



## **Therapeutic Communication Competence in Active Listening, Empathy, and Relationship Initiation among Indonesian Nursing Students: A Cross-Sectional Analysis of Role-Play and Peer Simulation-Based Learning Outcomes**

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**Article Info:**

**Article history:**

Received: March 17, 2026

Revised: May 08, 2026

Accepted: May 11, 2026

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**Keywords:**

Indonesia; nursing students;  
simulation-based learning;  
therapeutic communication

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**Abstract**

**Background:** Therapeutic communication competence, encompassing active listening, empathy, relationship initiation, information gathering, and interaction closure, is foundational to safe and effective nursing practice. Despite its centrality in nursing education, evidence on competence levels achievable through simulation-based learning prior to clinical exposure remains limited, particularly in Indonesian contexts. **Objective:** Grounded in Peplau's Interpersonal Relations Theory and Kolb's Experiential Learning Theory, this study assessed therapeutic communication competence levels and examined associations between simulation participation and competence outcomes among first-semester nursing students.

**Methods:** A cross-sectional descriptive design was employed with 48 first-semester nursing students (total sampling) completing a 14-week Nursing Communication course at Institut Tarumanagara, Jakarta. The culturally adapted Therapeutic Communication Skills Scale-Indonesian Version (TCSS-25; CVI = 0.89,  $\alpha = 0.86$ ) measured four competence domains. Chi-square tests and Pearson correlations examined associations between role-play participation and competence levels.

**Results:** More than half (58.3%) achieved good competence (mean = 72.8%, SD = 12.4). Active listening and empathy scored highest (76.8%), while closing therapeutic interactions scored lowest (68.5%). Role-play participation significantly predicted competence levels ( $\chi^2 = 8.92$ ,  $p = 0.01$ , Cramér's  $V = 0.43$ ). Demographic variables showed no significant associations.

**Conclusion:** Simulation-based learning effectively develops therapeutic communication competence in preclinical nursing students; however, the 41.7% who did not achieve good competence warrant targeted interventions, particularly in structured closure skills training and increased role-play engagement.

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**To cite this article:** Sumartiningih, M. S. (2026). Therapeutic communication competence in active listening, empathy, and relationship initiation among Indonesian nursing students: A cross-sectional analysis of role-play and peer simulation-based learning outcomes. *Glosains: Jurnal Sains Global Indonesia*, 7(2), 519-530. <https://doi.org/10.59784/glosains.v7i2.707>

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### **INTRODUCTION**

Therapeutic communication is operationalized as the intentional, structured use of verbal and non-verbal behaviors to establish trust, gather information, and promote patient well-being, and it forms the foundation of nursing practice as it enables nurses to build meaningful relationships with patients, conduct thorough assessments, and provide patient-centered care. Within this study, therapeutic communication competence is measured across four observable behavioral domains: initiating therapeutic relationships, active listening and empathy, 519 | Glosains: Jurnal Sains Global Indonesia

information gathering, and closing therapeutic interactions.

Communication skills, as described by the World Health Organization (2020), play a vital role in providing quality care, with well-documented associations with patient satisfaction, adherence, and clinical outcomes. In nurses, therapeutic communication represents an intentional skill demonstrated through specific behaviors such as maintaining eye contact, active listening without interruption, empathic acknowledgment, and structured closure that preserves patient dignity and autonomy.

Therapeutic communication is grounded in Peplau's (1997) Interpersonal Relations Theory, conceptualizing nursing as an interpersonal process unfolding across four stages: orientation, identification, exploitation, and resolution. Each stage corresponds to TCSS-25 competence domains as follows: initiating therapeutic relationships in the orientation stage, information gathering within identification, active listening and empathy in exploitation, and closing therapeutic interactions in resolution.

More recent theories continue to support the value of simulated practice: Cognitive Apprenticeship Theory Collins (2018) underlies the use of structured role modelling and guided practice, while Experiential Learning Theory Kolb (2014) describes how role-play and peer simulation engage the concrete experience and reflective observation phases of the learning cycle—specifically supporting communication skill development prior to patient contact. Development and enhancement of therapeutic communication skills remain a key aim of pre-registration nursing education worldwide (Grant & Jenkins, 2014).

