



# International Journal of Chemical and Biological Sciences

E-ISSN: 2664-6773

P-ISSN: 2664-6765

Impact Factor: RJIF 5.6

IJCBS 2024; 6(1): 85-90

[www.chemicaljournal.org](http://www.chemicaljournal.org)

Received: 01-01-2024

Accepted: 08-02-2024

**Kawther Eltayeb Ahmed**  
Assistant Professor,  
Department of Community  
Health Nursing, College of  
Nursing, ABHA, King Khalid  
University, Abha, Saudi Arabia

**Sahar Hamdy El-Sayed**  
Professor, Department of  
Nursing Administration, College  
of Nursing, ABHA, King Khalid  
University, Abha, Saudi Arabia

**Aida Sanad Alqarni**  
Assistant Professor,  
Department of Medical Surgical  
Nursing, College of Nursing,  
ABHA, King Khalid University,  
Abha, Saudi Arabia

**Enas M Bassuni**  
Assistant Professor,  
Department of Nursing  
Administration, College of  
Nursing, ABHA, King Khalid  
University, Abha, Saudi Arabia

**Fatma Shoeib Ali**  
Assistant Professor,  
Department of Critical Care and  
Emergency Nursing, Faculty of  
Nursing, Cairo University, Giza,  
Egypt

**Sahar Mahmoud Abdulla Hashim**  
Assistant Professor,  
Department of Nursing  
Administration, College of  
Nursing, ABHA, Abha, Saudi  
Arabia

**Corresponding Author:**  
**Sahar Hamdy El-Sayed**  
Professor, Department of  
Nursing Administration, College  
of Nursing, ABHA, King Khalid  
University, Abha, Saudi Arabia

## Empathy and self-awareness among nursing interns at college of nursing, Abha, King Khalid University

**Kawther Eltayeb Ahmed, Sahar Hamdy El-Sayed, Aida Sanad Alqarni, Enas M Bassuni, Fatma Shoeib Ali and Sahar Mahmoud Abdulla Hashim**

DOI: <https://doi.org/10.33545/26646765.2024.v6.i1b.83>

### Abstract

**Objectives:** To examine the relationships between empathy and self-awareness among nursing interns.

**Methods:** This is a descriptive-correlational study that was carried out on 41 nurse interns at the Asir Hospital in the Kingdom of Saudi Arabia's inpatient departments, where nurse interns are educated, using a basic random technique. Demographic and educational factors, the Kiersma-Chen Empathy Scale, and the Self-Consciousness Scale-Revised-were used to collect data. SPSS was used to examine the data.

**Results:** The majority of nursing interns, 75.6% and 82.9%, respectively, had a moderate level of empathy and self-awareness, according to the data.

**Conclusion and recommendations:** The study's findings indicate that there is no statistically significant relationship between self-awareness and empathy. The study's conclusions demonstrate the necessity of educational initiatives that foster empathy and self-awareness in order to improve patient-centered care and provide high-quality treatment.

**Keywords:** Empathy, nursing students, self-awareness

### Introduction

In the nursing profession, developing an empathic approach and self-awareness is seen as essential to the growth of the therapeutic alliance, identifying patient needs, and delivering quality care. To completely comprehend patients' thoughts, feelings, and circumstances, a high level of empathy is necessary (Ferri *et al.*, 2019) [8].

Interns in nursing care for patients and their families. For this reason, having sufficient degrees of empathy and self-awareness is essential to providing high-quality care. Additionally, nursing interns assist patients and their families in proactively engaging in healthy behaviors and resolving any prospective health issues. Thus, enhancing patient care and results requires a strong sense of empathy and self-awareness. (Haley *et al.*, 2017) [16].

During their last year of nursing school, nursing students complete an internship year. After completing their fourth year of a bachelor's degree and having completed all of their formal coursework, students can apply for internships. This is a period of change. nursing Because there is less lecture-style education and more clinical skill development during this time, interns acquire more clinical skills. (Leufer *et al.*, 2020) [24].

