skills to improve students' empathic skills(8).

Several factors influence the level of empathy among nursing students, including interpersonal relationships, gender differences, self-efficacy, self-esteem, and satisfaction with their academic program. Research shows that interpersonal relationships are the most predictive factor of nursing students' empathy levels(9). Additionally, studies have shown that female nursing students tend to demonstrate greater empathy compared to their male counterparts(2). Interestingly, first-year master's students often demonstrate lower levels of empathy than sixth-semester students, which is likely due to the latter's greater exposure to educational environments that emphasize empathic practices (10).

Not only is empathy critical to the patient-provider relationship, but it also has a significant impact on patient satisfaction, adherence to treatment plans, and overall clinical outcomes(11). Despite the recognized importance of empathy in nursing education and practice, there is a notable lack of comprehensive reviews that specifically address empathy in nursing students. A systematic review by Levett-Jones et al. (2019) examined the effectiveness of teaching empathy to undergraduate nursing students, but did not focus on reporting current studies on the topic(12). Similarly, a scoping review by Zhou et al. (2021) identified efforts to promote and assess empathy, but these focused primarily on physicians and medical students. Therefore, it is critical to address this gap by focusing on nursing students and evaluating the existing literature on their empathic development(13).



Holistic care emphasizes providing patients with care that addresses their physical, emotional, mental, and spiritual needs(14). This approach promotes a partnership between caregivers and patients that facilitates shared decision-making regarding health needs(14, 15). An essential element of authentic presence in holistic care is empathy(16), which involves building positive interpersonal communication within therapeutic relationships. This connection helps nurses better understand patients' perceptions and needs while helping them overcome challenges or resolve problems (17). Therefore, enhancing empathy among nursing students is essential to improving patient care outcomes and promoting effective relationships between nurses and patients.

The main objective of this review is to identify and analyze the key factors that influence empathy in nursing students. By shedding light on these determinants, this article aims to provide insights that can inform educational strategies and interventions to improve empathy in nursing practice. Ultimately, fostering empathy in future nurses will contribute to better patient care and improved health outcomes(18).

Method

This study is a narrative review conducted based on PRISMA guidelines. The Latin keywords used in this study were empathy, nursing students, factors affecting empathy, nursing education, clinical exposure. The search was conducted in PubMed, Scopus and Persian databases, including Noormags, SID and Magiran without any time restrictions. Additionally, searches in Google Scholar were conducted in both Persian and English to ensure broad coverage of relevant literature. The inclusion criteria for this review included full articles published in both Persian and English that specifically addressed nursing students' empathy. In contrast, exclusion criteria included articles that were not accessible in full text and review articles that were omitted to focus exclusively on original research studies. After searching these databases, a total of 884 studies were identified. After applying the inclusion and exclusion criteria and removing duplicates, 16 articles were included in the final analysis (Figure 1).

