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Development and Psychometric Evaluation of the Forensic Nursing Competency Scale-Short Form for Hospital Nurses

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ABSTRACT

Aim: To develop and evaluate the psychometric properties of the Forensic Nursing Competency Scale-Short Form (FNCS-SF) for hospital nurses.

Background: Nurses who care for victims of sexual abuse, domestic violence and elder or child abuse require forensic nursing competencies. However, few valid and reliable tools exist to assess these competencies in hospital settings.

Design: A cross-sectional study.

Methods: The study was conducted in two phases. Phase 1 involved the development and refinement of the FNCS-SF with input from 10 nurses. Phase 2 tested the tool's psychometric properties. A total of 420 nurses from two tertiary hospitals in South Korea participated. Participants were divided into two groups: Study 1 ($n = 200$) for exploratory factor analysis and Study 2 ($n = 220$) for confirmatory factor analysis.

Results: The FNCS-SF consists of 27 items across six factors: awareness of the medicolegal problem, evidence-based practice in forensic nursing, collaborative forensic nursing with community partners, safety and security, professional career development and multidisciplinary integrated knowledge. An item analysis revealed significant correlations between each item and the total scale score. Criterion validity was supported by significant correlations between the FNCS-SF and attitudes and beliefs towards forensic nursing and the performance of the forensic nursing role. Confirmatory factor analysis supported a six-factor model with good fit indices. Cronbach's alpha indicated strong internal consistency.

Conclusion: The FNCS-SF is a valid and reliable tool for assessing hospital nurses' forensic nursing competencies, which can improve patient safety and treatment outcomes. Further validation in diverse clinical settings is recommended.

Impact: The FNCS-SF can be used to improve forensic nursing competency through professional development.

Patient or Public Contribution: None.

Implications for Clinical Practice: The FNCS-SF provides a standardised framework to evaluate nurses' forensic competency, guiding education and practice to enhance clinical preparedness and deliver victim-centred care.

Reporting Methods: STROBE guidelines.

The first two authors are equal contributors.

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What does this paper contribute to the wider global clinical community?

- The assessment of forensic nursing competencies has the potential to improve patient safety and treatment outcomes.
- The FNCS-SF has shown its value for evaluating hospital nurses' forensic nursing competencies.
- The FNCS-SF can be used as a basis for developing an education program to strengthen forensic nursing competencies.

1 | Introduction

Forensic nursing is a process that extends legal knowledge and skills to holistic care, including biological, psychological, social and spiritual care (Valentine et al. 2020). It is a multidisciplinary practice in which nurses collaborate with other medical, investigative and legal disciplines to collect, store and preserve legal evidence (Williams 2022). Forensic nursing is a global profession that integrates nursing care with legal processes (Machado et al. 2020). As modern societies become increasingly industrialised and complicated, socially harmful incidents and accidents, such as traffic and safety accidents, are increasing, as are violent crimes against the socially vulnerable, including sexual violence and child and elder abuse (Carney 2021; Shako and Kalsi 2019).

For this study, a forensic patient is defined as any individual whose care involves a legal or medicolegal context, including victims or suspected perpetrators of violence, abuse or crime, as well as patients from incidents such as traffic accidents requiring forensic investigation. For example, the number of sexual violence cases in Korea has increased from 29,863 in 2014 to 41,433 in 2022 (Korean Women's Development Institute 2024). Moreover, a recent nationwide survey on elder abuse found that approximately 10% of Korean older people were neglected and abused (Jeon and Kong 2022). In addition, the number of child abuse cases in Korea was 25,739 in 2023, representing a steady increase from 24,604 in 2018 (Ministry of Health and Welfare 2024; National Center for the Rights of the Child 2023). This context underscores the growing demand for forensic nursing roles that apply legal knowledge and skills to the scientific investigation of events and accidents while providing specialised care (Machado et al. 2020; Williams 2022). However, despite the increased awareness of forensic nursing, there is still a lack of effective training regarding the delivery of critical services to victims of violence and trauma (Han and Lee 2022). For instance, biological evidence can be lost or contaminated over time, and if nurses lack forensic science knowledge or do not follow the appropriate guidelines, the evidence may be mishandled and overlooked (Silva et al. 2022). Therefore, nurses should adhere to the principles of evidence linkage. In various healthcare settings, nurses who care for patients with legal issues need to acquire the essential forensic nursing knowledge, skills and professional attitudes to practice (Kelishami et al. 2020).

Prior studies on forensic nursing have primarily emphasised the need for advanced forensic practice or the establishment of forensic nursing education programs for graduate and registered nurses (Firuzi et al. 2022; Speck et al. 2022), with much of this work narrowly focused on emergency department nurses (Donaldson 2020; Emami et al. 2024). While nurses may provide care for both victims of violence and individuals suspected of being perpetrators, forensic encounters arise across a wide range of healthcare settings, involving cases of violence, abuse, neglect or legal investigation (Berishaj et al. 2020).

Nevertheless, nurses across different hospital settings frequently encounter patients who disclose experiences of abuse or crime or present with injuries suggestive of forensic issues, underscoring the discrepancy between limited educational preparation and the realities of clinical practice (Machado et al. 2020).

Forensic nursing has not been formally incorporated into undergraduate curricula in Korea, and there is no clear expectation that nurses will be proficient in this area. However, clinical nurses often encounter patients who disclose abuse or crime, or present with injuries that raise forensic concerns. Addressing this gap requires not only training but also systematic evaluation of forensic nursing competencies. Such evaluation provides the foundation for competency-based education and practice, guiding curriculum development and supporting the delivery of safe, victim-centred care.

Accordingly, the present study sought to evaluate the Forensic Nursing Competency Scale-Short Form (FNCS-SF) as a reliable instrument for assessing forensic nursing competencies, thereby facilitating their integration into practice and underscoring their role in strengthening patient care and safety.

2 | Background

Forensic nursing competency can be defined as the integration of skills and knowledge that enable nurses to recognise and address the legal dimensions of healthcare, including identifying signs of abuse, documenting and preserving evidence and collaborating with legal and community agencies (Han et al. 2023). The evaluation of this competency is essential, as it reflects nurses' capacity to deliver safe and appropriate care in forensic situations and reinforces accountability within the healthcare system (McFadden 2021).

This assessment should be conducted using valid and reliable tools that are sensitive to forensic cases and encapsulate the unique needs of nurses. Koskinen et al. (2014) used the Finnish version of the Nurse Competence Scale (NCS) to explore the professional competence of Finnish forensic nurses. The 73-item NCS was originally developed to measure general nursing competencies across different hospital work environments (Meretoja et al. 2004), but has also been applied in forensic nursing research (Koskinen et al. 2014). It has been validated, demonstrating good internal consistency; however, it uses a large number of questions to clearly identify competencies related to forensic nursing.

