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The Relationship Between Caring Nursing Education Students and Caring Preceptors at Regional General Hospital

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ABSTRACT

Objective: The aims of this study were to describe nursing students' caring behaviors and perceptions of instructor caring, b) to assess differences related to gender and year of education in students' caring behaviors and perceptions of caring in nursing, and c) to investigate the relationship between caring Nursing students and their perceptions of caring preceptors. **Method**: This research involved undergraduate nursing students in clinical practice at Regional General Hospital Dr. Wahidin Sudiro Husodo, Mojokerto City. A total of 184 undergraduate nursing students participated in this study. Participants completed a self-reported online survey to assess preceptor caring behaviors, empathy, burnout, and perceptions of care. Caring behavior, expressive and instrumental caring, was measured using the Caring Behavior Inventory (CBI), and instructor caring perceptions were assessed using the Nursing Students' Perceptions of Instructor Caring (NSPIC) questionnaire. **Results**: Students' caring behavior was positively related to their perceptions of caring preceptors, especially regarding supportive learning and preceptor flexibility. Female students showed higher scores in expressive caring, while students in the second and third years showed increased instrumental behavior in caring. Caring responses were significantly lower in third-year students compared to first- and second-year students. **Novelty**: These findings underscore the importance of fostering caring behavior in nursing education and providing preceptor knowledge, training, and support options to cultivate more caring and competent nurses. This study emphasizes the crucial role of clinical instructors in shaping nursing students' caring attributes.

INTRODUCTION

Caring is fundamental for nurses, which is often the main reason prospective students decide to enter nursing. Despite the lack of consensus regarding the definition (Ghanbari-Afra et al., 2022), Caring can enter nursing (Pajnkiha et al., 2020). Despite the lack of consensus regarding the definition (Sebrant & Jong, 2021). Caring can be described as a developing art and science of caring; it provides information and serves as a starting point for moral, philosophical, theoretical, and fundamental matters in nursing education, patient care, research, and even administrative practice (Baghdadi et al., 2024). Caring is considered a core learning goal for nursing students and should be taught and fostered throughout the undergraduate nursing degree; however, teaching Caring is not always easy (Rochat, 2023). One way to teach caring is through modeling, for example, during a clinical placement with a preceptor (Becky, 2021; Griffiths et al., 2022; Hilli & Sandvik, 2020; Inocian et al., 2022; Plathe et al., 2021; S et al., 2020).

A preceptor is a nurse who teaches, provides guidance, inspires colleagues, becomes a role model, and supports individual growth and development for a certain period (Xianjiao et al., 2023). Preceptors are expected to have the skills to create an effective

learning environment and facilitate constructive clinical learning experiences for students. Nursing faculty and students rely on the skill and acumen of the preceptor to guide and direct students as they learn new clinical roles, including caring behaviors (Dy-Boarman et al., 2021; Giruzzi et al., 2024; Jeffery et al., 2023; Mellor et al., 2022; Pullen & Ahchay, 2022; Shorey et al., 2021). Students can directly apply the theory obtained by involving patients directly. Studies previously demonstrated that clinical instructors, as knowledge experts, can be considered by students as role models (Suliman & Warshawski, 2022). Clinical placements are thought to influence students to develop caring behavior (Hu et al., 2022). However, it remains to be seen what specific characteristics of clinical instructors are necessary to increase caring behavior in students.

Because nursing faculty's caring behavior may improve behavior caring for students, it is possible that the caring behavior of clinical instructors also influences the caring behavior of students. Only studies investigating this relationship are old and did not involve first-year nursing students. In addition, it is still unclear whether students gender or year of course influences their caring behavior (Liu al., 2019). This information can help nursing faculty and preceptors help students achieve higher levels of care. Therefore, the aims of this study were a) to describe nursing students' caring behavior and perceptions of caring preceptors, b) to assess gender and year of education differences in students' caring behavior and perceptions of nursing caring, and c) to investigate the relationship between caring Nursing students and their perceptions of caring preceptors.