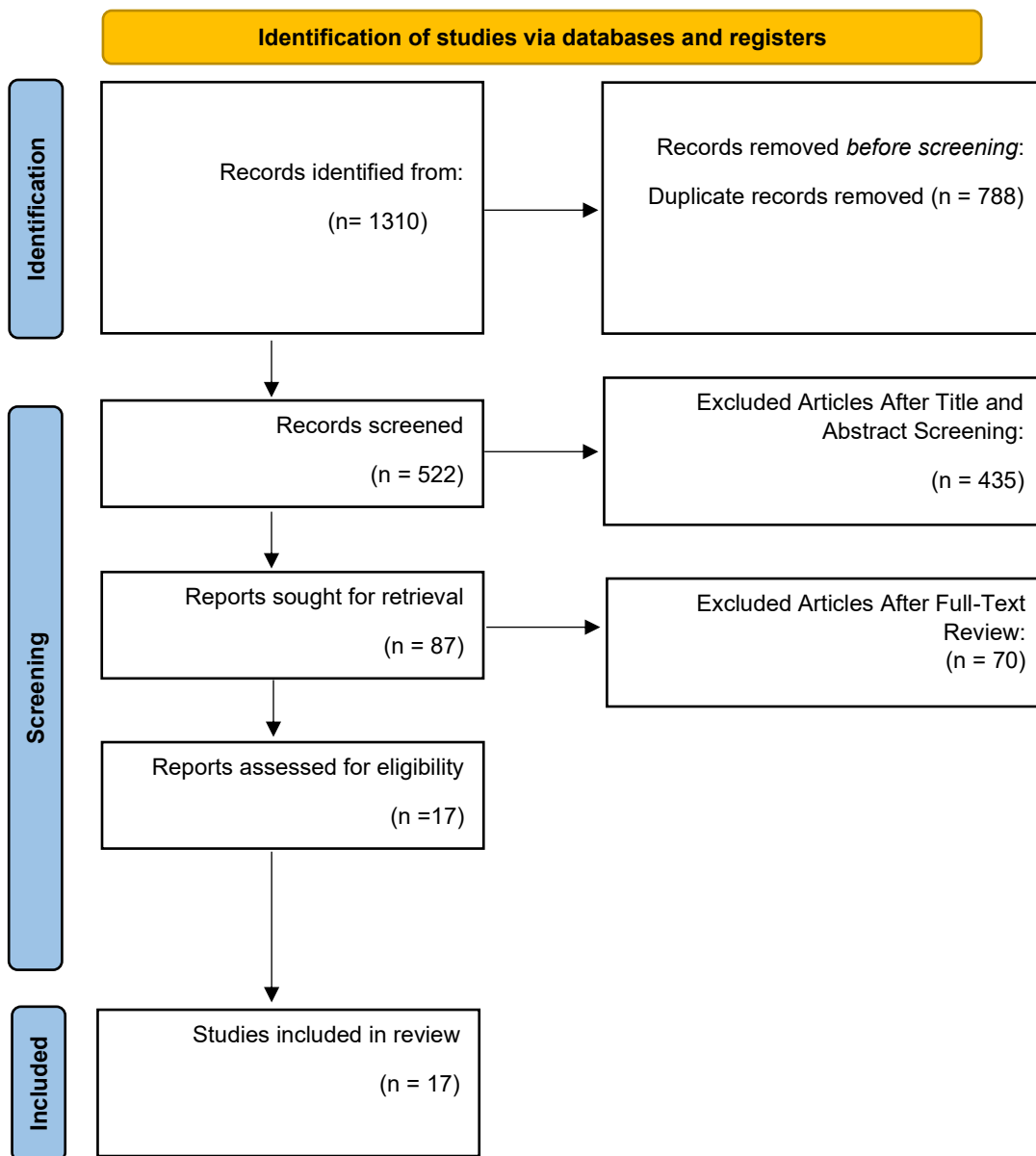


Figure 1: PRISMA Flow Diagram for Study Screening Process

Result

This systematic review conducted a comprehensive analysis of the factors influencing empathy in nursing students. A total of 17 studies were identified and included in the review. Of these, seven articles were published in English, each providing valuable insight into the various elements that influence empathic development in nursing education. The selected studies used a variety of methods, including qualitative, quantitative and mixed methods approaches, to provide a comprehensive perspective on the topic. The results of these studies highlight the complexity of empathy in nursing students and emphasize personal characteristics, educational environment, clinical experiences, and social influences as key factors. The following table summarizes the reviewed studies and provides details on their authors, year of publication, study design, and key findings related to empathy in nursing students (Table 1). This review aims to illustrate the breadth of research conducted in this area and highlight the importance of promoting empathy in nursing education.