Systematic reviews consistently confirm the efficacy of simulation for nursing communication skills. Although some narrative syntheses report mixed findings, overall effects on communication, knowledge, and critical thinking are positive Cant (2017), based on an umbrella review of 25 systematic reviews. Oh (2015) reported moderate-to-large effect sizes in a meta-analysis of simulation-based communication training (2015).  $F = 12.47$ ,  $p < 0.001$ , and  $\eta^2 = 0.32$ , indicating a strong effect size. Similarly, recent RCTs such as  $t = 3.84$ ,  $p < 0.001$  provide strong empirical benchmarks for simulated competence development. This study therefore compares findings to international studies reporting competence levels between 58% and 74%.

Variation across populations is evident in cross-sectional evidence: Kudubes (2023) for example, reported a 62% adequate competence rate among Turkish students, while Edoho (2022) reported a mean competence score of 68.4% among Korean students, with empathy and self-efficacy identified as significant predictors. Importantly, these findings derive from predominantly Western and East Asian contexts with pedagogical frameworks that differ from Indonesia in terms of hierarchical communication styles and limited pre-clinical simulation exposure—both of which may influence competence development trajectories.

Multiple modalities within the broader umbrella of simulation-based learning demonstrate varying levels of evidence. Standardized patient simulation using trained actors has been shown to be superior for teaching complex communication skills Sanford (2010) and MacLean (2017), but is often limited to resource-rich settings, and many institutions in Indonesia face such constraints. This study intentionally prioritized role-play and peer simulation due to their practicality, low cost, and demonstrated effectiveness in developing empathic communication (Levett-Jones et al., 2019). Demonstration, return demonstration, and case-study analysis were used to strengthen these modalities and provide a more comprehensive simulation experience. Due to infrastructure limitations, virtual patient technology was excluded, and technology-assisted approaches were considered secondary rather than primary methods.

Therapeutic communication is multidimensional. In this study, competence is measured using four TCSS-25 domains. Active listening and empathy (Items 8–14; i.e., maintaining eye contact, attentive listening, acknowledging feelings, empathic statements) represent core elements for understanding patient experience (Levett-Jones et al., 2019). This is particularly relevant among novice students, as first patient encounters often generate significant anxiety Hsu (2015), influencing their ability to establish therapeutic relationships (Items 1–6: self-introduction, rapport building, professional identity presentation, and trust-building through respectful, non-judgmental communication). Information gathering (Items 15–20: balanced open/closed questioning, active probing, and systematic assessment communication) requires structured inquiry skills (Kourkouta & Papathanasiou, 2014).

Closing therapeutic interactions (Items 21–25: summarizing discussions, verifying

understanding, communicating follow-up plans, and allowing final questions) remains understudied but clinically important. It is included as a distinct domain because it reflects emotional intelligence and structured termination skills not captured in other domains.

Development of communication competence is influenced by multiple factors. Communication apprehension and self-efficacy are individual-level predictors; students with higher anxiety tend to acquire skills more slowly Grant (2014), and self-efficacy has been identified as a significant predictor of competence outcomes. These individual factors were not directly measured in this study but are acknowledged as potential confounders; the primary modifiable predictor—role-play participation—was examined using bivariate analysis.

Program structure is also important; effective curricula typically integrate pedagogy, practice, feedback, reflection, and progressive complexity (Gutierrez-Puertas et al., 2020). Cultural factors are particularly relevant in Indonesia, where hierarchical norms, respect for authority, and indirect communication styles may influence students' initiation and closure of therapeutic interactions. Accordingly, TCSS-25 was culturally and linguistically adapted through bilingual expert review for semantic and conceptual equivalence and by aligning scenario items with Indonesian healthcare communication patterns.

Current evidence indicates that empirical studies on therapeutic communication among Indonesian nursing students remain limited. OSCE assessment of 156 students, found that only 54% demonstrated adequate competence, with notable deficits in expressive domains, particularly empathy and student-patient education. However, OSCE-based assessments reflect observed performance and may overestimate real-world ability compared with self-report instruments such as TCSS-25; therefore, findings are not directly comparable due to methodological differences.