In Korea, the 53-item Forensic Nursing Competency Scale (FNCS) was developed to measure the forensic nursing competencies of Korean nurses (Jo et al. 2020). The FNCS was

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developed on the basis of an evolutionary conceptual analysis of forensic nursing competencies (Jo et al. 2018) and further informed by a systematic review of 40 articles drawn from medical, psychological and nursing literature. In addition, 10 individual interviews with nurses were conducted to derive competency statements. The sample size was considered adequate, as it was guided by the principle of data saturation and consistent with methodological recommendations for instrument development (Hennink and Kaiser 2022). As a result, the original FNCS consisted of 53 items across eight factors: (1) awareness of medicolegal problems; (2) multidisciplinary integrated knowledge; (3) education and training in forensic science; (4) professional career development; (5) evidence-based practice in forensic nursing; (6) collaborative forensic nursing with community partners; (7) safety and security and (8) effective communication and supportive relationships. These factors were defined according to Lenburg's Competency Outcomes and Performance Assessment (COPA) model (Lenburg 1999). The FNCS has been demonstrated to be a valid and reliable instrument for assessing forensic nursing competencies (Jo et al. 2020).

However, the FNCS contains many items and was primarily designed for emergency department nurses. Prior research indicates that shorter, easy-to-use questionnaires tend to have greater response rates than long and complex ones (Snogren et al. 2022). Therefore, a shortened version of the FNCS is needed to reduce respondent burden and enable broader use by hospital nurses in diverse settings. A concise tool that captures the core domains of forensic nursing competency enhances feasibility and response rates while ensuring a valid and meaningful assessment. Ultimately, such a tool can guide training and evaluation initiatives that strengthen forensic nursing practice and contribute to safer, higher-quality patient care.

3 | The Study

3.1 | Aim

The purposes of this study were (1) to develop a short form of the FNCS (FNCS-SF) to assess forensic nursing competency for immediate use in practice and (2) to test its validity and reliability among hospital nurses.

4 | Methods

4.1 | Study Design

This study used a cross-sectional research design to develop the FNCS-SF for hospital nurses and consisted of two phases (Figure 1). In Phase 1, the FNCS-SF was developed and refined. In Phase 2, its psychometric properties were evaluated to assess the validity and reliability of the scale in accordance with the scale development guidelines (DeVellis and Thorpe 2021). The study was conducted in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional research (Table S1).

4.2 | Study Setting and Sampling

Ten nurses were interviewed during Phase 1 to develop and refine the 27-item FNCS-SF. Six of them had more than five years of work experience in emergency rooms, outpatient clinics, intensive care units or general hospital wards, providing direct nursing care to individuals with accident-related injuries, many of which occurred in the context of criminal acts such as assaults, domestic violence or traffic-related offences. In addition, six nurses had experienced making statements and recordings in judicial institutions, such as courts and police stations. The remaining four nurses had prior experience providing direct hospital-based care to patients involved in incidents or accidents with forensic implications.

At the time of the study, they were employed in law enforcement-related agencies, such as the police, sexual violence centres and prisons.

A total of 420 nurses (200 in Study 1 and 220 in Study 2) participated in Phase 2. The inclusion criteria were as follows: (1) clinical work experience of 6 months or more and (2) willingness to participate in this study. According to the standard for calculating the number of samples for an exploratory factor analysis (EFA), the required number of participants is at least 5 to 10 times the number of items (Costello and Osborne 2005). Therefore, approximately 135 to 270 participants were required, given the 27 preliminary questions in Phase 2. In addition, a minimum of 200 participants was required to determine the sample size for the confirmatory factor analysis (CFA) (Myers et al. 2011). Consequently, the sample size of this study was sufficient for data analysis, with a participation rate of 95.4%.

4.3 | Procedures

4.3.1 | Phase 1: Developing the 27-Item Forensic Nursing Competency Scale-Short Form

4.3.1.1 | Forensic Nursing Competency Scale-Short Form (27 Items, 6 Factors). Although the original FNCS remains valid and reliable for measuring forensic nursing competency, it comprises a large number of questions and was designed for use in the emergency department. This necessitated the development of a shorter version of the FNCS (FNCS-SF), which involved several steps. An expert panel comprising three nursing professors, two coroner investigators, two forensic nurses specialising in sexual violence, two psychiatric nurses and a police officer majoring in forensic nursing evaluated the content validity of the FNCS-SF. Among them, the nursing professors, forensic nurses and psychiatric nurses were registered nurses, whereas the coroner investigators and the police officers were non-nursing experts with specialised forensic expertise. Subsequently, we calculated the content validity index (CVI) for the items (I-CVI). I-CVI greater than 0.80 was considered acceptable, which resulted in a total of 29 valid items. The expert panel discussed and revised the items, finally deciding to integrate items 25 ('I can identify the difference between trauma that is self-inflicted and trauma that is not.') and 29 ('I can distinguish between trauma and disease in a patient's physical injuries.') into item 2 ('I can check the shape and type of damage related to the criminal event or accident in the patient's body.'). This resulted in 27 items across 6 factors.

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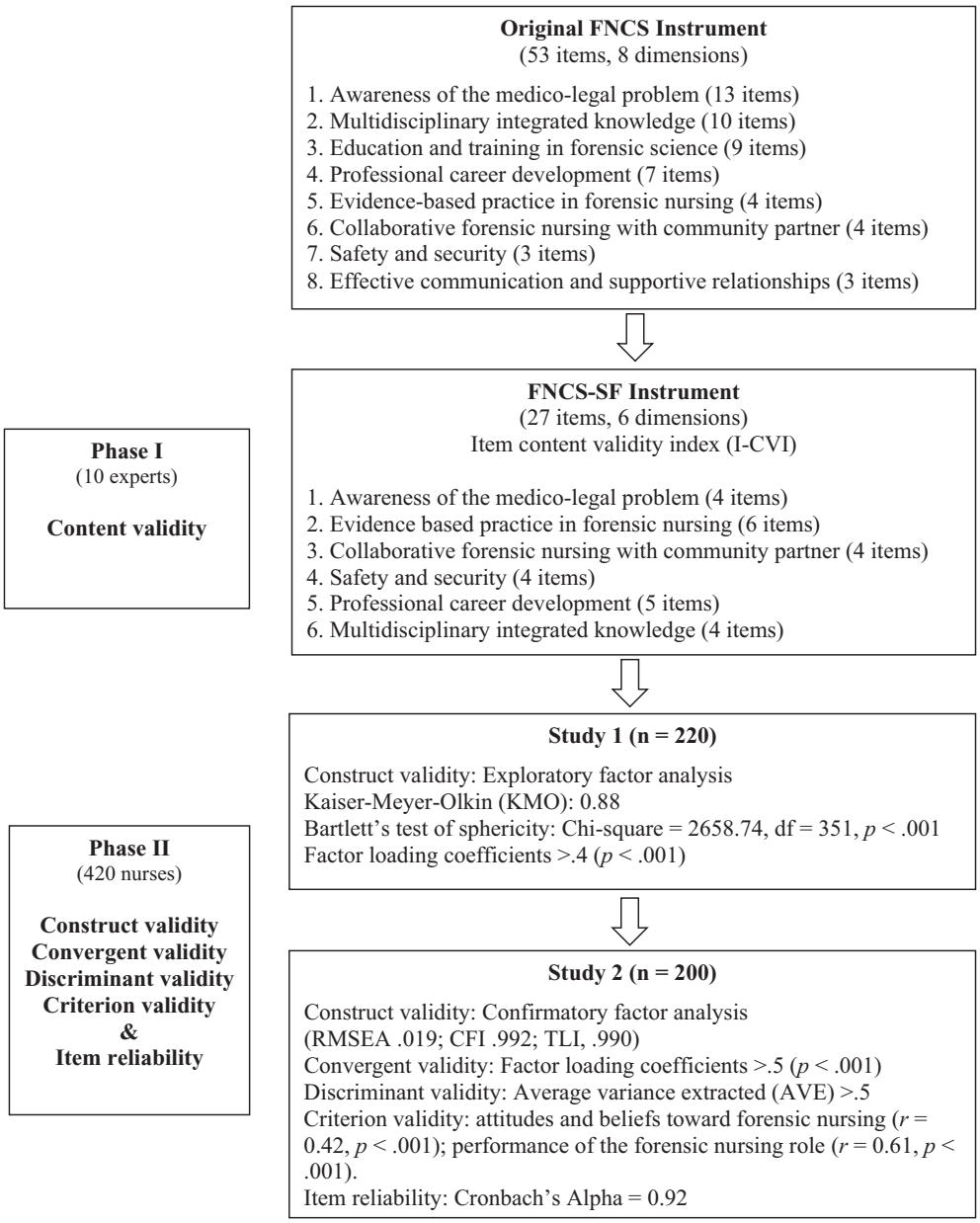