Table1: Characteristics of Eligible Studies in the Review of Factors Influencing Empathy Among Nursing Students

Authors	Year	Study Design	Main Findings
Larti et al.	2022	Case Study	Investigated the relationship between empathy for patients and ethics in nursing among students, highlighting the importance of ethical principles in enhancing empathetic behaviors.
Ashghali Farahani et al.	2014	Cross-sectional	Investigated the level of empathy among nursing students, finding that empathy scores increased with academic year; significant relationships were noted with demographic factors such as sex and age.
Saeed Vaez et al.	2017	Quasi-experimental	The study showed significant differences in empathy scores before, after, and one-month post-psychosocial internship, indicating the internship's positive impact on empathy towards psychiatric disorders among nursing students.
Khodabakhsh	2012	Correlational Study	The study found that secure attachment styles positively correlate with empathy, predicting 53% of the variance in empathy levels, while insecure attachment styles negatively correlate,



explaining up to 76% of the variance collectively.

Maryam Madin Nasht et al.	2013	Quasi-experimental	The study found no significant differences in empathy scores before and after role-playing ($p=0.58$) and no significant change in mood scores ($p=0.75$) among nursing students participating in psychiatric internships.
Mohammad Reza Khodabakhsh and Parvin Mansuri	2012	Descriptive-Correlational	The study explored the relationship between forgiveness and empathy among medical and nursing students, finding that higher levels of forgiveness are positively associated with increased empathy scores.
Reza Rezaei et al.	2021	Quasi-experimental	The study assessed the impact of spiritual care training on nursing students' empathy levels, indicating that such training significantly enhances empathy towards patients.
Abdolzahra Naami et al.	2020	Descriptive-Correlational	The study explored the relationship between religious attitudes and prosocial behavior among nursing and medical students, indicating that empathy and altruism mediate this relationship. Higher religious attitudes were associated with increased levels of empathy and altruistic behaviors.
Marjan Mardani-Hamooleh et al.	2018	Descriptive-Correlational	The study explored the relationship between empathy and spiritual attitude among nursing students in Tehran, indicating that a positive spiritual attitude is associated with higher levels of empathy. Enhancing spiritual attitudes could improve empathetic responses in nursing practice.
Maryam Sedaghati Kesbakhi and Camelia Rohani	2018	Descriptive-Correlational	The study investigated changes in empathy levels among 122 undergraduate nursing students from the first to the fourth year, revealing a significant decline in empathy scores in the fourth year compared to the first year ($P < 0.001$). The mean empathy score was reported as 91.8 ± 28.7 .



Solmaz Saeidi et al.	2024	Comparative Study	The study compared empathy levels between first-year and final-year nursing students, revealing that final-year students exhibited lower empathy scores compared to their first-year counterparts. This decline in empathy was attributed to increased exposure to clinical environments and stressors throughout their education.
Fatemeh Hajibabae et al.	2018	Descriptive-Correlational	The study found a strong positive correlation between empathy and emotional intelligence among nursing students ($r=0.499$, $p < .001$). Fourth-year students had the highest empathy scores ($M=109.16$), while first-year students scored highest in emotional intelligence ($M=151.68$). Female students exhibited higher empathy scores than male students.
Elham Lashgari et al.	2018	Clinical Trial	The study assessed the impact of context-based learning (CBL) during psychiatric nursing internships on empathy skills among 97 nursing students. Results indicated that the intervention group showed significantly higher empathy scores compared to the control group after the internship ($P < 0.001$), demonstrating the effectiveness of CBL in enhancing empathy with patients.
Maryam Sedaghati Kesbakhi and Camelia Rohani	2019	Descriptive Study	The study involved 122 undergraduate nursing students and assessed changes in empathy levels from the first to the fourth year. The mean empathy score was 91.8 ± 28.7 , with a significant decline in empathy observed in the fourth year compared to the first year ($P < 0.001$). The findings suggest that empathy levels decrease as students' progress through their education.
Mohamed Hussein Ramadan Atta et al.	2024	Cross-Sectional Study	The study found that empathy significantly mediates the relationship between emotional support and caring behavior among intern nursing students ($P < 0.001$). Higher levels of emotional support were associated with increased empathy and caring behaviors. The findings suggest that fostering emotional



support can enhance empathetic responses, leading to better patient care outcomes.