In psychiatric wards, emergency rooms, surgery rooms, primary health clinics, labor rooms, and other clinical settings, nursing interns work around the clock. In order to better satisfy patients' expectations, these nursing interns are expected to pay attention to the needs and desires of the patients and to build therapeutic relationships with them. An internship is therefore a period of profound personal and professional change. A few of the changes include longer workdays, more patient care requirements, and less family time. (Brownlie & Shaw, 2019) [5].

Nursing education and internship programs should prioritize the development of empathy in their curricula because it is essential to nurse-patient interactions and clinical outcomes (Yang *et al.*, 2020) [36]. However, teaching empathy skills as a stand-alone course or as a preparatory workshop for nursing interns or students in Saudi Arabian nursing schools was not included in the nursing curriculum. Rather, these abilities were incorporated into more general courses on psychology, patient care, and professional ethics as part of the nursing curriculum (Alhamidi & Alyousef, 2021) [3].

The ability to grasp and appreciate the feelings and points of view of others in their circumstances is known as empathy. To put it simply, empathy is the ability to subjectively identify with the emotional and cognitive states of another person (Hamaideh *et al.*, 2024) [17].

The three phases of empathy are as follows: cognitive, which is when a person fully comprehends the thoughts, feelings, and perspectives of others; affective, which is when a person shows others that they fully understand their thoughts, feelings, and perspectives but is not necessarily living in their shoes; and behavioral, which is when a person acts as though they fully comprehend the thoughts, feelings, and perspectives of others (Filho *et al.*, 2020) [23].

Increased patient happiness and well-being, improved patient compliance, and a reduction in errors, problems, and treatment duration have all been associated with nurses who possess a high degree of empathy (Petrucci *et al.*, 2016) [30]. While empathy is a mutually helpful component of the interaction between a nurse and patient, a lack of it can severely impact diagnosis, treatment, and care (Kahriman *et al.*, 2016) [24].

Nursing students' empathy levels are influenced by a number of characteristics, such as their gender, academic level and semester, prior experience in theory or clinical nursing courses, and clinical practice experience. Furthermore, students' empathy levels may also be influenced by their communication skills, specializations, the patients they care for during their clinical training, clinical instructors' empathy during the training, and other factors (Dulay *et al.*, 2018; Elayyan *et al.*, 2018; Di Lorenzo *et al.*, 2019) [9, 11, 8]. The communication process, the caring process, human qualities, therapeutic interactions, and the professional condition are all important factors that support empathy in nursing partnerships (Wu, 2021) [35]. Thus, in order to preserve professional nurse-patient interactions and raise the standard of patient care, nurses should include these components in their skill development (Jahan-shahi *et al.* 2017) [20].

An individual gains a clear understanding of their own psychology, physical experience, emotional state, and daily behavior mode through a continual process known as self-awareness. People who are self-aware are able to feel what they are feeling, express their emotions openly, and have greater self-control (Rasheed *et al.*, 2019) [31]. These abilities can assist nurses improve their communication skills and help them recognize their potential, temperament, and capacity for stress management. On the other hand, the establishment of a healthy interaction between patients and nursing staff is impeded by a lack of self-awareness (Younas *et al.*, 2020) [37]. Furthermore, self-awareness fosters effective interpersonal interactions and communication among clinical nurses (Demir and Ercan, 2019) [7].

### Significance of the study

It is imperative that nursing interns comprehend both verbal and nonverbal cues. They should also learn how to respond to and handle a variety of situations rather than avoiding them. As an intern, they will be caring for patients from a variety of sociocultural backgrounds and value systems; therefore, recognizing and appreciating these differences will support the development of a therapeutic alliance, which will result in a healthy therapeutic relationship. Additionally, self-awareness refers to the genuine use of self-evaluation to analyze and guide behavior. This will enable nursing interns to create an atmosphere that fosters interpersonal relationships with patients, supporting the healing process by offering a therapeutic environment.

While research has been done in several nations to examine the idea of empathy and self-awareness among nursing interns, no studies have been conducted in Saudi Arabia or anywhere else in the Arab world. The results of research conducted in other nations may not accurately reflect Saudi Arabian nursing interns; this could be due to variations in nursing education programs and cultural values and beliefs around the globe. This suggests that nursing interns in Saudi

Arabia should have their empathy and self-awareness examined, as their attitudes and actions might be different from those of nursing interns in other nations where research has been done.