FIGURE 1 | Forensic nursing competency scale-short form psychometric analysis process.

4.3.2 | Phase 2: Psychometric Properties of the Forensic Nursing Competency Scale-Short Form

In Phase 2, participants were recruited from two tertiary hospitals (a university hospital in Busan and a general hospital in Changwon) in South Korea. Data collection was performed from June to September 2021. The researchers visited the nursing departments of each hospital to explain the study aims and obtain written permission from the facility to recruit their staff; subsequently, informed consent was obtained individually from each participating nurse. Paper-and-pencil survey questionnaires were distributed through the head nurse in each ward to the nurses who voluntarily agreed to participate in the study. After one week of data collection, the researchers revisited the hospital and collected the questionnaires.

An EFA was conducted to determine the optimal factor structure for the FNCS-SF (Study 1). The CFA and convergent, discriminant and criterion validity tests were performed to evaluate the construct validity of the FNCS-SF (Study 2). Criterion validity was also assessed to compare the FNCS-SF and other measures (attitudes and beliefs towards forensic nursing and performance of the forensic nursing role); the FNCS-SF was hypothesised to be moderately related to these measures. The internal consistency of the FNCS-SF was also assessed.

4.4 | Measures

4.4.1 | General Characteristics

The participants' general characteristics were assessed, including demographic (i.e., age, sex, marital status and educational level) and occupational (i.e., position at work, working unit, forensic case management experience and type of hospital work) characteristics.

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4.4.2 | The Forensic Nursing Competency Scale-Short Form

The FNCS-SF contains 27 items across 6 factors: (1) awareness of the medicolegal problem (4 items); (2) evidence-based practice in forensic nursing (6 items); (3) collaborative forensic nursing with community partners (4 items); (4) safety and security (4 items); (5) professional career development (5 items) and (6) multidisciplinary integrated knowledge (4 items). All items on the FNCS-SF are anchored with a 4-point Likert-type response (1 = strongly disagree to 4 = strongly agree). The total score ranges from 27 to 108, with higher total scores indicating higher levels of forensic nursing competency.

4.4.3 | Attitudes and Beliefs Towards Forensic Nursing

To evaluate the criterion validity of the FNCS-SF, attitudes and beliefs towards forensic nursing were assessed using the 10-item Eldredge scale (Eldredge 2008), and FNCS-SF scores were compared with scores on this scale. It uses a 5-point Likert-type scale, with scores ranging from 1 (strongly disagree) to 5 (strongly agree). The total score ranges from 5 to 50, with higher scores indicating stronger attitudes and beliefs towards forensic nursing. Cronbach's alpha was 0.73 for the original version of the scale (Jo et al. 2020), and in this study, it was 0.86.

4.4.4 | Performance of the Forensic Nursing Role

We measured the performance of the forensic nursing role using a scale developed by Han and Hong (2012). This scale consists of 24 items across 5 factors: (1) forensic nursing records (6 items); (2) contact (3 items); (3) recognition (6 items); (4) evidence preservation (7 items) and (5) nursing activity (2 items). It uses a 4-point Likert-type scale, with scores ranging from 1 (never) to 4 (always). The total score ranges from 24 to 96, with higher scores indicating better performance of forensic nursing roles. In the current study, Cronbach's alpha for the scale was 0.92. This measure was included to examine the relationship between forensic nursing role performance and forensic nursing competencies, thereby providing evidence for the construct validity of the shortened FNCS through external validation.

4.5 | Data Analysis

Data were analysed using SPSS version 26.0 software and the AMOS version 26.0 software. Descriptive statistics, such as the participants' general characteristics, were used to summarise data using percentage frequencies and means with standard deviations. The construct validity of the FNCS-SF for nurses was verified through the EFA and CFA. Using the SPSS random sampling method, 420 nurses were divided into 2 separate subgroups: EFA in Study 1 ($n = 200$) and CFA in Study 2 ($n = 220$).

First, we performed an EFA to confirm the theoretical structure of the FNCS-SF. Initially, we conducted the Kaiser–Meyer–Olkin (KMO) and Bartlett's sphericity tests. Then, the number of factors was extracted using the Kaiser criterion, factor loading and total variance explained. The most widely used principal component analysis was performed to reduce the number of items. The rotation method uses varimax rotation.

Second, a CFA was performed to ensure the validity of the structure. The criteria for goodness of model fit included chi-square minimum/degree of freedom (CMIN/DF), goodness-of-fit index (GFI), adjusted GFI, incremental fit index (IFI), Tucker–Lewis index (TLI), comparative fit index (CFI) and root mean square error of approximation (RMSEA). The convergent and discriminant validity of the instrument were assessed by calculating the average variance extracted (AVE), construct reliability (CR) and correlation between the instrument factors. Criterion validity was assessed using Pearson's correlation coefficients. The internal consistency of the FNCS-SF was observed with Cronbach's alpha (a coefficient closer to 1, preferably at or above 0.8, indicates an internally reliable scale) (DeVellis and Thorpe 2021). Statistical significance was established using two-sided tests at a 5% significance level ($p < 0.05$).