Rahim Sharafkhani et al.	2023	Survey Study	The study investigated factors affecting levels of alexithymia, empathy, and communication skills among 365 nursing students. Results indicated a significant positive association between age and empathy, while the level of education and interest in nursing correlated with better communication skills. All predictor variables for alexithymia were found to be non-significant. The study emphasized the need for enhancing empathy and communication skills among nursing students through targeted training.
Parydokht Mohammadi Nasab	2023	Experimental Study	The study assessed the impact of empathy skills training on responsibility among nursing students. The average score for responsibility before the intervention was 19.97 ± 2.28 , and after the intervention, it was 83.88 ± 14.205 , indicating a significant difference ($p < 0.001$). The training was conducted over two months using an online platform.

This table summarizes the key contributions of each study and provides a foundation for understanding the complex dynamics that shape empathy in nursing students. These factors can be divided into three main groups: individual factors, internal factors and educational factors.

1. Individual Factors

These factors relate to students' personal and social characteristics and include the following:

- Age: Older students may have more experience, which could be associated with higher levels of empathy.
- Gender: Studies have shown that women typically score higher on empathy compared to men.
- Marital status: Marital status can influence feelings of responsibility and empathy.
- Employment status: Working while studying can impact communication skills and empathy.
- Academic year: Changes in empathy levels have been observed over the academic years, with senior students facing greater challenges.
- Interest in the field: A genuine interest in nursing can increase motivation and willingness to empathize.

- Parents' education: Parents' educational background can affect their children's attitudes and behaviors.
- Hospitalization history: Personal experiences of hospitalization can increase feelings of empathy(19, 20).

2. Psychological Factors

These factors relate to psychological characteristics and personal attitudes:

- Spiritual Attitude: A positive attitude toward spirituality can be associated with increased empathy.
- Emotional Intelligence: The ability to understand and manage one's own emotions and those of others plays an important role in empathy.
- Religious Attitude: Religious beliefs can influence social behavior and empathetic actions.
- Forgiveness: The ability to forgive others can contribute to an increased sense of empathy. Secure
- Attachment Style: Individuals with a secure attachment style generally demonstrate a greater ability to express empathy(19, 21).

3. Educational Factors

These factors relate to training and educational experiences:

- Awareness of professional ethics: Training related to professional ethics can lead to increased levels of empathy.
- Psychiatric internship experience: Practical experiences in psychiatric facilities can strengthen empathic skills.
- Spiritual Care Training: Training that emphasizes the importance of spiritual care can increase empathy.
- Context-based learning in internships: Using context-based learning methods (CBL) during internships can improve empathy(22).

Based on the studies reviewed, it is clear that a combination of individual, internal, and educational factors influences the level of empathy in nursing students. To strengthen the empathic abilities of this group, targeted educational programs and interventions should be designed that take these factors into account.

Discussion

The studies reviewed provide a comprehensive understanding of the factors that influence empathy in nursing students. By comparing the results of different research papers, we can identify common themes and significant discrepancies that shed light on the complexity of empathy development in nursing education.

Individual characteristics such as age, gender, academic year, and employment status have often been highlighted as significant influencing factors on empathy levels. For example, Hajibabae et al. (2018)



found that female nursing students generally had higher empathy scores than male students(19), a finding consistent with Mardani-Hamooleh's (2018) results, which also suggested gender differences in empathy levels(23). In addition, the studies by Kesbakhi & Rohani (2019) and Saeidi et al. (2024) found that empathy tends to decline as students' progress throughout their academic years, suggesting that increased exposure to clinical stressors may negatively impact empathic responses(20, 24). This decline highlights the need for educational interventions aimed at maintaining and strengthening empathy throughout the nursing curriculum.

