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Gyeongeun Choi
Korea University Anam Hospital
Kuem Sun Han
hksun@korea.ac.kr

Korea University
Hyunjeong Shin
Korea University
Sung Reul Kim
Korea University
Siyoung Koak
Korea University

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Associations of Positive Psychological Capital, Critical Reflection, and Communication Ability with New Nurses' Clinical Competence: A Cross-sectional Study

First Author	Gyeongeun Choi[1] https://orcid.org/0009-0001-2906-066X Department of Nursing, Korea University Anam Hospital SEONGBUK-GU, SEOUL, South Korea Email: chlruddms77@kumc.or.kr
2nd Author (Corresponding author)	Kuem Sun Han[2] https://orcid.org/0000-0001-9414-8273 College of Nursing, Korea University SEONGBUK-GU, SEOUL, South Korea Institutional mailing addresses (02841), Tel (+82-2-3290-4919), Fax (+82-2-928-9108) Email: hksun@korea.ac.kr
3rd Author	Hyunjeong Shin[3] https://orcid.org/0000-0002-9843-5832 College of Nursing, Korea University SEONGBUK-GU, SEOUL, South Korea Email: hyunjshin@korea.ac.kr
4th Author	Sung Reul Kim[4] https://orcid.org/0000-0002-1768-0829 College of Nursing, Korea University

SEONGBUK-GU, SEOUL, South Korea

Email: srkim74@korea.ac.kr

Siyoung Koak[5]

https://orcid.org/0009-0002-3026-7833

5th Author College of Nursing, Korea University

SEONGBUK-GU, SEOUL, South Korea

Email: tdud1123@korea.ac.kr

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Abstract

Background: Because many new nurses leave within their first year owing to adaptation difficulties, enhancing their clinical competence is crucial for improving patient safety and care quality. This study examined the associations of positive psychological capital, critical reflection, and communication ability with clinical competence among new nurses.

Methods: A descriptive correlational study was conducted using data from 161 new nurses (with less than 12 months of clinical experience) at two tertiary hospitals in Seoul between March and April 2025. Participants' general characteristics were summarized using frequency analysis, independent t-tests, analysis of variance, Pearson correlation, and multiple regression analyses were conducted to examine group differences and relationships among the variables.

Results: Mean scores were 3.97±0.62 (out of 6) for positive psychological capital and, out of 5, 4.01±0.36 for critical reflection, 3.59±0.49 for communication ability, and 3.78±0.41 for clinical competence. Among subfactors, optimism and nursing skills scored highest within their respective variables. Clinical competence was significantly positively correlated with positive psychological capital (r=.617), critical reflection (r=.603), and communication ability (r=.622) (all p<.001). Significant positive correlations were also found among all independent variables. Multiple regression analysis identified positive psychological capital (β=.271, p=.001), communication ability (β=.268, p=.002), and critical reflection (β=.257, p=.002) as significant predictors, together explaining approximately 48.9% of the variance in clinical competence.

Conclusion: These findings are expected to serve as an academic foundation for developing integrated educational programs and organizational support systems to enhance new nurses' clinical competence.

Keywords: new nurses, clinical competence, positive psychological capital, critical reflection, communication ability

1. Background

Nurses account for approximately 42.3% of the total healthcare workforce and play a central role in hospital operations and patient care. However, 40.2% of new nurses leave their jobs within their first year, and work maladjustment—cited by 36.2%—is the most common reason for turnover [1]. Such instability in the nursing workforce leads not only to unnecessary resource consumption in hospitals but also to a decline in the quality of healthcare services and threats to patient safety.

Clinical competence refers to nurses' professional ability to assess patients' health status, provide appropriate interventions, and skillfully resolve problems in clinical settings [2,3]. For new nurses to adapt effectively to clinical settings, clinical competence—the foundation of nursing practice—must first be established. Accordingly, many healthcare institutions have strengthened organizational support, such as preceptorship programs and simulation education, to help new nurses quickly adapt to clinical environments [4]. However, even within the same environment, individual nurses differ considerably in their levels of competence and adaptation. This suggests that individual psychological, cognitive, and social characteristics—which organizational factors alone cannot explain—have an important influence on clinical competence.