Since caring was associated with empathy and burnout in previous literature, we also measured these concepts to use them as control variables. It is a 16-item questionnaire that measures four dimensions: Empathic Concern, the ability or tendency to experience feelings of compassion, understanding, or concern in response to the negative experiences of others; Personal Distress, the ability or tendency to experience feelings of distress or discomfort when witnessing the dramatic experiences of others; Perspective Taking the ability and tendency of a subject to assume the point of view, the perspective of other people; and Fantasy the ability or tendency to imagine oneself in imaginary situations. Since the IRI-Fantasy has been proven irrelevant to patient care, it was not administered in this study. Each item is scored on a 5-point Likert scale, with higher scores indicating higher empathy.

RESEARCH METHOD

This was a multicenter, cross-sectional observational study. The sample consisted of all undergraduate nursing students from Regional General Hospital Dr. Wahidin Sudiro Husodo Mojokerto City (N = 184). Students were asked via a posting on the University's e-learning website to participate in the research between June and December 2022-2023. The post describes the study with specifics regarding Ethics Approval and links to the Informed Consent Form and an online survey. To increase the response rate, we also conducted face-to-face learning presentations in front of the class, showing the QR code and the link. This study was approved by the Ethics Committee of the study center (Protocol number: 0004266/21). Students completed the online survey after providing their consent electronically. Participation is voluntary, and students' names are initials only. Flowchart of research method detailed in Figure 1.

Measurement

Caring was measured with the Italian version of the Caring Behavior Inventory (CBI), which consists of a 24-item, self-reported inventory with four subscales: Being Together, Performing with Competence, Responding to Individual Needs, and Providing Effective Care; each item is scored on a 6-point Likert scale, and higher scores indicate more significant concern (Ergie et al., 2021). Being Together and Responding to individual needs is consistent with Expressive Caring while Performing with Competence and Providing Effective Care is consistent with Instrumental Caring.

