

## Review Paper

## Influential Factors on Empathy Development in Nursing Students: A Narrative Review

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**Background and Objective:** Empathy is essential in nursing practice and significantly impacts 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 influencing empathy in nursing students and provide insights for educators and policymakers to improve empathy in nursing education.

**Materials & Methods:** This narrative review follows the preferred reporting items for systematic reviews and meta-analysis (PRISMA) guidelines and uses keywords like empathy, nursing students, and nursing education. The search was conducted in several databases, including PubMed and Scopus, focusing on full articles in Persian and English on the topic of empathy in nursing students. Search in Google Scholar was also conducted in Persian and English to ensure broad coverage of relevant literature.

**Results:** After removing duplicates, 17 articles met the inclusion criteria, seven of which were published in English. The main factors influencing nursing students' empathy were demographic, psychological, spiritual, educational, and interventional factors. In particular, it was found that clinical exposure has a dual effect on empathic abilities. Although it can improve these abilities, it can also lead to emotional exhaustion and negatively influence students' empathic responses.

**Conclusion:** Our findings underscore the importance of demographic, psychological, spiritual, educational, and interventional factors, as well as the dual effects of clinical exposure on empathic abilities. Educators can promote compassionate care by integrating these findings into care programs while maintaining emotional well-being, ultimately improving patient treatment outcomes.

**Keywords:** Empathy, Nursing student, Review

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## Introduction

Empathy is a fundamental component of effective healthcare, especially for nurses who must connect with patients on a personal level. This compassion includes understanding and communicating patients' subjective experiences and perspectives, 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 cognitive empathy, which involves recognizing and understanding the emotions of others, and emotional or affective empathy, which allows individuals to experience the feelings of others psychologically [3]. However, the interplay of these cognitive and emotional components has remained 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 significantly impacts 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 explore effective teaching strategies that promote student empathy [7]. Empathy training often includes behavioral listening techniques and related micro-skills to improve students' empathy [8].

Several factors influence the level of empathy among nursing students, including interpersonal relationships, gender differences, self-efficacy, self-esteem, attachment styles, 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 than their male counterparts [2]. Interestingly, first-year master's students often demonstrate lower levels of empathy than sixth-semester students, likely due to the latter's greater exposure to educational environments that emphasize empathic practices [10].

Empathy is critical to the patient-provider relationship and significantly impacts 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 specifically addressing empathy in nursing students. A systematic review by Levett-Jones et al. (2019) examined the effectiveness of teaching empathy to undergraduate nursing students; however, it 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 efforts 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, facilitating shared decision-making regarding health needs [14, 15]. Empathy is essential to authentic presence in holistic care [16], which involves building positive interpersonal communication within therapeutic relationships. This connection helps nurses better understand patients' perceptions and needs while assisting them to 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.

This narrative review aims to identify and analyze key factors influencing hospital students' empathy and provide insights for educational strategies to improve empathic abilities. The logic behind this study lies in understanding the critical role of empathy in patient-centered care, which enables the development of effective educational interventions. Fostering empathy is vital because of the crucial role of nurses in healthcare and its impact on patient's quality of life. Increased empathy improves relationships between caregiver and patient and improves health outcomes. The results will benefit educators and policymakers and guide them to develop more effective interventions. By incorporating potential factors such as attachment styles, we offer a comprehensive perspective on developing empathy, ultimately contributing to better patient care and health outcomes [18].

## Materials and Methods

This study is a narrative review based on the preferred reporting items for systematic reviews and meta-analysis (PRISMA) guidelines. It aims to explore factors that influence nursing students' empathy. Although we took a narrative approach, our search strategy was systematic

and comprehensive. The search was carried out by a team of two with nursing knowledge using the keywords “empathy”, “nursing student”, and “review” in several databases, including PubMed, Scopus, Noormags, Scientific Information Database (SID), Magiran and Google Scholar, in both Persian and English, with no time limits. Boolean operators were used to ensure thorough research in the literature. The inclusion criteria included original research studies focused on nursing students’ empathy. The exclusion criteria included inaccessible full-text articles and secondary reviews. In particular, we examined studies that used quantitative or qualitative designs involving samples of nursing students. The interventions or comparisons were not limited but focused on factors that influenced the empathy levels of these students. The results examined included empathy measurements, such as self-defined scales. Data extraction was carried out using a standardized form that included demographic variables (e.g. authors, year), study design (e.g. quantitative or qualitative), and key findings on the empathy level of hospital students. Because of the narrative nature of this review, no formal quality assessment was carried out. However, only peer-reviewed articles were selected to ensure the results were based on solid evidence. The search process began with identifying 884 potentially relevant studies, with no time restrictions during the search phase. After removing duplicates and applying inclusion and exclusion criteria in title/abstract screening and full-text evaluation (Figure 1), 17 studies were selected for the final analysis.