Internal psychological factors such as emotional intelligence, spiritual attitude, and forgiveness were found to be critical components influencing empathy. Atta et al. (2024) emphasized the mediating role of emotional intelligence in promoting empathic behavior in nursing students and suggested that those with higher emotional intelligence are better able to empathize with patients(21). Similarly, Mardani-Hamooleh (2018) found a positive association between spiritual attitudes and levels of empathy, suggesting that promoting spiritual perspectives could improve empathic responses in clinical settings(23). These findings highlight the importance of integrating emotional and spiritual education into nursing programs to promote more empathetic healthcare workers.

The influence of educational experiences on empathy development was a recurring theme across studies. Lashgari et al. (2020) showed that context-based learning during psychiatric internships significantly improved nursing students' empathy skills, reinforcing the notion that practical experiences are essential for the development of empathic skills(22). Additionally, Mohammadi Nasab (2023) pointed out that training that focuses on professional ethics and spiritual care can lead to higher levels of empathy, suggesting that educational institutions should prioritize these areas in their curricula(25).

When comparing studies on factors that influence empathy in nursing students, several similarities emerge. Gender differences consistently indicate that female students tend to demonstrate higher levels of empathy than their male counterparts, suggesting that targeted strategies are needed to support male nursing students in developing their empathic skills. This is consistent with the results of various studies, including those indicating lower emotional intelligence scores in male students, which may contribute to their reduced empathic responses(19, 23). Additionally, the influence of academic progress shows a troubling decline in empathy observed in high school students across multiple studies(20, 24). This decline is likely due to increased stress and emotional exhaustion associated with clinical training, indicating a critical area for intervention. Finally, the role of emotional intelligence proves to be an important factor; A positive association between emotional intelligence and empathy highlights the need for educational programs that improve the emotional intelligence of nursing students(21). By addressing these factors through targeted



educational strategies, nursing programs can better prepare students for compassionate engagement in clinical practice.

Conclusion

Addressing the factors that influence empathy through targeted educational strategies is critical to effectively preparing nursing students to interact compassionately with patients. The research highlights the importance of fostering empathy, especially as studies indicate that female students generally exhibit higher levels of empathy than their male counterparts. This disparity highlights the need for specialized support to help male students improve their empathic skills. Additionally, the decline in students' empathy observed over the academic years suggests that increased stress and emotional fatigue from clinical training may negatively impact their ability to engage with patients. In summary, addressing these factors through targeted educational strategies can better prepare nursing students to interact effectively and compassionately with patients. Continuing research is essential to explore innovative methods for sustaining empathy throughout nursing education and practice, ultimately leading to better patient care outcomes and a more empathetic healthcare workforce. By prioritizing empathy development in nursing curricula, educational institutions can prepare future nurses to be not only competent practitioners but also compassionate caregivers.

The study has notable strengths and weaknesses. A key strength is the comprehensive analysis of the factors that influence empathy in nursing students, which improves understanding of this complex topic. Additionally, it offers practical recommendations for improving empathy training through emotional intelligence and context-based learning. However, the study's limited sample diversity may limit the generalizability of its findings. Additionally, reliance on self-reported measures may introduce bias as students may overestimate their empathic abilities.

Author contributions

Study concept and design: A.E. and M.R.

analysis and interpretation of data: F.A.

drafting of the manuscript: V.Sh.

critical revision of the manuscript for important intellectual content: A.E. and V.Sh.

Final approval of the manuscript: all authors

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Ethical approval

Ethical approval was not needed.

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Not applicable

Highlights

- Empathy is critical to effective nursing practice and patient outcomes.
- Many nursing students face challenges in developing empathic skills.
- Factors that influence empathy include personal, internal and educational elements.
- This review identifies specific factors that influence empathy development in nursing students.
- Clinical exposure can increase empathy, but can also lead to emotional exhaustion.
- The insights provided can help educators and policymakers improve nursing education strategy.

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