In addition to being the first research on empathy and self-awareness among Saudi Arabian nursing interns, the study's conclusions offer valuable insights for educators looking to modify the nursing curriculum. Furthermore, it could aid in formulating plans to improve students' ability to provide empathetic patient and family care as well as their own self-awareness.

### Aim of the study

This study aimed to examine the relationships between empathy and self-awareness among nursing interns.

### Research questions

1. What are the levels of empathy and self-awareness among nursing interns?
2. There is a relation between empathy and self-awareness among nursing interns.

### Subjects and Methods

#### Research design

A descriptive correlational design was used.

#### Setting

The study was conducted in all inpatient departments of the Asir Hospital, which is the training facility for nursing interns in the Kingdom of Saudi Arabia.

#### Subjects

A simple random sample of forty-one nurse interns who had successfully completed their internship training year at Asir Hospital and provided their agreement to participate was used in this study. In the academic year 2021-2022, the interns received their diplomas.

#### Tools of data collection

##### Demographic and educational variables

Age, family monthly income, average number of hours of sleep per day, eating a well-balanced diet (yes, if eating a wide variety of foods from all components including water), exercising frequently (yes, if exercising for at least 30 minutes three times per week), and degree of satisfaction with nursing studies (satisfied, not satisfied) were the demographic variables.

##### Kiersma-Chen Empathy Scale (KCES)

Was employed to gauge nursing interns' empathy levels. The 15 items of the KCES are on a Likert-type scale, with 1 denoting "strongly disagree" and 7 denoting "strongly agree." According to Kiersma *et al.* (2013) [22], the scale's total score ranges from 15 to 105, with a higher score suggesting stronger empathy. The two subscales that make up the KCES are the affective domain (6 items) and the cognitive domain (9 items). Its validity and reliability are also good. Among nursing interns, Cronbach's alpha was 0.80. The Cronbach's alpha for the current investigation was 0.81.

##### 3-Self-Consciousness Scale-Revised (SCS-R)

Was employed to gauge nursing interns' level of self-awareness (Scheir & Carver, 1985) [32]. The scale has 22 items total, which are divided into 3 subscales: social anxiety (6 items), public self-consciousness (7 items), and private self-consciousness (9 items). The SCS-R is a Likert-type scale with a range of 0 (not at all like me) to 3 (a lot like me). The scale has a possible score range of 0 to 66, where a higher score denotes a better degree of self-awareness. The validity

and reliability of SCS-R are good. Test-retest reliability was 0.89 and Cronbach's alpha was 0.73. Cronbach's alpha for the current investigation was 0.82.

**Study procedure**

Through the upload of a web-based link survey, data were gathered from the participants via an online survey. Nursing interns who met the requirements were invited to participate in the study on a voluntary basis. By questioning participants about their willingness and consent to participate in the study on the first page of the survey, an informed consent was gained. Google forms were used to send groups of nursing interns an online invitation to participate. The online poll was made available on official college of nursing portals, social media pages, and Microsoft Teams. Only nursing interns were required to reply to the questionnaires in the online invitation letter.

**Pilot study**

Pilot research including 10% of nursing students (4) was conducted to assess the clarity of the items and determine the completion time of the data collection instruments. Since no modifications were made, the pupils were included in the main study sample.

**Administrative and ethical considerations**

Authorization to conduct the research was granted after outlining the goal of the study to the ethics committee (approved No.: ECM#20215610) and the dean of King Khalid University's nursing college. Each nursing student participating in the study has been provided with a written explanation detailing the aim and design of the research. They were given the choice to accept or deny participation in the study and were advised that they can withdraw at any moment.

**Statistical Analysis**

Using SPSS software (Statistical Package for the Social

Sciences, version 19, SPSS Inc. Chicago, IL, USA), the gathered data were arranged, tabulated, and statistically examined.