Ratnah (2024) reported a mean competence score of 68.2% and identified hierarchical communication and indirect speech patterns as key cultural barriers, but did not examine whether simulation structure moderated these effects. When benchmarked against the national competency standards developed by the Association of Indonesian Nursing Education Institutions (2020), which identifies therapeutic communication as a core graduate competency, previously reported Indonesian competence levels (54–68%) fall below expected thresholds associated with effective simulation-based education.

Although simulation-based learning has a growing evidence base, important gaps remain. First, most studies involve students already engaged in clinical practice, limiting understanding of classroom-only simulation outcomes. Second, competence profiles among novice students are rarely reported. Third, Southeast Asian contexts remain underrepresented in the literature. Fourth, in Indonesian settings, the association between specific simulation modalities and competence outcomes has not been systematically examined.

This study contributes by presenting the first domain-level competence profile of Indonesian nursing students using a locally adapted instrument and by examining role-play participation as a modifiable predictor of competence. The study objectives include measuring therapeutic communication competence among first-semester Indonesian nursing students during simulated teaching without patient interaction, identifying domain-specific strengths and weaknesses, examining predictors of competence (including demographic factors and simulation participation), and providing evidence-based recommendations for curriculum development. These findings are important for designing interventions to improve communication skills, establishing domain-specific benchmarks prior to clinical exposure, and advancing theoretical models of communication skill acquisition in nursing education.

## METHOD

Study design was quantitative, cross-sectional, and descriptive. It was conducted between September and December 2024 in the undergraduate nursing program of Institut Tarumanagara, a private university in Jakarta, Indonesia. This design was chosen to obtain an overview of students' clinical thinking ability immediately after structured simulation activities (Polit & Beck, 2008). The cross-sectional design was appropriate, given that the study aimed to profile competence levels and investigate predictors at a single point in time; however, future research

would require longitudinal designs to establish temporal relationships and potential causality.

The data collection technique used in this study was total sampling, whereby the entire eligible population of students was invited to participate. Participants consisted of 48 first-semester nursing students enrolled in the “Nursing Communication” course. Eligibility criteria included active enrollment in the course, completion of all required simulation activities, and no prior clinical experience. Exclusion criteria included insufficient course participation (two or more absences), previous healthcare education, and inability to complete the questionnaire. The response rate was 100% ( $n = 48$ ), as all eligible students participated. This approach reflected the rationale for including all eligible participants, given the small accessible population, and was consistent with recommendations for total sampling in descriptive cohort studies (Hertzog, 2008). While this sample size limited generalizability, it was adequate for descriptive analyses and for detecting moderate-to-large effect sizes Cohen (2013) power = 0.80,  $\alpha = 0.05$  for Cramér's  $V \geq 0.4$ ) in bivariate associations.

The course consisted of several instructionally structured modules designed to support the development of students' communication skills:

Theoretical base (Weeks 1–3; 9 hours): Fundamental theories of therapeutic communication, including Peplau's Interpersonal Relations Theory, communication ethics, and cultural aspects of patient care within the Indonesian healthcare system, were introduced.

Weeks 4–6 and Week 9: Supervised role-play sessions (9 hours): Students were organized into groups of 8–10. They engaged in simulated patient encounters within structured clinical scenarios. Facilitators observed sessions in real time and provided feedback alongside peer evaluation.

Peer simulation exercises (Weeks 7–9; 9 hours): Students participated in hypothetical cases as either patient or nurse in increasingly complex scenarios. These simulations included emotional components and basic physical assessment elements. Several sessions were recorded to support reflective debriefing.

Demonstration and return demonstration (Weeks 10–11; 6 hours): Faculty demonstrated effective communication techniques, which students then practiced through return demonstration. Targeted feedback on active listening, empathy, and adherence to competency checklists was provided.

Case study analysis (Weeks 12–14; 9 hours): Written and video-based case studies were analyzed to identify communication patterns using structured communication quality frameworks. Students worked in groups to develop plans for improving their communication skills.

Learning occurred in classrooms and laboratories without patient contact. All sessions were debriefed using the PEARLS framework Eppich (2015), incorporating reactions, description, analysis, and application phases. This debriefing process operationalized Kolb's reflective observation stage by enabling students to critically analyze their simulation experiences and translate insights into targeted improvements in communication skills.