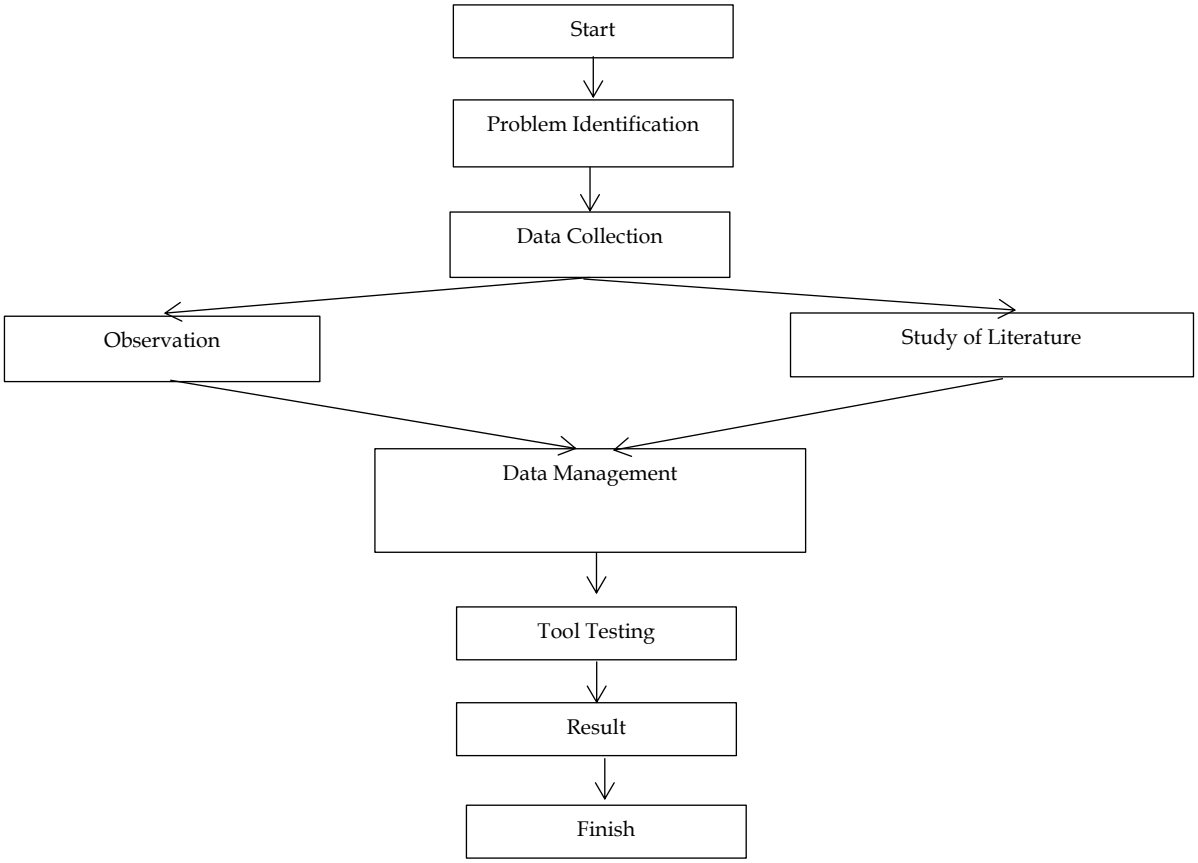

Figure 1. Flowchart of research method.

The instructor's perception of concern for the most recent clinical intern was measured by the Student's Perception of Nursing Instructor Concern (NSPIC). NSPIC is the questionnaire contains 31 self-reported items and measures four dimensions: Instilling Trust Self Through caring (NSPIC-Confidence), Supportive Learning Climate (NSPIC Support), Control Against Flexibility (NSPIC Control), and Sharing with Respect (NSPIC-Respect). Each item is scored on a 6-point Likert scale, and higher scores indicate more significant instructor concern. The factor analysis revealed a structure of five factors, one of which differed from the original scale. Cronbach's α was 0.95, and intraclass correlation coefficients varied between 0.50 and 0.89 (Martín & Salgado, 2019). Because caring has been linked to empathy and burnout in previous literature, we also measured these concepts as control variables. Empathy was measured using the Italian version of the Interpersonal Reactivity Index (IRI).

Questionnaire This consists of 16 items measuring four dimensions: Empathic Concern (IRI-Empathic concern), namely the ability or tendency to experience feelings of affection, understanding or concern in response to other people's negative

experiences; Personal Distress (IRI-Personal distress) is the ability or tendency to experience feelings of distress or discomfort when witnessing other people's dramatic experiences; Perspective Taking (IRI-Perspective Taking) is the ability and tendency of a subject to take another person's point of view; and Fantasy (IRI-Fantasy), namely the ability or tendency to imagine oneself in imaginary situations. Because IRI- Fantasy is irrelevant to patient care, this research does not give it. Each item is scored on a 5-point Likert scale, with higher scores indicating greater empathy. Researchers measured burnout with the 19-item Copenhagen Burnout Inventory, which measures three sub-dimensional burnouts in healthcare professionals: Personal Burnout, Work-Related Burnout, and Client-Related Burnout. Each item is scored on a 5-point Likert scale, with a higher total score indicating higher fatigue. The questionnaire socio-demographics asked about age, biological sex (i.e., female/male), teaching hospital origin, and years of education.

Data Analysis

Descriptive analysis includes calculating the research variables' average value and standard deviation. T-test and analysis of variance (ANOVA) with correction Bonferroni post-hoc was used to differentiate students' socio-demographics in CBI scores. Four hierarchical regression models explored the influence of NSPIC on each CBI subscale. IRI and Burnout scores were introduced as covariates for each regression model in Step 1. The increase in the total variance explained in the CBI subscale in Step 2 ($\Delta R2$) means that the inclusion of the NSPIC variables improved the prediction of CBI scores. Regression models were adjusted for gender, age, and year of study. Estimates of standard (β) and change in F, R2, and R2 ($\Delta R2$) for each step are provided. P-values were set at <0.050 for t-test and ANOVA. Due to the high number of predictors in our regression model, Bonferroni correction was applied, and the regression analysis results were considered statistically significant at a certain level. P-value of <0.001. All analyses were carried out using SPSS 26.