New nurses experience anxiety and reduced confidence owing to the gap between theory and practice; their internal resources may therefore play a more decisive role in demonstrating competence than technical skills alone [5]. Particularly, because these individual factors can be developed and enhanced through education and training [6,7], they form the core of practical intervention strategies for new nurses. In this context, this study examines positive psychological capital, critical reflection, and communication ability as major individual factors associated with clinical competence among new nurses.

First, positive psychological capital is a positive psychological state composed of self-efficacy, hope, optimism, and resilience [6,7]; it is an internal resource that enables individuals to respond calmly even in uncertain clinical situations. Among new nurses, higher positive psychological capital is associated with greater job satisfaction and retention intention and positively affects organizational adaptation [8,9]. This indicates that positive psychological capital is a key resource that supports active problem-solving in stressful situations and enhances clinical competence.

Second, critical reflection is the cognitive and emotional process of examining the assumptions embedded in one's own experiences and seeking to improve practice [10]. New nurses have difficulty analyzing complex patient situations owing to their limited experience; critical reflection is a competency that transforms this experience into learning opportunities and fosters insight and problem-solving ability. A study of new nurses found that critical reflection training improved critical thinking and communication abilities and had positive effects on clinical adaptation and problem-solving ability [11].

Third, communication ability refers to the capacity to effectively deliver and receive messages in interpersonal interactions [12]. It is a social competence that enables accurate information delivery and the establishment of trusting relationships in clinical settings, where multidisciplinary collaboration is essential. Because new nurses often experience difficulties in communicating with other healthcare professionals, structured communication ability is an essential element of organizational adaptation [13]. Nurses with strong communication ability share information smoothly, show better teamwork and patient safety outcomes [14], and experience fewer patient safety incidents, such as medication errors [15].

Previous research has identified the relationships between individual variables and clinical

competence; however, few studies have analyzed positive psychological capital, critical reflection, and communication ability together to determine their relative influence. Because new nurses' clinical competence is directly linked to professionalism and patient safety [16], identifying factors that individuals can strengthen on their own is important for nurses' long-term growth and for securing organizational stability. Therefore, this study examined the associations of positive psychological capital, critical reflection, and communication ability with clinical competence among new nurses, to provide basic data for developing educational and support strategies to enhance their competence. The specific objectives were as follows.

1) To identify the levels of positive psychological capital, critical reflection, communication ability, and clinical competence among new nurses.
2) To analyze differences in positive psychological capital, critical reflection, communication ability, and clinical competence according to the general characteristics of new nurses.
3) To examine the correlations among positive psychological capital, critical reflection, communication ability, and clinical competence among new nurses.
4) To identify potential predictors of clinical competence among new nurses.

2. Methods

2.1 Study Design

This was a descriptive correlational study designed to identify the levels of positive psychological capital, critical reflection, communication ability, and clinical competence among new nurses; to analyze the relationships among these variables; and to determine the potential predictors of clinical competence in this population.

2.2 Participants

This study participants were new nurses working at two tertiary general hospitals in Seoul. Eligible nurses were those who fully understood the purpose and intent of the study, voluntarily agreed to participate, had less than 12 months of clinical experience, and were currently receiving or had experience receiving preceptorship training. The exclusion criterion was not providing direct patient care. Efforts were made to minimize potential sources of bias by applying clear inclusion and exclusion criteria and using standardized instruments.

The required sample size was calculated using the G*Power 3.1.9.7 program. Based on a previous study [17], the calculation for multiple regression analysis used a medium effect size of 0.15, a significance level of 0.05, a statistical power of 0.90, and 10 predictors, yielding a minimum required sample size of 147 participants. Allowing for a 10% dropout rate, 163 questionnaires were distributed.

2.3 Measures

A structured self-administered questionnaire was used to assess clinical competence and related factors among new nurses. The questionnaire consisted of seven items on general characteristics, 24 items on positive psychological capital, 19 items on critical reflection, 15 items on communication ability, and 45 items on clinical competence. All instruments were used after obtaining prior approval from the instrument developers and translators via email.