In the second stage, cultural adaptation was conducted following the internationally accepted Beaton (2000) protocol, as outlined by (Sousa & Rojjanasrirat, 2011). Stage 1 (Forward Translation): Two bilingual registered nurses independently translated the original English TCSS into Indonesian. Stage 2 (Synthesis): The two translations were reconciled into a single Indonesian version through consensus discussion. Stage 3 (Back-Translation): Two different bilingual experts independently back-translated the Indonesian version into English, and conceptual equivalence was assessed. Stage 4 (Expert Committee Review): Three nursing education specialists, two linguists, and the translators reviewed semantic, idiomatic, experiential, and conceptual equivalence, resolving discrepancies through consensus. Stage 5 (Pilot Testing): The instrument was pilot tested with 15 nursing students from outside the main sample to assess clarity and cultural appropriateness.

Three nursing education experts evaluated content validity using the Content Validity Index (CVI). At the item level, consensus for inclusion was assessed across expert ratings. The Scale-Level Content Validity Index (S-CVI/Ave) was 0.89, exceeding the recommended threshold of  $\geq 0.80$  and indicating good content validity, as suggested by Polit (2008) for multi-expert panels. Internal consistency reliability was demonstrated with Cronbach's  $\alpha = 0.86$  for the 25-item scale, exceeding the accepted threshold of  $\geq 0.70$  for research instruments (Nunnally & Bernstein, 1994).

These psychometric criteria were selected in accordance with established standards for instrument validation in nursing research.

1. Initiating therapeutic relationships (6 items)
2. Active listening and empathy (7 items)
3. Information gathering (6 items)
4. Closing therapeutic interactions (6 items)

Responses were measured using a 4-point Likert scale ranging from 1 (never) to 4 (always). Total scores were converted into percentages and classified into three levels of competence: good competence ( $\geq 75\%$ ), moderate competence (60–74%), and low competence ( $< 60\%$ ). These cut-off points were adapted from Bloom's taxonomy-based classification methods and modified according to Bloom (1971), as referenced by Krathwohl (2002), and were consistent with thresholds used in previous studies on therapeutic communication competence (Kudubes et al., 2023).

Participants received written information sheets and were given 48 hours to decide whether to participate. Written informed consent was obtained. Questionnaires were administered under supervision in a classroom setting during Weeks 13–14, after completion of all simulation sessions. To reduce response bias, participation was voluntary, and students were explicitly informed that their responses would not affect academic grades. A research assistant who was not involved in course delivery collected anonymous questionnaires in sealed envelopes to minimize social desirability bias. Students were seated with adequate spacing to ensure independent responses.

Ethical approval for this study was granted by the Institutional Review Board of Institut Tarumanagara (Approval No: 042/FoN-IT/EC/IX/2024). Written informed consent was obtained from all participants. Ethical approval was also obtained from the relevant ethics committee (omitted for peer-review purposes). No identifying information was collected, ensuring participant anonymity throughout data collection.

Data were analyzed using SPSS version 26.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic characteristics and therapeutic communication competence. The Kolmogorov–Smirnov test was used to assess normality. Associations between categorical variables were analyzed using chi-square tests or Fisher's exact test when expected cell counts were less than five. Data were tested for normality and homoscedasticity (Levene's test), and independent-samples t-tests were used to compare competence scores between high- and low-participation groups. Pearson correlation was used for continuous variables meeting normality assumptions. Given moderate intercorrelations among some domain scores ( $r = 0.52\text{--}0.63$ ), Variance Inflation Factors ( $VIF < 5$ ) were calculated to assess multicollinearity, confirming that it did not compromise interpretation of domain-level results. All statistical tests were two-tailed, and significance was set at  $p < 0.05$ .

## RESULTS AND DISCUSSION

### Results

#### Participant Characteristics

A total of 48 first-semester nursing students with complete data were included (Demographic and Educational Characteristics, Table 1). One strength of this study is that the homogeneity of background (all science backgrounds, no previous communication training) helps control for educational background as an extraneous variable and strengthens internal validity, thereby enabling a clearer assessment of the influence of these simulation programs on competence.