4.6 | Ethical Considerations

This study received ethical approval from the Inje University Institutional Review Board (No. 2020-01-032-002). We obtained written informed consent from all participants in the study. Participants received an $8 electronic gift card as a reward for completing the survey.

5 | Results

5.1 | General Characteristics

The participants' general characteristics are presented in Table 1. A total of 420 nurses participated in Phase 2, 200 of whom were allocated to the EFA (Study 1) and 220 to the CFA (Study 2). There were no statistically significant differences in the general characteristics of participants between the two groups. The mean age of participants was 22.42 years (SD = 29.64), and most were female (81.9%), unmarried (77.4%), had a bachelor's degree (79.5%), were staff nurses (88.1%) and were working in the emergency department (48.8%). Approximately half of the participants had experience working in an emergency department (51.2%) and over half reported prior clinical encounters with forensic cases (56.2%). However, most participants (91.2%) reported no prior exposure to formal education or structured training in forensic science.

5.2 | Item Analysis

In our item analysis, the skewness (< 3) and kurtosis (< 10) of the collected data satisfied the assumption of normality. All 27 items of the FNCS-SF had item-total correlation coefficients between 0.38 and 0.79.

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TABLE 1 | General characteristics of participants.

Characteristics	Total ($N=420$) *n* (%) or Mean (SD)	Study 1 ($n=200$) *n* (%) or Mean (SD)	Study 2 ($n=220$) *n* (%) or Mean (SD)	*t* or χ^2	*p*
Age (years)	22.42 (29.64)	29.31 (4.79)	29.93 (5.92)	−1.17	0.244
Sex					
Male	76 (18.1)	36 (18.0)	40 (18.2)	0.02	0.961
Female	344 (81.9)	164 (82.0)	180 (81.8)		
Marital status					
Married	94 (22.4)	47 (23.5)	47 (21.4)	1.40	0.495
Unmarried	325 (77.4)	152 (76.0)	173 (78.6)		
Education					
College (3 years)	64 (15.2)	37 (18.5)	27 (12.3)	3.15	0.207
Bachelor's (4 years)	334 (79.5)	153 (76.5)	181 (82.3)		
Graduate	22 (5.2)	10 (5.0)	12 (5.5)		
Position at work					
Staff nurse	370 (88.1)	180 (90.0)	190 (86.4)	1.32	0.250
Nurse in charge	50 (11.9)	20 (10.0)	30 (13.6)		
Total clinical experience	6.22 (5.66)	5.92 (5.06)	6.52 (6.21)	−1.10	0.273
Current working unit					
Emergency department	205 (48.8)	103 (24.5)	102 (24.3)	2.88	0.578
Intensive care units	152 (36.2)	67 (16.0)	85 (20.3)		
Operating rooms	30 (7.1)	13 (3.1)	17 (4.0)		
General wards	33 (7.9)	17 (4.0)	16 (3.8)		
Working experience at emergency department					
Yes	215 (51.2)	107 (25.5)	108 (49.1)	1.64	0.440
No	204 (48.6)	93 (22.1)	111 (50.5)		
Learning experience of forensic science					
Yes	33 (7.9)	17 (8.5)	16 (7.3)	0.22	0.641
No	387 (92.1)	183 (91.5)	204 (92.7)		
Experience of caring for forensic cases					
Yes	236 (56.2)	114 (57.0)	122 (55.5)	0.10	0.750
No	184 (43.8)	86 (43.0)	98 (44.5)		

5.3 | Construct Validity

5.3.1 | Exploratory Factor Analysis

An EFA was performed in Study 1. The result of the KMO test was 0.88, and Bartlett's test of sphericity confirmed that the factor structure was significant ($\chi^2=2658.74$, df = 351, $p<0.001$). Therefore, the sample size was appropriate for the factor analysis (Table 2). The principal component analysis with orthogonal varimax rotation extracted 6 factors with eigenvalues above 1.00 and loadings of 0.4 or greater. Factor 1 was 'awareness of the medicolegal problem,' including items 1–4. Factor 2, 'evidence-based practice in forensic nursing,' included items 5–10. 'Collaborative forensic nursing with community partner' was the third factor, including items 11, 12, 17 and 25. Factor 4, 'safety and security,' comprised

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TABLE 2 | Factor loadings of the Forensic Nursing Competency Scale-Short Form using EFA.

Items	Mean (SD)	Factor loading	Eigen values	Variance explained (%)	Total variance explained (%)
Factor 1: Awareness of the medicolegal problem					
1. I can check the information on how the accident occurred	2.74 (0.60)	0.62	3.64	13.48	13.48
2. I can check the shape and type of damage related to the criminal event or accident in the patient's body	2.71 (0.55)	0.74			
3. I can check injuries by which sexual assault, constant abuse or violence is suspected on the patient	2.62 (0.62)	0.63			
4. I can carry out nursing in consideration of the priority between securing evidence and health of the patient in criminal case	2.70 (0.56)	0.66			
Factor 2: Evidence-based practice in forensic nursing					
5. I can specifically record the damage to the body related to the criminal event or accident	2.75 (0.63)	0.58	3.01	11.16	24.63
6. I can record information on drug brought by a suspected drug addiction patient	2.82 (0.74)	0.76			
7. I can preserve biometric or physical evidence related to an event as a photograph or record	2.82 (0.61)	0.73			
8. I can record the relationship and contents with a provider when providing related evidence and data in consideration of the chain of custody	2.84 (0.60)	0.67			
9. I can consistently state objective facts in testimony related to the criminal event or accident	2.74 (0.64)	0.69			
10. I can use the recommended tools and techniques when collecting evidence related to criminal case or accident from the patient's body	2.53 (0.77)	0.53			
Factor 3: Collaborative forensic nursing with community partner					
11. I can cooperate based on relevant laws when an investigative agency requests the collection of biometric evidence of a patient related to an criminal case or accident	2.80 (0.58)	0.60	2.95	10.94	35.57
12. I can use cooperation with patients, guardians, and investigative agencies and Community support resources	2.87 (0.59)	0.58			
17. With the presence of an investigator, I can collect biological samples after receiving consent from the patient or guardian	2.91 (0.58)	0.74			
25. I can understand that there may be business disagreement between cooperative agencies in relation to the criminal case or accident	3.00 (0.55)	0.75			
Factor 4: Safety and security					

(Continues)

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TABLE 2 | (Continued)