2.3.1 General Characteristics

Participants' general characteristics were assessed using seven items: gender, religion, age, marital status, highest degree, total duration of clinical experience, and current work department.

2.3.2 Positive Psychological Capital

Positive psychological capital was measured using Lee and Choi's [18] Korean adaptation of Luthans et al. [6] Psychological Capital Questionnaire. This instrument comprises four subfactors—self-efficacy, hope, optimism, and resilience—and 24 items scored on a 6-point Likert scale. Higher scores indicate higher levels of positive psychological capital. Cronbach's α was .93 in Lee and Choi [18] and .944 in the present study.

2.3.3 Critical Reflection

Critical reflection was measured using the Critical Reflection Competency Scale for Clinical Nurses developed by Shin et al. [19]. This single-factor instrument consists of 19 items rated on a 5-point Likert scale. Higher scores indicate higher levels of critical reflection. Cronbach's α was .85 in Shin et al. [19] and .905 in the present study.

2.3.4 Communication Ability

Communication ability was measured using the Global Interpersonal Communication Ability Scale, which is Hur's [20] modification of Rubin and Martin's [21] Interpersonal Communication Ability Scale. This 15-item instrument uses a 5-point Likert scale. Higher scores indicate higher communication ability. Cronbach's α was .86 in Hur [20] and .775 in the present study.

2.3.5 Clinical Competence

Clinical competence was measured using Choi's [22] modified and supplemented version of Schwirian's [23] Six-Dimension Scale. The instrument consists of 45 items across five factors: nursing process (11 items), nursing skills (11 items), education/cooperative relationships (eight items), interpersonal relationships (six items), and professional development (nine items). Items are rated on a 5-point Likert scale, with higher scores indicating higher clinical competence. Cronbach's α was .92 in Choi [22] and .952 in the present study.

2.4 Data Collection and Procedure

Data were collected for 24 days, from March 26 to April 18, 2025. The researcher visited the nursing departments of two tertiary general hospitals, explained the purpose and procedures of the study, and requested cooperation. After permission was obtained from the head of each department, recruitment notices were posted in the wards. New nurses who wished to participate received an explanation of the study. The researcher distributed the questionnaires directly, and participants were instructed to return the completed questionnaires in sealed envelopes.

2.5 Statistical Analysis

The collected data were analyzed using SPSS version 29.0 (IBM Corp., Armonk, NY, USA). Participants' general characteristics were analyzed using frequencies, percentages, means, standard deviations, and minimum and maximum values. The levels of positive psychological capital, critical reflection, communication ability, and clinical competence were analyzed using means, standard deviations, minimum and maximum values, skewness, and kurtosis. Differences in these variables according to general characteristics were analyzed using independent t-tests and analysis of variance, with Scheffé's test used for post hoc analysis. Correlations among these variables were analyzed using Pearson correlation coefficients. Multiple regression analysis was conducted to identify potential predictors of clinical competence among new nurses.

2.6 Ethical Considerations

This study was approved by the Institutional Review Board of Korea University Medicine (KUIRB-2025-0048-02). Participants were fully informed about the study's purpose and procedures, the measures for protecting their personal information, the voluntary nature of participation, and their right to withdraw at any time during the study. The survey was

conducted only after participants voluntarily provided written informed consent. The questionnaires were collected anonymously, and the consent forms and questionnaires were sealed and stored separately to prevent participant identification. All collected data are securely stored on an encrypted computer accessible only to the researcher and will be destroyed three years after the study is completed. Each participant received a small gift as a token of appreciation for completing the questionnaire.