**Table 1.** Participant Characteristics (N = 48)

Characteristic	Category	n	%	Mean (SD)	Range
<b>Age (years)</b>				19.2 (1.3)	18-22
		18	12	25.0	
		19	21	43.8	
		20	10	20.8	
		21-22	5	10.4	
<b>Gender</b>	Female	41	85.4		
	Male	7	14.6		
<b>Secondary Education Background</b>					
	Science	48	100.0		
	Other	0	0.0		
<b>Previous Communication Training</b>					
	Yes	0	0.0		
	No	48	100.0		

Age of participants ranged from 18 to 22 years (mean = 19.2, SD = 1.3). The higher proportion of female students (85.4%) represented the enrollment pattern in nursing schools within Indonesia (Efendi et al., 2019). The uniform background (100% science track, no prior communication training) has analytical significance: any variance in competence observed here can be attributed to involvement in the program, as there are no other between-group significant differences that would raise concern about preexisting educational levels affecting the results, thereby supporting the validity of using role-play participation as a predictor variable.

**Therapeutic Communication Competence Levels**

**Table 2.** Distribution of Therapeutic Communication Competence Levels (N = 48)

Competence Category	Frequency (n)	Percentage (%)	Mean Score (%)	SD	95% CI
<b>Good (≥75%)</b>	28	58.3	82.4	4.2	[80.8, 84.0]
<b>Moderate (60-74%)</b>	10	20.8	67.8	3.1	[65.6, 70.0]
<b>Low (&lt;60%)</b>	10	20.8	52.3	5.6	[48.3, 56.3]
<b>Total</b>	<b>48</b>	<b>100.0</b>	<b>72.8</b>	<b>12.4</b>	<b>[69.2, 76.4]</b>

About half of the students (58.3%) demonstrated good therapeutic communication skills. Importantly, 41.7% did not achieve good competence (20.8% moderate, 20.8% low), suggesting that simulation-based learning using practice with in vivo simulation alone is insufficient for a substantial minority of students. The overall mean score was 72.8% (SD = 12.4, 95% CI [69.2, 76.4]), indicating moderate competence with considerable interindividual variability (range: 42–95%), reflecting a potentially heterogeneous response to the standardized program. The good-competence rate of 58.3% is in line with Kudubes (2023) 62%Δ and Susta et al. (2021, 54%), providing context for effectiveness.

**Domain-Specific Competence**

**Table 3.** Domain-Specific Therapeutic Communication Competence Scores (N = 48)

Domain	Mean Score (%)	SD	Median	Range	Skewness	Kurtosis
<b>Initiating therapeutic relationships</b>	74.2	11.3	75.0	45-92	-0.68	0.42
<b>Active listening and empathy</b>	76.8	10.8	78.5	48-95	-0.82	0.89
<b>Information gathering</b>	71.4	13.2	72.0	40-90	-0.51	-0.23

<b>Closing therapeutic interactions</b>	68.5	14.1	69.0	38-88	-0.43	-0.56
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Domain-specific analyses revealed a use of competence across hierarchical domains. The highest scores were given to active listening and empathy (76.8%), initiating therapeutic relationships (74.2%), information-gathering (71.4%), and closing therapeutic interactions (68.5%). This pattern is consistent with the pedagogical sequence of the simulation program and can therefore be considered both cumulative in practice (as the most time was devoted to active listening skills and relationship initiation, primarily during Weeks 4–6) and longitudinal (with only a few targeted learning activities for closure skills occurring during Weeks 12–14). The closing domain’s lowest score (68.5%, within the moderate range) indicates that 6 hours of case-study-based closure training was insufficient for most students to achieve strong competence, with a significant negative skewness (−0.43), indicating a left-tailed distribution without a ceiling effect.