RESULTS AND DISCUSSION

Results

Characteristic Data

Researchers received 184 respondents (response rate = 46.60%). The sample consisted primarily of female students, most of whom were second-year students. Table 1 describes the socio-demographic characteristics of the sample.

Table 1. Socio-demographic characteristics of the sample (N=184).

Variable	% (N) or M(SD)
Age	22.37 (9.35)
Gender	
Woman	83.90 (154.00)
Man	16.10 (30.00)
Years of Study	
1st	23.10 (43.00)
2nd	48.10 (88.00)
3rd	28.80 (53.00)

Overall, the CBI dimensions with the highest scores were Responding to individual needs and acting competently. The NSPIC dimensions with the highest

scores were NSPIC-Confidence and NSPIC-Support (Table 2). Regarding differences in CBI scores related to gender, researchers found that female students had significantly higher scores than male students in caring behavior, namely [t (314) = 3.06, p = .002] and Responding to Patient Needs [t (314)) = 2.88, p = 0.001] (Table 2). Based on differences in CBI scores per year, researchers found Competent Action [F(2,313) = 15.42, p<0.001] and Effective Treatment [F(2,313) = 18.73, p<. 001] had significantly higher scores in second and third-year students compared to first-year students. On the other hand, caring behavior had a much lower score in third-year students than in the first and second years [F (2,313) = 4.77, p = 0.009] (Table 2). There are significant differences regarding gender or year of course in NSPIC scores (Table 2).

Table 2. Differences related to gender and year in the caring behavior inventory and nursing students' perceptions of instructor caring scores (N=184).

	Total Score (N=184)	**Sex**		**Course Years**		
	(mean ± SD)	**Woman (N = 154) (mean ± SD)**	**Man (N = 30) (mean ± SD)**	**1st Year (N = 43) (mean ± SD)**	**2nd Year (N = 88) (mean ± SD)**	**3rd Year (N = 53) (mean ± SD)**
CBI						
Being with	5.06 ± 0.55	5.18 ± 0.53	4.93 ± 0.57	5.13 ± 0.56	5.15 ± 0.51	4.09 ± 0.58
Doing with competencies	5.26 ± 0.55	5.16 ± 0.59	5.36 ± 0.51	5.03 ± 0.66	5.44 ± 0.52	5.31 ± 0.47
Responding to individual needs, Y	5.58 ± 0.35	5.67 ± 0.31	5.49 ± 0.39	5.61 ± 0.31	5.62 ± 0.33	5.50 ± 0.41
Providing effective care	4.95 ± 0.73	4.47 ± 0.71	5.43 ± 0.74	4.59 ± 1.13	5.16 ± 0.52	5.10 ± 0.54
NSPIC						
Support	4.95 ± 0.99	4.97 ± 1.02	4.87 ± 0.89	4.98 ± 0.95	4.88 ± 1.05	5.05 ± 0.95
Confidence	5.51 ± 0.79	5.52 ± 0.80	5.46 ± 0.76	5.56 ± 0.70	5.43 ± 0.89	5.59 ± 0.69
Respect	1.78 ± 0.87	1.79 ± 0.88	1.73 ± 0.80	1.74 ± 0.82	1.91 ± 0.94	1.58 ± 0.74
Control	1.72 ± 0.83	1.71 ± 0.81	1.78 ± 0.96	1.82 ± 0.92	1.78 ± 0.83	1.55 ± 0.75

Notes. CBI = Caring Behaviour Inventory; S = significant sex-related differences; Y = significant year of course differences; NSPIC = Nursing Students' Perceptions of Instructor Caring.

Table 3. Regression analysis of caring behavior and perceptions of instructor caring (N=184).