**Results**

**Table 1:** Personal characteristics of nurse interns in the study sample (n=41)

Personal Characteristics	(N=41)	
	No	%
<b>Age in year</b>		
<21	12	29.3%
22+	29	70.7%
Mean +SD	22.5±4.1	
Monthly family income (Saudia SR)	Mean=5000	
Average sleeping hours/day	8 hours	
<b>Eating a well-balanced diet</b>		
Yes	32	78%
No	9	22%
<b>Gender</b>		
Female	41	100%
Male	-	-
<b>Performing physical exercise regularly</b>		
Yes	31	75.6%
No	10	24.4%
<b>Satisfaction with nursing study</b>		
Satisfy	36	87.8%
Not satisfy	5	12.2%

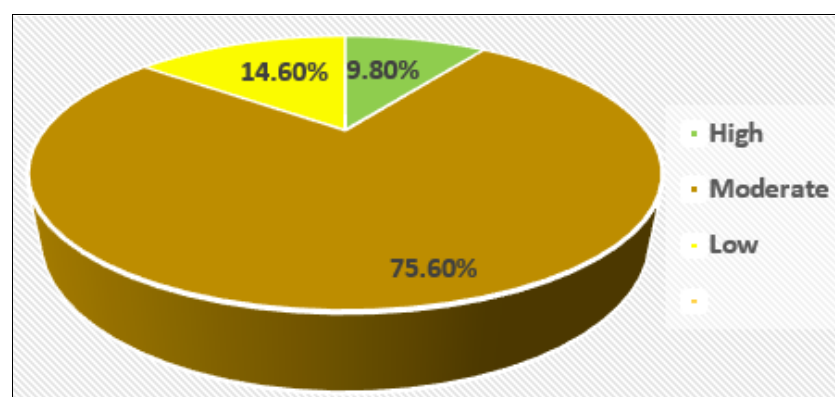
41 nursing interns, almost all of whom were female, made up the sample. Their ages ranged from under 21 to 22 years old (mean = 22.5, SD = 4.1). The majority of nursing interns (78%, 75.6%, and 87.8%, respectively) said they were satisfied with their nursing studies, followed a well-balanced diet, and exercised frequently. Nursing interns reported that they had an average of 8 hours of sleep per day and the average family income 5000 SR per month. These demographic variables were shown in Table 1.

**Table 2:** Mean scores of empathy and self-awareness among nursing interns (N=41)

Scale (Possible score)	Mean	SD
Total score of Empathy	78.24	12.01
Cognitive domain	44.24	7.0
Affective domain	34.00	5.01
Total score of Self-awareness	42.75	11.95
Private self-consciousness	19.78	3.82
Public self-consciousness	13.40	2.56
Social anxiety	9.57	5.55

The overall mean empathy score was 12.01 (SD=78.24). The cognitive domain (mean=44.24, SD=7.0) had a higher mean score than the affective domain (mean=34.00, SD=5.01) in terms of empathy domains (subscales). Apart from the self-

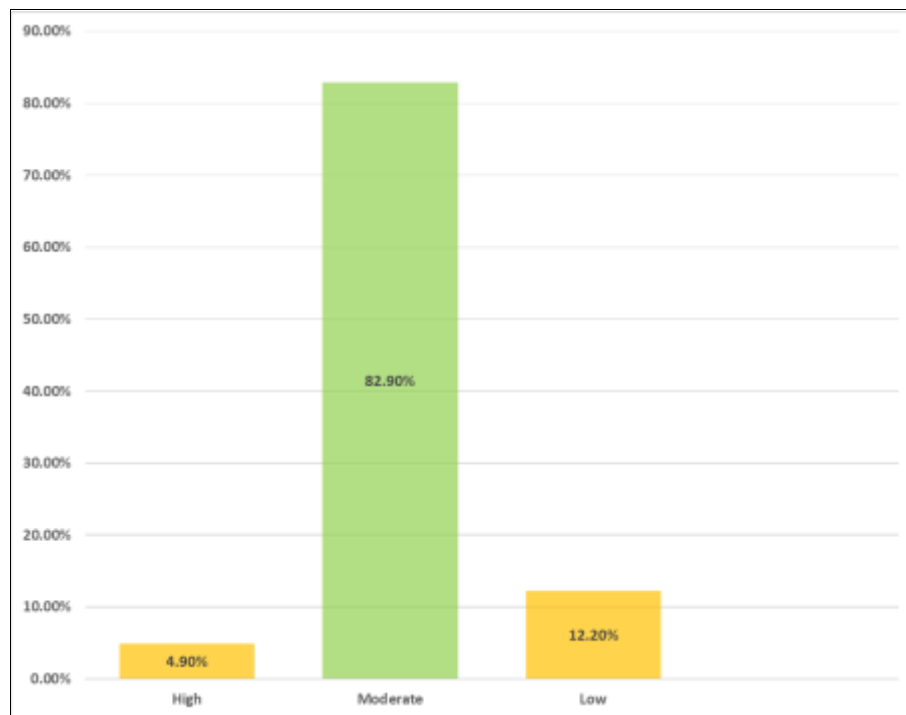
awareness domains, the private self-consciousness category had the highest mean score (mean = 19.78, SD = 3.82). Social anxiety, however, scored the lowest (mean=9.57, SD=5.55). Refer to Table 2.