**Item-Level Analysis**

**Table 4.** Highest and Lowest Scoring Items on TCSS-25

Rank	Item	Domain	Mean	SD
<b>Top 5 Items</b>				
1	I maintain eye contact when patients speak	Active listening	3.52	0.58
2	I listen attentively without interrupting	Active listening	3.48	0.62
3	I introduce myself to patients	Initiating	3.45	0.71
4	I acknowledge patients' feelings	Active listening	3.41	0.68
5	I use a calm and respectful tone	Active listening	3.38	0.65
<b>Bottom 5 Items</b>				
21	I summarize what we discussed before ending	Closing	2.65	0.89
22	I verify patient understanding of information	Closing	2.58	0.94
23	I discuss follow-up plans clearly	Closing	2.52	0.91
24	I transition smoothly to ending	Closing	2.48	0.96
25	I ensure patients have opportunity for final questions	Closing	2.42	0.98

Five highest-scoring behaviors (mean = 3.38–3.52, Time-Out Domain): Item-level analysis also revealed that all top five rated behaviors were from the active listening domain, demonstrating relative strength in basic interpersonal skills (maintaining eye contact, active listening, self-introduction, acknowledging feelings, and using a respectful tone). These behaviors are easily observed, heavily modeled by faculty, and practiced in simulation phases, contributing to skill mastery.

Conversely, five of the lowest-scoring items (mean = 2.42–2.65) belong to the Closing domain, suggesting that students found structuring completion difficult. The lowest-scoring item was “I allow patients an opportunity to ask any final questions” (mean = 2.42), which indicates that students are more focused on task completion and less on patient-centered closure, consistent with novice communication behavior (Benner, 1984).

**Factors Associated with Competence Levels**

**Demographic Factors**

Bivariate analyses examined associations between demographic characteristics and competence levels (Table 5).

**Table 5.** Associations Between Demographic Characteristics and Competence Levels (N = 48)

Characteristic	Category	Good (n=28)	Moderate (n=10)	Low (n=10)	$\chi^2$	df	p	Cramer's V
<b>Age</b>	18-19 years	18 (64.3%)	7 (70.0%)	8 (80.0%)	2.34	2	0.31	0.16
	20-22 years	10 (35.7%)	3 (30.0%)	2 (20.0%)				
<b>Gender</b>	Female	23 (82.1%)	9 (90.0%)	9 (90.0%)	1.87	2	0.39	0.14
	Male	5 (17.9%)	1 (10.0%)	1 (10.0%)				

The results of the bivariate analysis showed that competence levels were not significantly associated with age ( $p = 0.31$ ) or gender ( $p = 0.39$ ), with small effect sizes according to Cramer's V for both. These non-significant findings are consistent with previous studies Edoho (2022) and Kudubes (2023) and indicate that demographic characteristics may not play a major role in the development of communication competence in structured simulation programs. Given the limitations of the small sample ( $N = 48$ ), which reduces power for detecting small effect sizes (estimated power = 0.45 for small effects; Cohen (2013) these null findings should be interpreted with caution and warrant replication with larger samples.

**Participation in Role-Play Activities**

Students reported self-perceived role-play participation on a 5-point scale (1 = very low to 5 = very high) and were dichotomized into a high participation group (score  $\geq 4.0$ ,  $n = 31$ ) and a low participation group (score  $< 4.0$ ,  $n = 17$ ). The  $\geq 4.0$  cut-off was selected as approximately one standard deviation above the scale midpoint, capturing students who consistently reported active engagement across all media types. This dichotomization allows for clinically interpretable group comparisons; however, the continuous participation variable was also examined using Pearson correlation analysis ( $r = 0.51$ ,  $p < 0.01$ ) to preserve statistical information and validate the categorical findings.

**Table 6.** Association Between Role-Play Participation and Competence Levels

Participation Level	Good (n=28)	Moderate (n=10)	Low (n=10)	$\chi^2$	df	p	Cramer's V
<b>High (n=31)</b>	22 (71.0%)	6 (19.4%)	3 (9.6%)	8.92	2	0.01	0.43
<b>Low (n=17)</b>	6 (35.3%)	4 (23.5%)	7 (41.2%)				

The students who reported high participation in role-play had considerably greater competence [ $\chi^2=8.92$ ,  $p=0.01$ , Cramér's  $V=0.43$  (medium-to-large practical effect)] than those reporting low participation. Good competence was found in 71.0% of high-participation students, compared with 35.3% of low-participation students (a clinically meaningful difference of 35.7 percentage points). The continuous participation score showed a moderate, significant positive correlation with overall competence ( $r=0.51$ ,  $p<0.01$ ), indicating that each unit increase in role-play engagement was associated with a meaningful improvement in competence. This suggests that, in terms of simulation program design, increasing student engagement in role-play activities from passive to active participation may almost double the proportion of students attaining good competence.