Items	Mean (SD)	Factor loading	Eigen values	Variance explained (%)	Total variance explained (%)
13. I can only provide the confirmed information of the patient when requesting information from the investigation and related agencies in connection with the criminal case or accident	2.54 (0.72)	0.58	2.64	9.76	45.33
14. I can protect patients from incident-related threats within the hospital	2.40 (0.62)	0.66			
15. I can understand the emotional responses that may appear to patients and family relation to criminal case or accident	2.58 (0.70)	0.70			
16. I try to refrain from unnecessary contact and work to ensure patient stability and privacy relation to criminal case or accident	2.47 (0.68)	0.73			
Factor 5: Professional career development					
18. I can solve ethical issues through evidence-based practice, and participate in the Ethics Committee	2.15 (0.76)	0.76	2.59	9.61	54.93
19. I Participate in forensic nursing-related multidisciplinary education and policy research	1.99 (0.73)	0.74			
20. I can share the experience of court testimony with my colleagues through seminars regarding the criminal event or accident	2.24 (0.75)	0.63			
21. I can apply forensic techniques such as identification tables (ex. triage tag) for personal identification in the mass disaster training	2.19 (0.75)	0.69			
22. I can acquire knowledge and skills related to the nursing of the law through remuneration education or job training	2.22 (0.78)	0.76			
Factor 6: Multidisciplinary integrated knowledge					
23. I can explain to the patient and guardian that physical and mental damage can occur to the patient after the criminal case or accident	2.72 (0.64)	0.78	2.46	9.13	64.06
24. I can reflect on social issues related to patient's criminal case or accident in the nursing process	2.68 (0.62)	0.71			
26. I can distinguish between death certificate and postmortem examination certificate for a dead patient	2.66 (0.68)	0.72			
27. I can explain the legal proceedings for organ and tissue donation of brain death	2.64 (0.73)	0.75			
Overall level of FNCS-SF			70.28 (10.30)		
Kaiser–Meyer–Olkin (KMO)			0.88		
Bartlett's test of sphericity			$\chi^2 = 2658.74$, df $(p) = 351$, $p < 0.001$		

Abbreviation: EFA, exploratory factor analysis.

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items 13–16, and Factor 5, 'professional career development,' included items 18–22. 'Multidisciplinary integrated knowledge' was the sixth factor, with items 23, 24, 26 and 27. These 6 factors contributed 64.06% of the total variance in forensic nursing competency.

5.3.2 | Confirmatory Factor Analysis

A CFA was performed to identify the model fit of the FNCS-SF in Study 2. All 6 extracted factors met the criteria for goodness of model fit: CMIN/DF = 1.078, GFI = 0.911, IFI = 0.992, TLI = 0.990, CFI = 0.992 and RMSEA = 0.019 (90% confidence interval = 0.001–0.033) (Figure 2).

5.3.3 | Convergent and Discriminant Validity

Convergent validity of the FNCS-SF was achieved, with its factor loading value exceeding 0.5. The factor loading values of all items were significant, with values ranging from 0.65 to 0.84. In addition, all constructs had AVE values exceeding the minimum criterion of 0.5 (Vinzi et al. 2009). The construct reliability ranged from 0.80 to 0.86, which was above the criterion value of 0.70. This supports the convergent validity of the FNCS-SF (Table 3). To test its discriminant validity, the AVE values of each latent variable were evaluated, which were higher (0.50–0.55) than the squared correlation coefficients between the latent variables (0.01–0.26) (Figure 2).

5.3.4 | Criterion Validity

As shown in Table 4, the mean scores for the attitudes and beliefs towards forensic nursing and the performance of the forensic nursing role were 36.79 (SD = 3.66) and 61.41 (SD = 10.04), respectively. To test the criterion validity of the scale, we tested the correlations between the FNCS-SF, attitudes and beliefs towards forensic nursing and the performance of the forensic nursing role. The overall score of the scale and the six sub-domains were significantly correlated with attitudes and beliefs towards forensic nursing with almost the same value ($r = 0.22 \sim 0.42$, $p < 0.001$). The FNCS-SF also had a positive correlation with the performance of the forensic nursing role ($r = 0.38 \sim 0.61$, $p < 0.001$).

5.4 | Reliability

The coefficients of the corrected all item-total correlations for the items of the total scale and sub-domains were greater than 0.3. Cronbach's alpha for the total scale was 0.92, with the 27 items showing an overall Cronbach's alpha of 0.80—0.82 for awareness of medicolegal problem, 0.86 for evidence-based practice in forensic nursing, 0.80 for collaborative forensic nursing with community partner, 0.81 for safety and security, 0.88 for professional career development and 0.82 for multidisciplinary integrated knowledge (Table 3). Additionally, the construct reliability was greater than 0.70. These results indicate that the FNCS-SF met the criteria for adequate internal consistency (Henseler et al. 2015).

6 | Discussion

Nurses caring for individuals who were victims of sexual abuse, domestic violence or elderly or child abuse should possess forensic nursing competencies. Although the eight domains of the original FNCS were organised according to the essential elements of nursing competency, it is necessary to consider the specificity and specialisation of forensic nursing competencies. This study was conducted to develop a more concise and logically organised version of the FNCS-SF and to test its validity and reliability among hospital nurses.

To enable an easy and quick assessment of the forensic nursing competency, we developed the FNCS-SF with fewer items (27 instead of the original 53). Although the 6 factors across 27 items did not perform at the same level as the 53 items in the original FNCS, the FNCS-SF maintained acceptable validity and reliability as an FNCS for hospital nurses. Among the six factors (awareness of medicolegal problem, evidence-based practice in forensic nursing, collaborative forensic nursing with community partner, safety and security, professional career development and multidisciplinary integrative knowledge), 'collaborative forensic nursing with community partner' demonstrated the highest mean score (2.90), whereas 'professional career development' had the lowest mean score (2.16).

The high score for the 'collaborative forensic nursing with community partners' factor indicates participants' recognition of the importance of interprofessional and intersectoral collaboration in forensic nursing. This supports Collins (2024), who emphasised that forensic nurses should make their legal framework and scope of practice explicit to community partners, including the legal, judicial and social service sectors, in order to strengthen coordinated care for victims of crime. This collaboration can expand access to legal, medical, counselling and social service resources for patients with injury-related needs, victims and perpetrators of crime and individuals in police custody, thereby reinforcing coordinated responses and advancing the quality of forensic nursing care.