Variable	**Being with**		**Doing with competence**		**Responding to individual needs**		**Providing effective care**	
	Step 1(β)	**Step 2(β)**	**Step 1(β)**	**Step 2(β)**	**Step 1(β)**	**Step 2(β)**	**Step 1β)**	**Step 2(β)**
NSPIC-Support		**0.31****		**0.31****		**0.23**		0.21
NSPIC-Confidence		0.22		0.16		0.16		0.02
NSPIC-Respect		−0.01		−0.11		−0.05		−0.04
		−0.08		-		−0.00		−0.13
NSPIC-				**0.23**				

Variable	Being with		Doing with competence		Responding to individual needs		Providing effective care	
	Step 1(β)	Step 2(β)	Step 1(β)	Step 2(β)	Step 1(β)	Step 2(β)	Step 1β)	Step 2(β)
Control								
F	11.05	8.09	8.04	6.98	14.22	9.52	4.01	3.56
R2	0.20	0.22	0.15	0.20	0.24	0.25	0.08	0.11
ΔR2	0.02		0.04		0.01		0.03	

Notes. NSPIC = Nursing Students' Perceptions of Instructor Caring.
The controlling variables were sex, age, year of study, Interpersonal Reactivity Index—Empathic Concern, Interpersonal Reactivity Index—Personal Distress, Interpersonal Reactivity Index—Perspective Taking, and Burnout.

Students' caring behavior is associated with their perception of instructor caring. A more excellent perception of a 'Supportive learning climate' (NSPIC Support) drives the caring behavior of Being Together and Acting with Competence. Greater perceptions of an instructor prioritizing flexibility and autonomy over control (NSPIC Control) were associated with more excellent caring behavior.

Discussion

This study aims to investigate the relationship between nursing Student concerns and perceptions of instructor care and assess differences related to gender and year of the course. Researchers found that students' caring behaviors were associated with their perceptions of instructor caring, with higher levels of care associated with instructors perceived supportive climate learning and encouraged flexibility. Lastly, researchers found that higher levels of expressive concern were associated with being female, and higher levels of instrumental concern were associated with being in the second or third year (Huang et al., 2024). This is one of the first studies to investigate the relationship between nursing students' caring and instructors' perceptions of caring, including nursing students from all years of study. This is relevant because it can help nursing faculty and clinical instructors better understand and foster caring behaviors in nursing students.

Students caring behavior is associated with their perceptions of instructor concern. NSPIC-Support is associated with the caring behavior of Being Together and Acting with Competence. This differs from previous literature, which reported no relationship between Learning Climate Supportive (NSPIC-Support) and caring behavior. However, they treat the CBI as a whole rather than looking at single subscales, so comparability is limited. Our results suggest that feeling supported and cared for by clinical instructors in a nonjudgmental manner allows students to develop their Expressive and Instrumental Concerns. This is coherent with previous literature showing how positive the relationship is deep in clinical placement and the environment clinical learning encouraging is essential for developing caring traits in students.

NSPIC control was associated with caring behavior and acting with competence, coherent with previous literature. This is possible when the clinical instructor provides sufficient latitude. To provide care independently, students are stimulated by their accountability and responsibility for care, thereby increasing caring behavior. Act with Competence. Overall, our results strengthen and contribute to existing evidence demonstrating the critical role of preceptors and their caring behavior towards students in developing caring, professional skills, and identity as students of nursing (Hu et al., 2022; Suliman & Warshawski, 2022).

Our research found differences in caring behavior related to gender, where female students had higher scores in Being Together and Responding to Individual Needs, namely Expressive Caring. This aligns with previous research, which reported that male and female nurses showed different caring behavior patterns (Tong et al., 2023) but differs from other researchers who did not find gender differences in parenting (Alavi & Okhovat, 2024). Expressive care is carried out in patient-centered interactions, which may benefit from higher abilities in emotion recognition. In the general population, women appear to show more prosocial behavior and perform better than men in terms of emotional recognition and recognition of other people's inner states (Rochat,2023).