**Correlation Analysis**

Pearson correlation coefficients were calculated to examine relationships between continuous variables (Table 7).

**Table 7.** Correlations Between Study Variables

Variable	1	2	3	4	5	6
<b>1. Age</b>	-					
<b>2. Role-play participation</b>	0.08	-				
<b>3. Initiating relationships</b>	-0.03	0.42**	-			
<b>4. Active listening</b>	0.05	0.48**	0.61**	-		
<b>5. Information gathering</b>	-0.11	0.39**	0.58**	0.63**	-	
<b>6. Closing interactions</b>	-0.07	0.44**	0.52**	0.55**	0.59**	-
<b>7. Total competence</b>	-0.04	0.51**	0.78**	0.84**	0.82**	0.81**

\*\*p < 0.01

There were moderate positive associations between role-play participation and each of the four competence domains ( $r = 0.39\text{--}0.48$ ,  $p < 0.01$ ) and total competence ( $r = 0.51$ ,  $p < 0.01$ ). The substantial intercorrelations across domains ( $r = 0.52\text{--}0.63$ ) indicate the holistic, integrative nature of Therapeutic Communication Competence, whereby mastery within one domain facilitates growth in other domains. Variance Inflation Factors (VIFs) were used to assess multicollinearity, with all VIFs being  $< 3.0$ , suggesting that domain scores are moderately correlated but account for unique variance and can therefore be interpreted separately. This pattern is aligned with Peplau's theoretical proposition that diverse communication competencies are needed at each relational stage.

## Discussion

### Key Findings and Comparison to Previous Literature

This indicates that the design of pre-clinical, simulation-based learning, as well as well-structured practice, has encouraged foundational competencies in therapeutic communication among most first-semester nursing students. However, this finding represents a snapshot of performance at a single post-program time point and cannot determine causation or predict clinical competence due to the cross-sectional design. Interestingly, 41.7% did not achieve good competence, indicating that standardized simulation programs may have variable impacts and may require tailored additional support. Recent findings from Ratnah (2024) also show that a plateau of moderate competence is common among Indonesian nursing students and may result from structural educational constraints, such as limited simulation hours combined with cultural communication challenges.

### International Studies Comparison

The 58.3% good-competence rate found in this study is comparable to findings reported by (Kudubes et al., 2023). It is higher than that reported by Edoho (2022); 55% among Korean students) and suggests that role-play and peer simulation can produce outcomes like international benchmarks. However, important contextual differences should be considered, including that Turkish and Korean programs utilize standardized patients (trained actors), greater simulation intensity, and earlier clinical integration. Similar results achieved in this study using lower-fidelity modalities (role-play and peer simulation) suggest that deliberate program design and active engagement can partially offset limitations of high-fidelity simulation technologies due to cost constraints, a finding with practical relevance in resource-limited settings.

Using standardized patient simulation with trained actors and one-to-one feedback sessions, a good-competence rate of 74%, which is higher than the 58.3% observed in this study. Notably, this 15.7 percentage-point difference suggests that higher-fidelity simulation combined with individualized feedback may yield greater gains in competence than peer- and role-play alone. Considering this comparison, it appears that, in resource-limited settings such as many Indonesian nursing programs, structured feedback and debriefing protocols should be prioritized over high-cost simulation technologies.

### Comparison to Indonesian Studies

The current findings are consistent with Ratnah (2024) in the Indonesian context, indicating a stable pattern of moderate-to-good pre-clinical competency. The observed higher rate in this study (58.3% vs 54%) may be attributed to methodological differences: (i) OSCE assessments reflect observed performance, which may be more stringent than self-report measures; or (ii) improvements in simulation program quality since 2021. Crucially, both studies indicate that approximately 40–46% of Indonesian nursing students remain incompetent prior to clinical placement, indicating a systemic problem with direct patient safety implications. Such consistent findings across studies highlight the need for national policy on minimum simulation hours in Indonesian nursing curricula, as well as standardized minimum competency thresholds for progression and graduation.