3. Results

3.1 Participants' General Characteristics

After excluding questionnaires with missing data or unreliable responses, 161 were ultimately included in the analysis. The participants' general characteristics were as follows (Table 1). Regarding age, the largest group was 26 years or older (n=107; 66.5%). In terms of gender, women accounted for the majority (n=152; 94.4%). Regarding marital status, 160 participants (99.4%) were unmarried. In terms of education, a bachelor's degree was the highest qualification for 157 participants (97.5%). One hundred and nineteen participants (73.9%) reported having no religion. In terms of total clinical experience, 97 participants (60.4%) had less than six months, while 64 (39.6%) had six to less than 12 months. The most common work department was general ward (n=85; 52.8%), followed by intensive care unit (n=51; 31.7%), operating room/anesthesiology (n=13; 8.1%), the emergency medical center (n=10; 6.2%), and others (n=2; 1.2%).

[Table 1 here]

3.2 Levels of Positive Psychological Capital, Critical Reflection, Communication Ability, and Clinical Competence

Descriptive statistics for participants' levels of positive psychological capital, critical reflection, communication ability, and clinical competence are shown in Additional File 1.

Positive psychological capital was at an above-moderate level, with an overall mean score of 3.97±0.62 out of 6. Among its subfactors, optimism had the highest mean score at 4.18±0.70, followed by hope at 4.10±0.67, resilience at 3.85±0.67, and self-efficacy at 3.74±0.71. Critical reflection was relatively high, with a mean score of 4.01±0.36 out of 5. Communication ability was at a moderate level, with a mean score of 3.59±0.49 out of 5. Clinical competence had an overall mean score of 3.78±0.41 out of 5. Among its subfactors, nursing skills had the highest mean score at 3.92±0.47, followed by professional development at 3.77±0.50, interpersonal relationships at 3.76±0.52, nursing process at 3.72±0.44, and education/cooperative relationships at 3.68±0.56. The standardized skewness and kurtosis values for all variables and subfactors were within ±3, confirming that the normality assumption was satisfied.

3.3 Correlations Among Positive Psychological Capital, Critical Reflection, Communication Ability, and Clinical Competence

The results of Pearson correlation analysis are shown in Table 2.

Table 2. Correlations Among the Study Variables

Variables	Positive psychological capital	Critical reflection	Communication competence	Clinical competence
Positive psychological capital	1			

Critical reflection	0.632*** (<.001)	1		
Communication competence	0.687*** (<.001)	0.652*** (<.001)	1	
Clinical competence	0.617*** (<.001)	0.603*** (<.001)	0.622*** (<.001)	1

p<0.05: *, p<0.01: **, 0.001: ***

Positive psychological capital showed statistically significant positive correlations with critical reflection (r=.632, p<.001), communication ability (r=.687, p<.001), and clinical competence (r=.617, p<.001). Critical reflection showed statistically significant positive correlations with communication ability (r=.652, p<.001) and clinical competence (r=.603, p<.001), and communication ability also significantly and positively correlated with clinical competence (r=.622, p<.001). The correlation coefficients among all variables were statistically significant at the p<.001 level.

Correlations among the subdomains of each variable are shown in Additional File 2. The subfactors of positive psychological capital—self-efficacy, hope, optimism, and resilience—showed strong positive correlations with one another (r=.59–.85, p<.001), with the highest correlation observed between self-efficacy and hope (r=.85, p<.001). Critical reflection showed statistically significant positive correlations with all subfactors of positive psychological capital (r=.52–.63, p<.001), as well as with the subfactors of clinical competence (r=.38–.61, p<.001). In particular, it showed relatively strong correlations with communication ability (r=.65, p<.001) and professional development (r=.61, p<.001). In addition, statistically significant positive correlations were identified among the subfactors of clinical competence

(r=.49–.68, p<.001), with relatively strong correlations observed between nursing process and nursing skills (r=.68, p<.001) and between interpersonal relationships and professional development (r=.62, p<.001).

3.4 Potential Predictors of Clinical Competence

Table 3 shows the results of the multiple regression analysis, in which positive psychological capital, critical reflection, and communication ability were entered as independent variables to identify potential predictors of clinical competence among new nurses.