## Results

This narrative review comprehensively analyzed the factors that influence empathy among nursing students. A total of 17 studies were identified and included in the review. Seven articles were published in English, offering valuable insights into the various elements influencing empathic development in nursing education. The selected studies used various qualitative, quantitative, and mixed-method approaches to provide a comprehensive perspective. The sample population consisted of nursing students from various universities in Iran (such as Tehran and Mashhad) and from other countries such as Italy and Greece. The age range was generally between 18 and 25 years. The gender distribution varied between studies. The results of these studies underscore the complexity of empathy among nursing students and highlight personal characteristics, educational environment, clinical experiences, and social influences as key factors. Table 1 summarizes the reviewed studies and provides details of their authors, year of publication, study design, popula-

tion characteristics, and key findings related to empathy among nursing students. This review is intended to illustrate the breadth of research in this area and highlight the importance of promoting empathy in nursing education.

Table 1 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: Demographic, psychological, spiritual, educational, and interventional factors:

### Demographic characteristics

These encompass inherent personal and demographic traits:

- **Age:** Studies show mixed effects. Some indicate higher empathy with age [19, 20], while others suggest empathy declines during academic years [21, 22].
- **Gender:** Studies have shown that women typically score higher on empathy than men [20, 23].

### Psychological and spiritual factors

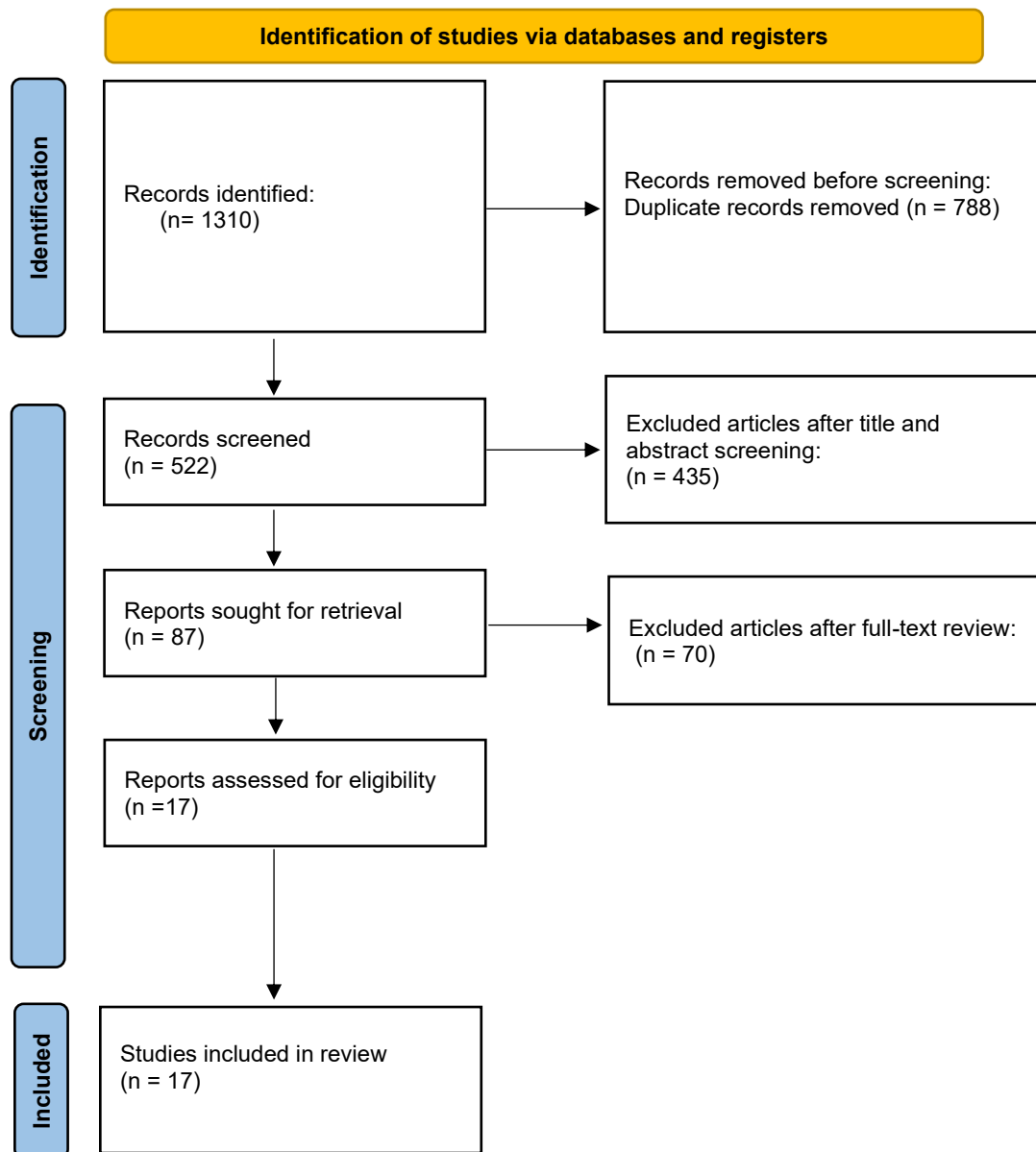
This category highlights intrinsic attitudes and psychological constructs:

- **Emotional intelligence (EI):** A strong positive correlation exists between EI and empathy [23].
- **Attachment style:** Secure attachment correlates positively with empathy [24].
- **Spiritual attitude:** A positive spiritual attitude enhances empathy [25].
- **Religious beliefs:** They are positively correlated with prosocial behaviors, mediated by empathy [26].
- **Forgiveness:** Increased capacity for forgiveness links to greater empathy [24].
- **Alexithymia:** Factors affecting alexithymia can impact empathy and communication skills [19].

### Educational and interventional factors

This domain focuses on formal training and clinical experiences:

- **Context-based learning (CBL):** CBL significantly improves empathy in psychiatric settings [27].



**Figure 1.** PRISMA flow diagram for study screening process

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PRISMA: The preferred reporting Items for systematic reviews and meta-analysis.

- **Spiritual care training:** It enhances empathy [28].
- **Psychiatric clerkship:** It improves empathy toward mental disorders [29].
- **Empathy skills training:** It increases responsibility and caring behaviors [30].
- **Exposure to clinical environments:** This may lead to decreased empathy in later academic years due to increased stress and workload [21, 22].

The results of this review underline the complex interplay of factors that influence nursing students' empathy. The level of empathy is significantly influenced by demographic characteristics such as gender, with female students generally having higher empathy scores than their male colleagues [1, 9]. Psychological factors such as emotional intelligence and attachment styles also play a crucial role, positively correlating with empathic abilities [9, 31]. Educational experiences, including clinical experiences and training programs that focus on spiritual care and contextual learning, can promote empathy but also lead to its decline due to increased stress and workload

Table 1. Key findings scoping review articles (n=17)