**Fig 1:** Total levels of empathy among nursing interns (N=41)

Figure 1 illustrates the overall empathy levels of nursing interns. The graph shows that the majority of nursing interns

(75.6%) exhibited a moderate level of empathy.



**Fig 2:** Total levels of self-awareness among nursing interns (N=41)

Figure 2 shows total degrees of self-awareness among nursing interns. It is obvious from the data the biggest number of nursing interns had a moderate degrees of self-awareness (82.9%).

**Table 3:** Correlations of empathy, self-awareness, and demographics characteristics of nursing interns (n=41)

Variable	Empathy	Self-awareness
Empathy	-	0.045
Self-awareness	0.045 p=0.822	-
Sleeping hours	-0.035 P=0.288	0.007 P=0.265
Taking Well-balanced Diet	0.006 P= 0.711	-0.054 P= 0.612
Performing Exercise	-0.031 P=0.772	-0.026 P=0.861
Satisfaction in nursing studying	0.152** p= >0.001	-0.092 P=0.287
Income level		
1000- 5000 SR	75.80 P= 0.909	41.38 p=0.010
More than 5000 SR	75.68	38.84

Table 3. Demonstrates that the relationship between empathy and self-awareness scores is not statistically significant. Studies on nursing found a favorable correlation between satisfaction and empathy. Income level and self-awareness have a positive correlation.

## Discussion

Empathy and self-awareness are critical components for nurses to have in order to improve the nurse-patient relationship and provide patients with high-quality care (Abu Lebda *et al.*, 2023) [1]. Self-awareness is a process of objective self-examination and is regarded as a crucial tool to develop a therapeutic relationship with patients for therapeutic healing, which leads to competency in providing high-quality nursing care and, ultimately, greater satisfaction in client care (Buvaneswari & Sylvia, 2018) [6]. Empathy is the capacity for student nurses to experience what the patient is going through (Gerace 2020) [14]. Empathy may empower the student nurses to have self-awareness, which allows them to pay attention to the patient's feelings, which is crucial in providing high-quality care (Wang *et al.* 2022) [34].

According to the research study's findings, nursing interns' overall mean empathy score was 78.24 (SD=12.01). This outcome falls within the range of nursing students' reported empathy levels. For instance, among nursing students in the US and Jordan, the empathy scores were 73.4 and 75.53, respectively (Haley *et al.*, 2017; Hamaideh *et al.*, 2024) [16, 17], which are less than the 83.6 and 83.7 scores recorded by pharmacy students (Skoy *et al.*, 2016; Aronson *et al.*, 2021) [33, 4].

There is, however, research suggesting that instruction and training can raise one's empathy level. In this sense, after learning about the customers' actual interview experiences in a first-year course, Australian nursing students shown increased empathy. The degree of empathy rose to 86.91 from 75.53 (Heidke *et al.*, 2018) [18]. Furthermore, the findings of this study agreed with those of a study conducted in Jordan among nursing students to gauge empathy. They discovered that the reported empathy was less than what other research with a comparable design had found (Abu Lebda *et al.*, 2023) [1].