This matter may align with previous literature showing that male nursing students have lower emotional intelligence than female nursing students. Differences in Gender-related caring behavior in our study may also reflect previous findings that reported that female nurses and medical students outperformed their male counterparts in self-transcendent and self-oriented values toward other people (Ardenghi et al., 2021). However, some argue that gender role orientation, namely femininity and masculinity, is not sex (biological variable) or gender (sociocultural variable), influencing caring behavior, with femininity being positively associated with caring behavior (Liu et al., 2019).

Overall, the influence of sex and gender concerns remains unclear and controversial, and this should be investigated further. Lastly, Instrumental Caring (Performing with Competence and Effective Care) had significantly higher scores in second and third-year students than first-year students. Responding to Individual Needs scored significantly lower in third-year students compared to first- and second-year students. Our results are coherent with previous literature showing increased Instrumental Caring in second and third-year students. Our results may be explained by a trend in the curriculum towards more technical subjects in the second and third years of Nursing, with students focusing more on these subjects.

Another explanation could be the effect of fatigue in more senior students, which may make responding to individual patient needs more burdensome, as others noted (Pajnkiha et al., 2020). Apart from that, students this is doing an internship clinical practice when COVID-19 cases are still high may need more help in learning how to provide personalized care but not in learning nursing techniques. Better quality longitudinal studies will help better understand the relationship between caring and year. The other study provides empirical evidence of the associations between caring characters, motivation, lecturer experience, and learning environment among baccalaureate nursing students in Indonesia (Aisyah et al., 2022; Juanamasta et al., 2023; Khozaei et al., 2022; Park & Kim, 2022; Permana et al., 2024; Suryani, 2021). The significance of the learning environment in fostering motivation and development of caring among undergraduate nursing students may be evaluated, and future research might investigate the longitudinal association between caring characters and motivation type (Permana et al., 2024).

Clinical supervisors greatly influence students' skills, motivation, and concerns during clinical practice. Students learn the nursing process in clinical practice, including caring for and providing care to patients. Clinical supervisors are critical in the clinical learning process (Jiang & Liu, 2024). The instructor's use of the concept map as a metacognitive intervention has increased the caring self-efficacy of nursing students, which will lead to more accurate performance of nursing students in the future (Alavi &

Okhovat, 2024). Many studies state that nursing students undergoing clinical practice may experience feelings of loneliness, passivity, and anxiety when facing difficult conditions in clinical practice. To overcome these challenges, it is essential to provide training and support to nursing students to improve their theory and practice (Kahriman et al., 2024).

CONCLUSION

Fundamental Finding: The results of this study underscore the critical role of preceptors in shaping nursing students' caring and professional development: supportive learning and preceptor flexibility play an important role in encouraging caring behavior. This emphasizes the importance of clinical placements and the role of preceptors as role models in fostering caring development in undergraduate nursing students. Educators may improve teaching methodologies and provide a supportive learning environment to equip students to become more caring and competent nurses. In addition, selecting and training preceptors regarding their caring abilities and behaviors is essential. The influence of gender on caring behavior remains an unclear and controversial concern. Although our study found that female students demonstrated higher scores in expressive caring, it is evident that future research is needed to understand better the role of sex, gender, gender expression, and gender role orientation in shaping caring behavior in nursing students. **Implication:** In this study, researchers measured gender, gender expression, or gender role orientation. Including these concepts in further research can deepen the understanding and relationships between sex, gender, and gender roles in caring. However, researchers measured key concepts with a valid, reliable, and widely used instrument, and our results can be generalized to similar contexts. **Limitation:** This study used a cross-sectional design with a relatively low response rate. **Future research:** Further investigate the relationship between nursing students' caring behaviors and their perceptions of preceptor caring behaviors with longitudinal, qualitative, or mixed methods studies. From the results of this research, learning related to caring behavior can be used as a basis for preceptors in guiding students because nursing students' caring behavior is intrinsically directly related to caring for patients holistically.

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