No.	Authors, Year	Study Design	Population Characteristics (Age, Sex, etc.)	Main Findings
1	Larti et al. 2022 [36]	Case study	Nursing students at Kermanshah University of Medical Sciences; no specific age or sex details provided.	Investigated the relationship between empathy for patients and ethics in nursing among students, highlighting the importance of ethical principles in enhancing empathetic behaviors.
2	Ashghali Farahani et al. 2014 [20]	Cross-sectional study	Undergraduate nursing students from the first to fourth year at Tehran University of Medical Sciences; female students scored higher on empathy than male students, and empathy increased with academic year and age.	Empathy scores increased with the academic year; significant relationships were noted with demographic factors like sex and age.
3	Vaghee et al. 2017 [29]	Quasi-experimental study	Nursing students participating in psychology clerkship; no specific age or sex details provided but focused on empathy toward mental disorders.	The study found that a psychology clerkship improves empathy toward mental disorders in nursing students.
4	Khodabakhsh, 2012 [24]	Correlational study	Nursing students living in dormitories of Tehran University of Medical Sciences; the sample included 130 males and 130 females.	The study found that secure attachment styles positively correlate with empathy, predicting a significant portion of the variance in empathy levels, while insecure attachment styles negatively correlate.
5	Madin et al. 2013 [37]	Quasi-experimental study	Nursing students participating in psychiatric internships; no specific age or sex details provided but focused on role-playing scenarios in psychiatric settings.	The study found no significant differences in empathy scores before and after role-playing among nursing students participating in psychiatric internships.
6	Khodabakhsh & Mansuri 2012 [38]	Descriptive-correlational study	A sample of 198 medical and nursing students (83 males, 115 females); no specific age details were provided, but participants were randomly selected.	The study found a positive and significant correlation between forgiveness and empathy among medical and nursing students.
7	Rezaei et al. 2021 [28]	Quasi-experimental study	Nursing students at Birjand University of Medical Sciences; no specific age or sex details provided but focused on the impact of spiritual care training on empathy.	The study found that spiritual care training significantly enhances empathy among nursing students.
8	Naami et al. 2020 [26]	Descriptive-correlational study	Nursing and Medical students at Ahvaz Jundishapur University of Medical Sciences; the sample included 361 students selected via convenient sampling.	The study found that religious attitudes positively correlate with prosocial behavior through the mediating roles of empathy and altruism among nursing and medical students.
9	Mardani-Hamooleh et al. 2018 [25]	Descriptive-correlational study	A sample of 272 nursing students from three medical sciences universities in Tehran; no specific age details were provided, but both male and female students were included.	The study found a significant positive relationship between empathy and spiritual attitude among nursing students, suggesting that enhancing spiritual attitudes could improve empathetic responses in nursing practice.
10	Sedaghati Kesbakhhi & Rohani 2018 [21]	Descriptive study	A sample of 122 undergraduate nursing students from the first to the fourth year; no specific age details were provided, but both male and female students were included.	The study found a significant decline in empathy scores among nursing students from the first to the fourth year of education ( $P < 0.001$ ).
11	Saeidi et al. 2015 [22]	Comparative study	First-year and final-year nursing students; no specific age or sex details provided, but focused on comparing empathy levels.	The study found that final-year nursing students exhibited lower empathy scores than their first-year counterparts, attributing this decline to increased exposure to clinical environments and stressors throughout their education.
12	Hajibabaei et al. 2018 [23]	Descriptive-Correlational study	In a sample of nursing students at Tehran University of Medical Sciences, female students exhibited higher empathy scores than male students, and fourth-year students had the highest empathy scores.	The study found a strong positive correlation between empathy and emotional intelligence among nursing students; higher emotional intelligence was associated with better empathetic skills and more effective emotional management.



No.	Authors, Year	Study Design	Population Characteristics (Age, Sex, etc.)	Main Findings
13	Lashgari et al. 2018 [27]	Clinical trial study	A sample of 97 nursing students in the fourth and fifth semesters participated in psychiatric internships; the mean age was approximately 21.6 years for the intervention group and 21.7 years for the control group.	The study found that CBL significantly improved empathy skills among nursing students in psychiatric settings compared to traditional methods ( $P<0.001$ ).
15	Atta et al. 2024 [34]	Descriptive-correlational study	Intern nursing students: No specific age or sex details were provided, but they focused on the relationship between empathy and caring behavior.	The study found that empathy mediates the relationship between emotional support and caring behavior among intern nursing students, suggesting that higher levels enhance emotional support and caring behaviors towards patients.
16	Sharafkhani et al. 2023 [19]	Cross-sectional survey	A sample of 365 nursing students in northern Iran; no specific sex distribution details were provided but focused on factors affecting alexithymia, empathy, and communication skills.	The study found a significant positive association between age and empathy among nursing students. Additionally, it highlighted the importance of improving empathy and communication skills through education to enhance patient care outcomes.
17	Mohammadi Nesbat et al. 2023 [30]	Experimental study	A sample of 130 second to fourth-year undergraduate nursing students at Maragheh Nursing and Midwifery College; no specific age or sex details were provided, but both male and female students were included.	The study found that learning empathy skills significantly increased the responsibility of nursing students over two months ( $P<0.05$ ), suggesting that empathy training can enhance professional responsibility in nursing education.