Meanwhile, the lowest scores in the professional career development factor may be related to the fact that only 7.9% of this study's participants received forensic nursing-specific training. Emergency department nurses have suggested the need for forensic nursing-specific knowledge and training for a new healthcare environment through continuous education or in-service training (Donaldson 2020). Therefore, nurses' professional career development through forensic science education and repeated training in relevant organisations is essential for establishing a forensic nursing identity (Berishaj et al. 2020; Emami et al. 2024). Professional career development, including expert education through interdisciplinary articulation with operators in the field of law, should provide systematic and professional education to help forensic nurses develop in the field. In this study, the mean score of the FNCS-SF (2.60) was lower than the mean scores of the original FNCS (3.04 and 3.32, respectively) from previous studies (Jo et al. 2020; Oh and Yang 2021). One possible explanation for this result is the difference in participant characteristics. This discrepancy is noteworthy because many of this study's participants were working in the emergency department (48.8%), compared with participants in previous studies (nurses

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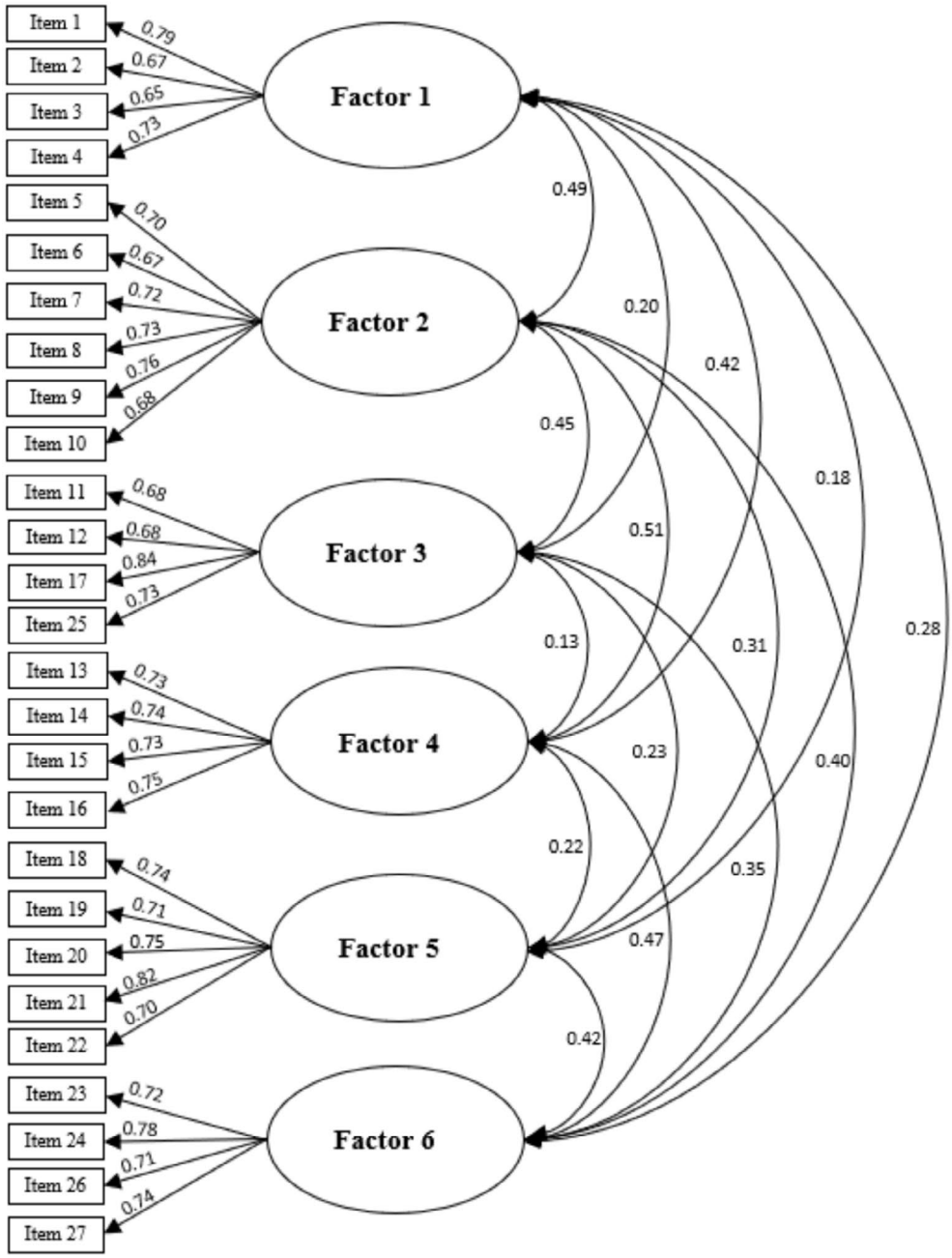


FIGURE 2 | FNCS-SF confirmatory factor analysis results.

working in the surgical field, 40.3%; nursing students, 100%). This finding highlights the critical need to strengthen formal forensic nursing education and training across hospital settings, as even emergency department nurses, who frequently encounter forensic cases, demonstrated lower competency scores than ward or student nurses reported in previous studies. The differences in these results may be explained by the small sample size. Therefore, future studies should measure the forensic nursing competency of a larger sample of nurses in different hospital settings.

The psychometric properties of the FNCS-SF confirmed its validity and reliability as a tool for measuring forensic nursing competency among hospital nurses. The item analysis of the FNCS-SF showed that each item was significantly correlated with the total scale score. In addition, the scale's convergent and discriminant validity were well supported by the factor loadings, construct reliability and AVE, which were all within acceptable ranges (Backhaus et al. 2021). Criterion validity was also confirmed by the significant correlations between attitudes and beliefs towards forensic nursing and performance of forensic nursing. This was consistent with findings from previous studies (Eldredge 2008; Oh and Yang 2021). Therefore, assessing the diverse aspects of forensic nursing is imperative to fully understanding the factors that influence forensic nursing competency among hospital nurses. Furthermore, the relationship between the FNCS-SF and patient outcomes warrants further investigation. Cronbach's alpha for the total scale of the FNCS-SF was 0.92, indicating that the FNCS-SF is reliable for measuring forensic nursing competency.

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TABLE 3 | Convergent validity, discriminant validity and reliability of the Forensic Nursing Competency Scale-Short Form using CFA.

Factors	Items	B	SE	β	CR	p	AVE	Construct reliability	Cronbach's α
Factor 1	1	1		0.79			0.50	0.80	0.82
	2	0.81	0.09	0.67	9.07	< 0.001			
	3	0.85	0.99	0.65	8.65	< 0.001			
	4	0.89	0.90	0.73	9.79	< 0.001			
Factor 2	5	1		0.70			0.51	0.86	0.86
	6	1.26	0.13	0.67	10.20	< 0.001			
	7	0.98	0.09	0.72	9.62	< 0.001			
	8	0.98	0.10	0.73	9.84	< 0.001			
	9	1.08	0.11	0.76	10.01	< 0.001			
	10	1.03	0.11	0.68	9.22	< 0.001			
Factor 3	11	1		0.68			0.54	0.82	0.80
	12	0.94	0.11	0.68	8.39	< 0.001			
	17	1.32	0.14	0.84	9.29	< 0.001			
	25	1.03	0.13	0.73	7.93	< 0.001			
Factor 4	13	1		0.73			0.54	0.83	0.81
	14	0.85	0.09	0.74	9.95	< 0.001			
	15	0.77	0.08	0.73	9.41	< 0.001			
	16	0.72	0.08	0.75	9.36	< 0.001			
Factor 5	18	1		0.74			0.55	0.86	0.88
	19	0.92	0.09	0.71	9.50	< 0.001			
	20	0.96	0.09	0.75	9.83	< 0.001			
	21	1.04	0.10	0.82	10.67	< 0.001			
	22	0.95	0.08	0.70	11.30	< 0.001			
Factor 6	23	1		0.72			0.54	0.83	0.82
	24	1.17	0.13	0.78	8.13	< 0.001			
	26	1.12	0.12	0.71	9.52	< 0.001			
	27	1.23	0.13	0.74	9.91	< 0.001			

Abbreviations: AVE, average variance extracted; CFA, confirmatory factor analysis; CR, critical ratio; SE, standard error.