The study's findings on the empathy levels of nursing interns were in line with earlier research (Li, 2017; Elayyan *et al.*, 2018; Zhang, 2021; Ahmed & Shalaby, 2022) [25, 11, 38, 2]. The interns' levels of empathy were moderate. According to the current nursing curriculum, during psychosocial components of nursing courses, students are instructed on empathy as a fundamental idea in the nursing profession. Additionally, the concept of empathy has been thoroughly covered for students enrolled in critical care nursing; this would be an explanation to this discovery. The recent push for nursing education reform, which has placed a strong emphasis on the development of the ability to offer compassionate care (including empathy) and urged faculty to actively work to foster empathy as part of their instruction, may be connected to this outcome. This result, however, conflicts with other research by Paola *et al.* (2020) [29]; Ghazwani *et al.* (2023) [15], which suggests that nursing students have a higher degree of empathy.

According to the study's findings, nursing interns' overall

mean score on self-awareness was 42.75 (SD=11.95). This outcome is less than that of Haley *et al.* (2017) [16], who discovered that US nursing students had a 53.7 percent self-awareness level. Self-awareness levels were reported to be 50.85 among Iranian students (Nodehi *et al.*, 2020) [28] and 40.0 among university students in Pakistan (Ejaz & Muazzam, 2020) [10]. This indicates that compared to similar few studies, Saudi nursing students had lower degrees of self-awareness. In contrast to Mohammed Osama *et al.*'s (2019) [26] earlier study, which discovered that nursing students had low levels of self-awareness, the nursing interns in this study exhibited moderate levels of self-awareness.

The study's findings demonstrated that nursing interns who are happy with their studies in the field have higher levels of empathy. Additionally, preference for the nursing profession is likely to boost interns' interest in patient care, foster a positive learning environment, and raise empathy levels. The findings of satisfaction in line with those of Nazir *et al.* (2021) [27], who discovered that students who are content with their nursing education exhibit greater empathy.

The study's findings demonstrated that the more self-aware the nursing interns were, the lower their salary level. The findings of this study did not support the findings of previous research about the relationship between self-awareness and empathy. This result is consistent with the research conducted by Hamaideh *et al.* in 2024. Hurley *et al.* (2018) [17, 19] discovered that self-awareness and empathy in this study did not significantly correlate with one another, in contrast to the findings of Lee and Nam (2016) [23].

### Conclusion and recommendations

The majority of nursing students exhibited self-awareness and empathy at a moderate degree. The relationship between empathy and self-awareness scores is not statistically significant. The suggestions were made in an effort to raise the nursing interns' level of empathy. Empathy can be increased, for example, by using an emotional educational model to train and instruct nursing students in cultural aptitude, introspection, communication, and meditation techniques through the use of mannequin simulation techniques.

The study's findings demonstrate the necessity of training initiatives that foster empathy and self-awareness in order to improve patient-centered care and provide high-quality treatment. Furthermore, before putting any interventional plans into action, correlated factors with PCC (social support and perceived stress) should be taken into account. Additional longitudinal and multicenter studies are required to verify the effectiveness of nursing education in enhancing students' empathy.

### Acknowledgement

The authors would like to express their gratitude to King Khalid University's Deanship of Scientific Research for sponsoring this work under grant number RGP.1/133/44 for the Small Group Research Project.