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[19, 21]. The decreased empathy observed over academic years underscores the need for targeted educational interventions to maintain empathic abilities throughout nursing education [19]. These findings emphasize the importance of integrating diverse educational strategies to promote compassionate healthcare professionals.

Discussion

Empathy, an essential component of social intelligence, has been extensively studied in various academic disciplines, including nursing. This study examined previous research on nursing students that aimed to promote empathy, identify factors contributing to their empathic abilities, and assess their levels of empathy. Because empathy is integral to compassion and kindness, it improves holistic nursing [32]. In addition, nurses show empathy through their presence, which is essential for holistic care practices [33]. By comparing the results of various research papers, we can identify common topics and significant discrepancies that shed light on the complexity of developing empathy in nursing education.

Demographic characteristics such as age, gender, academic year, and employment status have often been highlighted as significant factors influencing empathy levels. For example, Hajibabae et al. found that female nursing students generally had higher empathy scores than male students [23], consistent with Mardani-Hamoooleh’s results, which also suggested gender differences in empathy levels [25]. In addition, the studies by Kesbakhi and Rohani [21] and Saeidi et al. [22] 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. This decline highlights the need for educational interventions to maintain and strengthen empathy throughout the nursing curriculum.

Psychological and spiritual factors such as emotional intelligence, spiritual attitude, and forgiveness influenced empathy. Atta et al. emphasized the mediating role of emotional intelligence in promoting empathic behavior in nursing students. They suggested that those with higher emotional intelligence can better empathize with patients [34]. Similarly, Mardani-Hamoooleh found a positive association between spiritual attitudes and levels of empathy, suggesting that promoting spiritual perspectives could improve empathic responses in clinical settings [25]. These findings highlight the importance of integrating emotional and spiritual education into nursing programs to encourage more empathetic healthcare workers.

The influence of educational and interventional experiences on empathy development was a recurring theme across studies. Lashgari et al. showed that CBL during psychiatric internships significantly improved nursing students’ empathy skills, reinforcing that practical experiences are essential for developing empathic skills [27]. Additionally, Mohammadi Nasab pointed out that training focusing on professional ethics and spiritual care can lead to higher levels of empathy, suggesting

that educational institutions should prioritize these areas in their curricula [30].

Several similarities emerge when comparing studies on factors that influence empathy in nursing students. Gender differences consistently indicate that female students tend to demonstrate higher levels of empathy than their male counterparts. This finding suggests that targeted strategies are needed to support male nursing students in developing their empathic skills. This result 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 [23, 25]. Additionally, the influence of academic progress shows a troubling decline in empathy observed in high school students across multiple studies [21, 22]. 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 essential factor. A positive association between emotional intelligence and empathy highlights the need for educational programs to improve nursing students' emotional intelligence [34].

Compared to previous studies on empathy in nursing education, our findings are primarily consistent but also highlight essential nuances regarding the impact of academic experience on empathic development. While many studies highlight the benefits of clinical exposure for promoting empathy [35], our analysis suggests that increased stress associated with clinical education may decrease empathy levels among hospital students. This discrepancy highlights the need for nuanced interventions that balance practical experience with effective stress management techniques.

In summary, while our findings are generally consistent with existing literature on factors that influence nursing students' empathy levels, they also highlight critical areas where action is needed — particularly concerning gender differences and the academic decline in empathy. These findings can serve as a basis for targeted educational initiatives to maintain and improve empathic skills throughout nursing education.

## Conclusion

Addressing the factors influencing 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 due to clinical training may negatively impact their ability to engage with patients. Addressing these factors through targeted educational strategies can better prepare nursing students to interact effectively and compassionately with patients.

Further 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 competent practitioners and compassionate caregivers.

The study has notable strengths and limitations. 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 overestimate their empathic abilities.

## Ethical Considerations

### Compliance with ethical guidelines

This article is a review with no human or animal sample.

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This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

### Authors' contributions

Conceptualization and study design: Atefe Esmailpour Moalem; Data analysis and interpretation: Fereshteh Araghian Mojarad; Writing the original draft: Vida shafipour; Review and editing: Atefe Esmailpour Moalem, and Leila Shafipour; Final approval: All authors.

### Conflict of interest

The authors declared no conflict of interest.

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