The FNCS-SF can provide guidance for nurses in forensic nursing practice and help them assess their level of competency in different aspects of their work. The tool may also be applied to evaluate the effectiveness of forensic nursing continuing education and in-service training programs for hospital nurses, given that forensic nursing has not yet been incorporated into the standard undergraduate curriculum in Korea. Furthermore, measuring forensic nursing competency will contribute to evaluating the role of forensic nursing care in patient outcomes. It is imperative to develop culturally appropriate tools to measure forensic nursing competency that reflect the needs of Korean forensic cases and nurses. For example, traffic accident victims—the most common category of forensic patients in Korean emergency departments (62.3%)—were included because such cases frequently entail legal responsibility. Among all forensic cases, however, child abuse cases underscored the greatest need to strengthen nurses' education in this domain (Han and Lee 2022). This suggests the need for tailored forensic nursing education programs to equip nurses for the care of diverse victim populations.

6.1 | Limitations

There are several limitations in this study. First, owing to its cross-sectional design and the use of Cronbach's alpha to assess the reliability of the FNCS-SF, test–retest reliability should be assessed to determine the stability of the FNCS-SF over time. Second, our convenience sampling approach only included participants from two tertiary hospitals, meaning that the results of this study cannot be representative of all hospital nurses in South Korea. Third, the scale is a self-report instrument;

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TABLE 4 | Correlation between the Forensic Nursing Competency Scale-Short Form, attitudes and beliefs towards forensic nursing and performance of the forensic nursing role.

Variables	Mean (SD)	Forensic nursing competency scale-short form											
		Total		Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6	
		r (*p*)		*r* (*p*)		*r* (*p*)		*r* (*p*)		*r* (*p*)		*r* (*p*)		*r* (*p*)	
Attitudes and beliefs towards forensic nursing	36.79 (3.66)	0.42 (<0.001)		0.22 (<0.001)		0.27 (<0.001)		0.30 (<0.001)		0.35 (<0.001)		0.26 (<0.001)		0.38 (<0.001)	
Performance of the forensic nursing role	61.41 (10.04)	0.61 (<0.001)		0.38 (<0.001)		0.47 (<0.001)		0.38 (<0.001)		0.38 (<0.001)		0.46 (<0.001)		0.46 (<0.001)	

therefore, social desirability and recall biases may have influenced self-competency reporting. To reduce reporting bias, nurses were asked to fill out the questionnaires anonymously. Fourth, the open-ended questions constructed by the researcher were limited in their understanding of the participants' overall characteristics. Therefore, we believe that a closer observation study or more extensive interviews over a longer period would help improve the validity of this scale.

6.2 | Recommendations for Further Research

Given the lack of knowledge about how forensic nursing competency contributes to patient outcomes, further studies should comprehensively examine this relationship. In addition, moderating or mediating factors that influence forensic nursing competency (e.g., learning experiences) should be examined to fully understand the dynamics of forensic nursing care. Conducting qualitative studies to explore the perspectives, barriers and challenges in forensic nursing care is necessary to enhance competencies in the field.

Regarding nursing education, realistic programs with different types of forensic cases should be provided to nursing students in baccalaureate nursing programs to increase their awareness of role requirements and prepare them to care for victims in clinical settings. For example, a clinical scenario that involves caring for a suspected victim of child abuse can be included in a paediatric nursing simulation. Forensic nursing education should be part of a training program for novice nurses in hospitals. In addition, providing regular and continuous training programs at different levels of forensic nursing experience (e.g., novices and experts) would help nurses become aware of the scope of forensic nursing and their role in caring for individuals who require such care.

6.3 | Implications for Policy and Practice

With regard to the policy, appropriate guidelines should be established for implementing forensic nursing care across hospitals. Protocols can be developed in collaboration with multidisciplinary teams, such as legal services, within and outside hospitals. Nurse-led protection programs should be developed to ensure that forensic nurses are legally safeguarded when reporting suspected cases of domestic violence or abuse, and that their professional decisions and practices are formally supported by law.

7 | Conclusion

The FNCS-SF is a 27-item scale developed to measure hospital nurses' forensic competencies based on the COPA model. The tool comprises six factors reflecting the specificity and specialisation of forensic nursing competencies and demonstrates good psychometric properties. The FNCS-SF enables the systematic assessment of forensic nursing competency and the identification of training needs, supporting evidence-based strategies for professional development. The assessment of forensic nursing competencies has the potential to improve patient safety and

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treatment outcomes. Therefore, further psychometric testing in forensic nursing care is required in diverse healthcare settings.

Author Contributions

Youn-Jung Son: supervision, project administration, methodology, data curation, conceptualisation, validation, funding acquisition, software, formal analysis, writing – original draft, review and editing. **Na Young Jo:** methodology, data curation, conceptualisation, validation, formal analysis, writing – original draft, review and editing. **Yun Mi Lee:** methodology, validation, formal analysis, writing – original draft, review and editing. **So Hyun Park:** writing – original draft, review and editing.

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The authors have nothing to report.

Disclosure

Statistician: Inje University Department of Statistics consulted on data analysis, and Youn-Jung SON and Na Young JO are experts in statistics.

Ethics Statement

The Institutional Research Board of Inje University (IRB No. 2020-01-032-002) approved the study protocol.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

References

Backhaus, K., B. Erichson, S. Gensler, R. Weiber, and T. Weiber. 2021. *Multivariate Analysis: An Application-Oriented Introduction*. Springer.

Berishaj, K., C. M. Boyland, K. Reinink, and V. Lynch. 2020. "Forensic Nurse Hospitalist: The Comprehensive Role of the Forensic Nurse in a Hospital Setting." *Journal of Emergency Nursing* 46, no. 3: 286–293. https://doi.org/10.1016/j.jen.2020.03.002.

Carney, A. 2021. "The Forensic Nurse's Evolving Role in Addressing Elder Maltreatment in the United States." *Journal of Forensic Nursing* 17, no. 4: 194–201. https://doi.org/10.1097/JFN.0000000000000344.

Collins, K. 2024. "The Need for a Whole-Of-Community, Victim-Centred Approach to Mass Victimisation Incident Planning and Response." *Journal of Business Continuity & Emergency Planning* 17, no. 4: 336–350. https://doi.org/10.69554/GRCS3687.