Table 3. Potential Predictors of Clinical Competence Among New Nurses

Variables	Unstandardized coefficients		Standardized coefficients	t	p	Tolerance	VIF
	B	SE	β				
Constant	1.126	0.259	-	4.354	<.001	-	-
Positive psychological capital	0.178	0.055	0.271	3.254	0.001	0.470	2.128
Critical reflection	0.289	0.090	0.257	3.221	0.002	0.511	1.958
Communication competence	0.220	0.070	0.268	3.148	0.002	0.449	2.226
R^2=0.489, adj R^2=0.479, F=50.059							

p<0.05: *, p<0.01: **, p<0.001: ***. SE: standard error, VIF: variance inflation factor.

The regression model was statistically significant (F=50.059, p<.001), and the explanatory

power was 48.9% (adj. R^2=.479). Positive psychological capital (β=.271, p<.001), critical reflection (β=.257, p=.002), and communication ability (β=.268, p=.002) were all significantly associated with clinical competence. The tolerance values of all variables were greater than .4 and the variance inflation factors were less than 10, indicating no multicollinearity problem.

4. Discussion

This study was conducted to identify the associations of positive psychological capital, critical reflection, and communication ability with clinical competence among new nurses, and to provide basic data for developing clinical adaptation and educational intervention programs for this population.

4.1 Levels of Positive Psychological Capital, Critical Reflection, Communication Ability, and Clinical Competence

Positive psychological capital among new nurses was at an above-moderate level. This score was higher than the 3.47 reported by Kim [24], who studied new nurses using the same instrument. This can reflect improvements in the broader educational environment, such as the strengthened emotional-competency education in nursing colleges, systematic adaptation education after COVID-19, and the nationwide expansion of dedicated nurse education systems in healthcare institutions since 2022 [25]. These results suggest that positive psychological capital among new nurses may be shaped not only by individual characteristics but also by broader environmental changes, such as shifts in the nursing education environment and the expansion of institutional support systems for new nurses.

Optimism scored the highest among the subfactors of positive psychological capital, followed by hope, resilience, and self-efficacy. All subfactor scores were higher than those reported by

Kim and Kim's [24] who studied new nurses using the same instrument: hope, 3.64±0.70; optimism, 3.55±0.71; resilience, 3.40±0.85; and self-efficacy, 3.29±0.68.

A noteworthy result of this study is that the levels of optimism and hope were relatively high, whereas those of self-efficacy and resilience were relatively low. The high levels of optimism and hope among new nurses may reflect their expectations for growth at the start of their careers, their willingness to apply knowledge in practice, and strengthened positive psychology education during their undergraduate programs. However, the particularly low level of self-efficacy relative to the other subfactors is consistent with Bandura's [26] social cognitive theory, which holds that self-efficacy improves through direct experiences of success; the low level therefore likely stems from limited confidence in one's abilities owing to insufficient clinical experience. Resilience was also relatively low, indicating that new nurses have not yet fully developed the ability to recover from the various stresses and difficulties they encounter in clinical settings. Therefore, targeted interventions that build genuine confidence are needed, beyond simply raising positive expectations. For example, gradually increasing the difficulty of clinical skills, providing immediate positive feedback, and presenting role models through mentoring help improve self-efficacy [27]. Through these interventions, new nurses may recover more quickly from the difficulties they encounter in actual clinical settings.

Critical reflection was relatively high. This is similar to the score of 4.02 reported by Lee and Shin [28], whose study involved experienced nurses with five or more years of clinical experience. It is noteworthy that the participants in this study showed a level of critical reflection comparable to that of experienced nurses. This may reflect recent nursing education that emphasizes reflective thinking, such as problem-based learning, simulation education, and reflective journal writing, as well as a case-based debriefing culture in clinical settings. Additionally, characteristics of Generation Z, who are accustomed to critically analyzing

information in digital environments, may also have contributed to this result. However, ongoing educational evaluation is needed to determine whether a high level of cognitive reflection translates directly into improved practice in complex clinical situations, and to strengthen its link with practical competence.

Communication ability was above moderate. This is similar to the score of 3.58 reported by Jo et al. [29], who studied new nurses using the same instrument. Additionally, this score was higher than those reported by Lim and Yi [30] for operating room nurses, and by Son and Sung [31], for general nurses.