### References

1. Abu Lebda H, Malak MZ, Hamaideh SH. Self-awareness, empathy, and patient-centered care among critical care nurses in Jordan. *Psychology, health & medicine*. 2023;28(9):2764-2775. <https://doi.org/10.1080/13548506.2022.2094427>
2. Ahmed FR, Shalaby SA. Exploring empathy and self-efficacy in communication skills among nursing students: A cross-sectional study at two universities in the MENA region. *International Journal of Africa Nursing Sciences*. 2022;17:100503.
3. Alhamidi S, Alyousef S. Undergraduate nursing student Mental Health Clinical Experiences in Saudi Arabia: Findings from a qualitative study. *J Am Psychiatr. Nurses Assoc*. 2021;2(4):10-22.
4. Aronson B, Chen A, Blakely M, Kiersma M, Wicker E. An update on the Kiersma Chen Empathy Scale (KCES): creating the KCES-Revised. *Am J of Pharm Educ*; c2021. p. 1-11. <https://doi.org/10.5688/ajpe8685>.
5. Brownlie J, Shaw F. Empathy rituals: small conversations about emotional distress on Twitter. *Sociology*. 2019;53(1):104-122
6. Buvaneswari R, Sylvia J. Self-Awareness among Nursing Students of Selected Nursing College. *International Journal of Current Research and Academic Review*. 2018;6(5):1-6.
7. Demir S, Ercan F. The effect of a self-awareness and communication techniques course on the communication skills and ways of coping with stress of nursing students: An interventional study in Ankara, Turkey. *J Pak Med Assoc*. 2019;69(5):659-665.
8. Di Lorenzo R, Venturelli G, Spiga G, Ferri P. Emotional intelligence, empathy and alexithymia: A cross-sectional survey on emotional competence in a group of nursing students. *Acta Biomed*. 2019;90(4):32-34
9. Dulay MCB, Domingo JEA, Domingo KFR, Domondon HOF, Dumangon LG, Duran RAD, *et al.* An Exploratory Study of Factors Influencing Student Nurses Empathy. *Journal of Nursing & Healthcare*. 2018;3(2):1-9.
10. Ejaz B, Muazzam A. Self-consciousness in female university students: the predictive role of social anxiety. *J Pakistani Med Assoc*. 2020;77(3):905-908. <https://doi.org/10.47391/JPMA.168>.
11. Elayyan M, Rankin J, Chaarani MW. Factors Affecting Empathetic Patient Care Behaviour among Medical Doctors and Nurses: An Integrative Literature Review. *Eastern Mediterranean Health Journal*. 2018;24(3):311-318. <https://doi.org/10.26719/2018.24.3.311>.
12. Ferri P, Rovesti S, Bonetti L, Stifani S, Panzera N, Di Lorenzo R, *et al.* Evaluation of empathy among undergraduate nursing students: A three-year longitudinal study. *Acta Bio Medica: Atenei Parmensis*. 2019;90(11):98.
13. Filho CKC, Meska MHG, Conti GC, Machado JCF, Mano LY, Mazzo A, *et al.* Empathy of nursing students in a simulated clinical activity. *Cogitare enferm*. 2020;25:e68142.
14. Gerace A. 'Roses by other names? Empathy, sympathy, and compassion in mental health nursing. *International Journal of Mental Health Nursing*. 2020;29(4):736-744. <https://doi.org/10.1111/inm.12714>
15. Ghazwani S, Alshowkan A, AlSalah N. A study of empathy levels among nursing interns: A cross-sectional study. *BMC nursing*. 2023;22(1):226.
16. Haley B, Heo S, Wright P, Barone G, Rettiganti M, Anders M, *et al.* Relationships among active listening, self-awareness, empathy, and patient-centered care in associate and baccalaureate degree nursing students. *Nurs plus Open*. 2017;3:11-16. <https://doi.org/10.1016/j.npls.2017.05.001>
17. Hamaideh SH, Abuhammad S, Abu Khait A, Al-Modallal H, Hamdan-Mansour AM, Masa'deh R, *et al.* Levels and predictors of empathy, self-awareness, and perceived stress among nursing students: A cross-sectional study. *BMC Nursing*. 2024;23(131):2-10.
18. Heidke P, Howie V, Ferdous T. Use of healthcare