### Theoretical Implications

The domain-specific competence pattern substantiates Peplau's (1997) theoretical proposition. Higher scores in initiating relationships (orientation stage) and active listening and empathy (identification stage) reflect competencies rehearsed earlier and more frequently in the simulation program, supporting Peplau's model of relational skill development through progressively interactive engagement. This is further reflected in lower scores in closing interactions (resolution stage), suggesting that this phase requires greater exposure to relational complexity and more practice than the six hours of case-based analysis provided.

The implication is that future curriculum design should allocate more structured time to resolution-stage competencies, including structured closure processes and patient understanding checks. The strong correlation between active role-play participation and competence also supports Kolb's Experiential Learning Theory, with higher engagement in concrete experience and reflective observation cycles associated with greater domain-specific competence (active listening,  $r = 0.48$ ; initiating relationships,  $r = 0.42$ ).

### CONCLUSION

The aim of this study was to assess therapeutic communication competence using a standardized tool and examine the impact of simulation-based learning in a patient-free environment on empathy levels among undergraduate nursing students. This cross-sectional study included 48 first-semester nursing students after completing a 14-week simulation-based learning intervention without patient contact. Overall, 58.3% of students demonstrated competence, with a mean total score of 72.8% (SD = 12.4), indicating moderate-to-good performance across domains.

The highest scores were observed in the active listening and empathy domain (76.8%), while the lowest were in the closing therapeutic interactions domain (68.5%). Participation in role-play was significantly associated with good competence (71.0% vs. 35.3% in the low-competence group;  $\chi^2 = 8.92$ ,  $p = 0.01$ ,  $V = 0.43$ ;  $\geq 35.7$  percentage-point difference [ppd], indicating medium-to-large practical significance). However, these findings reflect competence at a single point in time and do not establish causal relationships between simulation participation and competence development, as longitudinal evidence is required to confirm developmental trajectories.

No significant associations were found between demographic variables (age, gender) and competence, suggesting that engagement in simulation activities is more influential than background characteristics. Students who did not achieve good competence (41.7%) require targeted additional support. Low-competence students (20.8%, mean = 52.3%) would benefit from individualized simulation coaching focused on deficient domains, peer mentoring programs pairing lower-performing students with higher-performing peers, and additional closure-skills workshops incorporating video-recorded role-play with faculty debriefing.

Educational programs should strengthen active participation in simulation through mandatory engagement structures and formative competency checkpoints. Given the persistent gap in closing therapeutic interaction skills, dedicated curriculum modules of at least 12 contact hours should be implemented, focusing on closure-phase competencies such as summarizing, verifying comprehension, communicating follow-up, and inviting final questions, supported by competency checklists and video-based debriefing. Future research should employ multi-

institutional longitudinal designs, assess post-clinical performance outcomes, and examine whether higher-fidelity or standardized patient integration reduces the competence gap identified in this study.

**Conflict of Interest Statement:** The author declares no conflicts of interest.

**Funding Statement:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

**Acknowledgments:** The author would like to thank the nursing students who participated in this study and the faculty members who facilitated the data collection process.

**Author Contributions:** The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

**Data Availability Statement:** The data supporting this study's findings are available from the corresponding author upon reasonable request.

### ACKNOWLEDGEMENT

The author extends her sincere gratitude to first-semester nursing students of Institut Tarumanagara who voluntarily participated in this research and provided data during the data collection processes. The faculty members and academic staff who supported the roles of facilitation in role-play, peer simulation, classroom activity, and research administration are also appreciated. Their assistance and cooperation has greatly facilitated the conduct of this study.

### AUTHOR CONTRIBUTION STATEMENT

Author responsible for all stages of the research process including study conception and design, preparation of the research instrument, co-ordination of data collection, data analysis and interpretation of findings as well as writing the manuscript. The author also reviewed the intellectual content and for data accuracy; approved the manuscript to be published and is led accountable for all parts of the work.

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