The apparent improvement in new nurses' communication ability compared with previous studies can reflect recent changes in nursing education and clinical settings. These results are consistent with those of a previous study reporting that new nurses had higher communication ability than experienced nurses [32]. This may be because recent nursing college curricula include training in structured communication techniques such as Situation–Background–Assessment–Recommendation (SBAR), together with systematic communication training through simulation practice, enabling new nurses to enter clinical settings with communication skills already developed during their undergraduate education [33]. In addition, as communication training aimed at improving patient safety and experience has expanded in healthcare institutions, new nurses' communication ability appears to have improved relative to previous studies. In particular, the dedicated nurse education system, which began with national support in 2019 and expanded to healthcare institutions nationwide in 2022, appears to have positively affected new nurses' hospital adaptation [25]. Finally, this result may reflect nursing students' heightened awareness, after COVID-19, of the importance of adaptation and practical competence for their future roles as new nurses [34]. These changes in the educational environment appear to have contributed to new nurses entering clinical settings with a

relatively good level of basic communication ability.

However, the level was somewhat lower than that reported in a study of experienced nurses with an average of more than five years of clinical experience [35]. This may be because, although new nurses acquire theoretical knowledge and basic communication skills through repeated education, their limited clinical experience makes it harder to respond flexibly to unstructured situations, such as emergencies, conflicts with caregivers, and multidisciplinary coordination. This suggests that communication is a practical competency developed through diverse clinical experiences, not merely the acquisition of skills, and that tailored simulation education focusing on conflict management and collaboration should be strengthened.

Clinical competence was above moderate. This result is similar to the score of 3.62±0.39 reported by Kim and Min [36], who studied new nurses using the same instrument. In contrast, it was lower than the 4.21 reported by Kim and Kim [37] for experienced nurses, confirming new nurses' clinical competence remains relatively limited compared with that of experienced nurses.

Regarding the subdomains of clinical competence, nursing skills had the highest mean score, followed by professional development, interpersonal relationships, nursing process, and education/cooperative relationships. Nursing skills may have scored the highest because new nurses acquire basic nursing abilities relatively quickly through repeated hands-on training and preceptor guidance from the early stage of employment. This pattern has been consistently reported in previous studies, in which new nurses rated their nursing skills higher than their nursing process or professional development [37]. These results may reflect that procedural competencies, such as nursing skills, can improve rapidly through short-term training, whereas decision-making and problem-solving in complex clinical situations, as well as multidisciplinary collaboration, require more time and experience. In particular, the relatively

low scores for the nursing process and education/cooperative relationships domains suggest that new nurses have difficulty with critical thinking tasks, such as patient assessment, nursing diagnosis, and intervention evaluation, as well as with educating multidisciplinary team members, patients, and caregivers.

The results suggest that, among new nurses, organizational support and the educational environment may be more important influences than individual characteristics. Therefore, integrated support strategies, such as systematic preceptorship programs, stepwise tailored education, and a continuous feedback system, appear necessary to improve clinical competence.

4.2 Potential Predictors of Clinical Competence

Positive psychological capital, critical reflection, and communication ability all showed statistically significant positive correlations with clinical competence among new nurses, and the multiple regression analysis indicated that all three factors were significant predictors, explaining 48.9% of the variance. This points to the multidimensional nature of new nurses' clinical competence, which emerges from the integrated action of psychological, cognitive, and social resources rather than the mere acquisition of nursing skills. Therefore, educational programs that strengthen new nurses' individual competencies are needed, alongside environmental support at the organizational level.

First, positive psychological capital was identified as a significant predictor of clinical competence among new nurses. This supports the results of Oh and Ko [38], who reported a significant relationship between nurses' positive psychological capital and nursing performance. These results suggest that the individuals' positive emotions and resilience act as psychological resources that enhance new nurses' confidence and promote active problem-solving in unexpected clinical situations. In particular, among the subfactors, hope was a major potential predictor. As the will to pursue goals and the ability to find pathways toward them,

hope helps new nurses maintain a goal-oriented attitude and seek solutions even amid difficulties in clinical settings. These results are consistent with those of previous studies reporting that higher levels of hope among nurses are associated with improved job satisfaction and work adaptation [9,24].