- consumer voices to increase empathy in nursing students. *Nurs. Educ. Prac.* 2018;29:30-34. <https://doi.org/10.1016/j.nepr>.
19. Hurley J, Linsley P, Stansfield C. Self-awareness and empathy: foundational skills for practitioners. In *Emotional Intelligence in Health and Social Care*. Routledge; c2018. p. 29-44.
  20. Jahan-shahi Z, Sarabi AG, Borhani F, Nasiri M, Anboohi SZ. The Correlation between the Clinical Competency and Empathy of Nurses: Case Study, Intensive Care Units of the Educational Hospitals of Kerman Medical Sciences University. Iran. *Annals of Tropical Medicine and Public Health.* 2017;10(3):694-701.
  21. Kahrman I, Nural N, Arslan U, Topbas M, Can G, Kasim S, *et al.* The effect of empathy training on the empathic skills of nurses. *Iran Red Crescent Med J.* 2016;18:e24847.
  22. Kiersma M, Chen A, Yehle K, Plake K. Validation of an empathy scale in pharmacy and nursing students. *Am J of Pharm Educ.* 2013;77(5):1-6. <https://doi.org/10.5688/ajpe77594>.
  23. Lee S, Nam Y. The influence of self-awareness, self-acceptance, and empathy on interpersonal competence in nursing students. *Int. Advanc. Nurs. Educ. Res.* 2016;1(1):73-78.
  24. Leufer T, Cleary-Holdforth J. Senior nursing students' perceptions of their readiness for Practice Prior to Final Year Internship: Part 2-A qualitative perspective. *Dimens. Crit. Care Nurs.* 2020;39(2):81-90.
  25. Li Q. Analysis of current situation and influencing factors of the empathy ability of nursing students. *Chinese Journal of General Practice.* 2017;15(10):1744-1747. <https://doi.org/10.16766/j.cnki.issn>.
  26. Mohammed Osama AA, Abu Bakr Osman O, Shawky EL-Ganzory G. Self-awareness among Nursing Students Dealing with Psychiatric Patients. *Egyptian Journal of Health Care.* 2019;10(1):773-785.
  27. Nazir M, Alhareky M, Alqahtani A, Alsulaimi L, Alotaibi R, Yousef N, *et al.* Measuring Empathy among Dental Students and interns: A cross-sectional study from Dammam, Saudi Arabia. *Int. J Dentistry;* c2021. p. 1-7. <https://doi.org/10.1155/2021/5584423>
  28. Nodehi M, Boroomandfar S, Mousavi S. The relationship of Smartphone Addiction with Self-esteem and self-consciousness among girls in the First Year of High School. *Int. J Pediatric.* 2020;8(11):12357-12367. <https://doi.org/10.22038/ijp.2020.49458.3956>.
  29. Paola F, Sergio R, Loris B, Serena S, Nunzio P, Rosaria DL, *et al.* Evaluation of empathy among undergraduate nursing students: A three-year longitudinal study. *Acta Bio Medica.* 2020;90(98):8874.
  30. Petrucci C, La Cerra C, Aloisio F, Montanari P, Lancia L. Empathy in health professional students: A comparative cross-sectional study. *Nurse Educ. Today.* 2016;41:1-5.
  31. Rasheed SP, Younas A, Sundus A. Self-Awareness in Nursing: A Scoping Review. *Journal of Clinical Nursing.* 2019;28(5):2-11.
  32. Scheir F, Carver C. The self-consciousness scale: A revised version for use with general populations. *J Appl. Soc. Psycho.* 1985;15:687-699.
  33. Skoy E, Eukel H, Frenzel J, Werremeyer A, McDaniel B. Use of an auditory hallucination simulation to increase student pharmacist empathy for patients with mental illness. *Am J of Pharm Educ.* 2016;80(8):1-6. <https://doi.org/10.5688/ajpe808142>.
  34. Wang Q, Cao X, Du T. First-year nursing students' initial contact with the clinical learning environment: Impacts on their empathy levels and perceptions of professional identity. *BMC Nursing.* 2022;21(1):234. <https://doi.org/10.1186/s12912-022-01016-8>
  35. Wu Y. Empathy in nurse-patient interaction: A conversation analysis. *BMC nursing.* 2021;20(1):1-6.
  36. Yang C, Zhu Y-L, Xia B-Y, Li Y-W, Zhang J. The effect of structured empathy education on empathy competency of undergraduate nursing interns: A quasi-experimental study. *Nurse Educ. Today.* 2020;85(2):104296.
  37. Younas A, Rasheed SP, Sundus A, Inayat S. Nurses' perspectives of self-awareness in nursing practice: A descriptive qualitative study. *Nursing and health science.* 2020;22(2):398-405.
  38. Zhang Y. Empathy among Nursing Undergraduates at a Chinese Private University.