The subfactors of positive psychological capital—self-efficacy, hope, optimism, and resilience—showed strong positive correlations with one another. This indicates that, as suggested by Bandura's [26] social cognitive theory, self-efficacy is closely connected to hope as goal-oriented thinking and interacts complementarily with optimism as a positive expectation for the future. Therefore, positive psychological capital can be understood not as a unidimensional factor but as a key psychological resource that strengthens new nurses' clinical competence through the interaction of its subfactors, such as self-efficacy, hope, optimism, and resilience.

Second, critical reflection was identified as a significant potential predictor of clinical competence. This suggests that when new nurses reflectively analyze their clinical experiences rather than simply repeating them, they can transform those experiences into meaningful learning and strengthen their clinical judgment and performance. Reflection is a cognitive process that involves critically examining one's own thoughts and actions to guide better decision-making and practice [10], and it has been emphasized as an essential element in the growth of professional nurses. Indeed, Lee and Shin [28] found that critical reflection among clinical nurses had a positive effect on nursing performance.

Critical reflection showed strong correlations with positive psychological capital and communication ability, as well as significant relationships with all subfactors of clinical competence. This suggests that critical reflection plays an important role across all domains of clinical competence. In particular, the finding that critical reflection was a significant predictor

of clinical competence suggests that reflection is not a fixed trait but a cognitive competency that can be developed through education and experience. It is a key resource that helps new nurses transform their limited clinical experience into meaningful learning and cope with complex clinical situations. Therefore, systematic educational interventions—such as reflective journal writing, case-based debriefing, and mentoring—are needed to strengthen new nurses' critical reflection competency and link it to practice.

Third, communication ability was identified as a significant potential predictor of clinical competence among new nurses. Particularly, smooth communication enhances the efficiency of multidisciplinary collaboration and patient education, indicating that it is directly linked to demonstrating clinical competence. This is consistent with the results of Jo et al. [29], who reported that communication ability among new nurses was related to job stress and work adaptation.

Communication ability showed strong correlations with positive psychological capital and critical reflection. This suggests that positive psychological resources provide the foundation for strategic communication, while reflective thinking serves as a mechanism for analyzing problems in communication process and driving improvement. Therefore, communication ability should be treated not merely as an interpersonal skill but as an essential social competency for demonstrating clinical competence. To strengthen it, systematic, practice-oriented educational programs—such as SBAR-based training, simulation education, and role-playing—are required.

The strong correlations among positive psychological capital, critical reflection, and communication ability suggest that the three variables are closely interconnected. The psychological composure gained through positive psychological capital promotes critical reflection, and this reflective process in turn enhances social competence by analyzing

problems in the communication and seeking ways to improve them. Therefore, improving clinical competence requires multidimensional educational programs that strengthen these three factors together, rather than an approach focused on a single competence.

Taken together, new nurses' clinical competence is a multidimensional outcome that combines psychological resources, cognitive reflection, and social communication ability, rather than the simple acquisition of nursing skills. To this end, organizations should strengthen psychological capital by sharing success experiences and positive feedback, support cognitive growth through reflective journals and case-based debriefing, and cultivate practice-oriented communication ability using SBAR and simulation education. In particular, if the dedicated nurse education system and preceptorship are linked to systematically support the development of these individual competencies, they could make a decisive contribution to helping new nurses demonstrate professionalism in clinical settings and settle securely into their organizations.

5. Conclusions

New nurses' clinical competence was significantly explained by psychological, cognitive, and communicative factors, including positive psychological capital, critical reflection, and communication ability. The results suggest that, beyond technical skills training, multidimensional interventions integrating psychological, reflective, and communication-related competencies are needed to support new nurses' adaptation to clinical practice. In particular, strengthening goal-oriented attitudes and problem-solving abilities through positive psychological support, promoting reflective thinking through reflective journals and case-based debriefing, and providing practice-based communication training such as SBAR-based simulation may contribute to improving clinical competence among new nurses.

This study is meaningful in that it provides foundational evidence for developing practical educational programs and institutional support strategies to enhance new nurses' clinical competence. However, several limitations should be considered. First, the participants were recruited from only two tertiary general hospitals in Seoul, which limits the generalizability of the results to all new nurses. Future studies should include nurses from hospitals of various sizes across different regions. Second, as all variables were self-reported, subjective interpretation and social desirability bias may have influenced the results. Therefore, future research should incorporate more objective evaluation methods, such as preceptor assessments, clinical nurse educator observations, or multi-source evaluations. Third, owing to the cross-sectional design, causal relationships among the variables could not be determined. Longitudinal studies and experimental research are needed to examine changes over time and verify the effects of specific intervention programs. Finally, this study focused mainly on individual factors and did not fully address organizational factors such as organizational culture, staffing, and preceptorship systems. Future research should develop a multidimensional model that integrates both individual and organizational factors affecting clinical competence.

List of Abbreviations

SBAR: Situation–Background–Assessment–Recommendation

COVID-19: Coronavirus Disease 2019

SPSS: Statistical Package for the Social Sciences

IRB: Institutional Review Board

KUIRB: Korea University Institutional Review Board

VIF: Variance inflation factor

Declarations

Ethics Approval and Consent to Participate

This study was approved by the Institutional Review Board of Korea University Medicine (KUIRB-2025-0048-02). The study was conducted in accordance with the Declaration of Helsinki and relevant institutional guidelines and regulations. All participants were informed of the purpose and procedures of the study, the voluntary nature of participation, their right to withdraw at any time, and the measures taken to protect their confidentiality. Written informed consent was obtained from all participants prior to data collection.

Consent for Publication

Not applicable.

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are not publicly available to protect participant confidentiality but are available from the corresponding author on reasonable request and subject to institutional approval.

Competing Interest

The authors declare that they have no competing interests.

Funding

Not applicable.

Authors' Contributions

GC and KSH conceived and designed the study. GC collected the data, performed the statistical analyses, and drafted the manuscript. KSH supervised the study and contributed to the interpretation of the results and critical revision of the manuscript. HS and SRK contributed to the study methodology, interpretation of the findings, and critical revision of the manuscript. SK contributed to substantive revision, review, and editing of the manuscript. All authors read and approved the final manuscript.

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Tables

Table 1. General Characteristics of New Nurses (N=161)

Variables	Categories	n	%	M±SD
Age (years)	20–25	54	33.5	-
	26–30	106	65.8	
	31–35	1	0.6	
	36–40	0	0	
	≥41	0	0	
Gender	Man	9	5.6	-
	Woman	152	94.4	
Marital status	Unmarried	160	99.4	-
	Married	1	0.6	
Highest degree	Bachelor's degree	157	97.5	-
	Master's course	4	2.5	
	Master's degree	0	0	
	Doctoral course	0	0	
	Doctoral degree	0	0	
Religion	Yes	42	26.1	-
	No	119	73.9	
Total clinical	<3	23	14.3	2.36± 0.86
	3 to <6	73	45.3	

experience (Months)	6 to <9	46	28.6	
	9 to <12	17	10.6	
Current work department	Ward	85	52.8	-
	Intensive care unit	51	31.7	
	Operating room/anesthesiology	13	8.1	
	Emergency medical center	10	6.2	
	Others	2	1.2	

*Others: Outpatient department, advanced practice nurse. M: mean, SD: standard deviation.

Additional files

File name: Additional file 1

File format: docx

Title of data: Descriptive Statistics of the Study Variables

Description of data: This file presents the means, standard deviations, number of items, skewness, standardized skewness, kurtosis, standardized kurtosis, and observed minimum and maximum scores for positive psychological capital and its subdomains, critical reflection, communication ability, and clinical competence and its subdomains among the study participants.

File name: Additional file 2

File format: docx

Title of data: Correlations Among the Subdomains of the Study Variables

Description of data: This file presents the Pearson correlation coefficients and corresponding p-values among the subdomains of positive psychological capital, critical reflection, communication ability, and clinical competence.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- AdditionalFile1.docx
- AdditionalFile2.docx