Costello, A. B., and J. Osborne. 2005. "Best Practices in Exploratory Factor Analysis: Four Recommendations for Getting the Most From Your Analysis." *Practical Assessment, Research & Evaluation* 10, no. 1: 7. https://doi.org/10.7275/jyj1-4868.

DeVellis, R. F., and C. T. Thorpe. 2021. *Scale Development: Theory and Application*. 5th ed. Sage Publications.

Donaldson, A. E. 2020. "New Zealand Emergency Nurses Knowledge About Forensic Science and Its Application to Practice." *International Emergency Nursing* 53: 100854. https://doi.org/10.1016/j.ienj.2020.100854.

Eldredge, K. 2008. "Assessment of Trauma Nurse Knowledge Related to Forensic Practice." *Journal of Forensic Nursing* 4, no. 4: 157–165. https://doi.org/10.1111/j.1939-3938.2008.00027.x.

Emami, S. Z., V. A. Lynch, and M. Banazadeh. 2024. "Forensic Nursing in the Emergency Department: The Distance Between Nurses' Performed Role Behaviors and Their Perception of Behaviors' Importance." *BMC Nursing* 23, no. 1: 23. https://doi.org/10.1186/s12912-023-01682-2.

Firuzi, Z., M. S. Sabet, F. Jafaraghaee, et al. 2022. "Effect of a Forensic Nursing Virtual Education Course on Knowledge and Clinical Decision-Making of Master's Nursing Students in Iran: A Non-Equivalent Control Group Pre-and Post-Test Study." *Journal of Educational Evaluation for Health Professions* 19: 20. https://doi.org/10.3352/jeehp.2022.19.20.

Han, M., and N. J. Lee. 2022. "Forensic Nursing in South Korea: Assessing Emergency Nurses' Awareness, Experience, and Education Needs." *International Emergency Nursing* 65: 101217. https://doi.org/10.1016/j.ienj.2022.101217.

Han, M., N. J. Lee, and S. Lee. 2023. "Development and Evaluation of a Forensic Nursing Competency-Based Hybrid Simulation Education Program: A Quasi-Experimental Design." *Nurse Education in Practice* 73: 103819. https://doi.org/10.1016/j.nepr.2023.103819.

Han, M. H., and H. S. Hong. 2012. "The Awareness and Performance of the Forensic Nursing Role in Emergency Departments." *Journal of Korean Biological Nursing Science* 14, no. 4: 291–299. https://doi.org/10.7586/jkbns.2012.14.4.291.

Hennink, M., and B. N. Kaiser. 2022. "Sample Sizes for Saturation in Qualitative Research: A Systematic Review of Empirical Tests." *Social Science & Medicine* 292: 114523. https://doi.org/10.1016/j.socscimed.2021.114523.

Henseler, J., C. M. Ringle, and M. Sarstedt. 2015. "A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling." *Journal of the Academy of Marketing Science* 43, no. 1: 115–135. https://doi.org/10.1007/s11747-014-0403-8.

Jeon, H., and J. Kong. 2022. "Exploring Factors Associated With Perceived Changes in Severity of Elder Abuse: A Population-Based Study of Older Adults in Korea." *International Journal of Environmental Research and Public Health* 19, no. 16: 10033. https://doi.org/10.3390/ijerph191610033.

Jo, N. Y., M. H. Kim, and Y. M. Lee. 2020. "Development of the Forensic Nursing Competency Scale for Nurses." *Journal of Korean Critical Care Nursing* 13, no. 3: 24–40. https://doi.org/10.34250/jkccn.2020.13.3.24.

Jo, N. Y., Y. M. Lee, and Y. J. Son. 2018. "An Evolutionary Concept Analysis of Forensic Nursing Competency." *Journal of Korean Critical Care Nursing* 11, no. 2: 34–50.

Kelishami, F. G., H. Manoochehri, J. Mohtashami, and M. Kiani. 2020. "Consequences of Presence of Forensic Nurses in Health Care System: A Qualitative Study." *Iranian Journal of Nursing and Midwifery Research* 25, no. 3: 195–201. https://doi.org/10.4103/ijnmr.IJNMR_119_19.

Korean Women's Development Institute. 2024. Gender Statistics. Incidence and Arrests of Sexual Assault Crimes. https://gsis.kwdi.re.kr/statHtml/statHtml.do?orgId=338&tblId=DT_5ED0410N.

Koskinen, L., H. Likitalo, J. Aho, O. Vuorio, and R. Meretoja. 2014. "The Professional Competence Profile of Finnish Nurses Practising in a Forensic Setting." *Journal of Psychiatric and Mental Health Nursing* 21, no. 4: 320–326. https://doi.org/10.1111/jpm.12093.

Lenburg, C. B. 1999. "The Framework, Concepts and Methods of the Competency Outcomes and Performance Assessment (COPA) Model." *Online Journal of Issues in Nursing* 4, no. 2: 1–12. https://doi.org/10.3912/OJIN.Vol4No02Man02.

Machado, B. P., I. B. de Araújo, and M. B. Figueiredo. 2020. "Forensic Nursing Practice-What Do the Students Know Anyway?" *Forensic*

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Science International: Synergy 2: 138–143. https://doi.org/10.1016/j.fsisyn.2020.04.003.

McFadden, P. 2021. "The Assessment and Exploration of Forensic Nursing Concepts in Undergraduate Nursing Curricula: A Mixed-Methods Study." *International Journal of Nursing Education Scholarship* 18, no. 1: 20210101. https://doi.org/10.1515/ijnes-2021-0101.

Meretoja, R., H. Isoaho, and H. Leino-Kilpi. 2004. "Nurse Competence Scale: Development and Psychometric Testing." *Journal of Advanced Nursing* 47, no. 2: 124–133. https://doi.org/10.1111/j.1365-2648.2004.03071.x.

Ministry of Health and Welfare. 2024. Child Abuse & Neglect Korea 2023. https://www.mohw.go.kr/board.es?mid=a10411010200&bid=0019&act=view&list_no=1482961.

Myers, N. D., S. Ahn, and Y. Jin. 2011. "Sample Size and Power Estimates for a Confirmatory Factor Analytic Model in Exercise and Sport: A Monte Carlo Approach." *Research Quarterly for Exercise and Sport* 82, no. 3: 412–423. https://doi.org/10.1080/02701367.2011.10599773.

National Center for the Rights of the Child. 2023. Key Statistics on Child Abuse, 2018. https://www.ncrc.or.kr/ncrc/na/ntt/selectNttInfo.do?mi=1469&nttSn=5235.

Oh, J. W., and H. J. Yang. 2021. "A Study of Between Forensic Nursing Competence, Ethical Decision-Making Confidence, and Nursing Professional Value Among Nursing Students." *Annals of The Romanian Society For Cell Biology* 25, no. 1: 846–853.

Shako, K., and M. Kalsi. 2019. "Forensic Observations and Recommendations on Sexual and Gender Based Violence in Kenya." *Forensic Science International: Synergy* 1: 185–203. https://doi.org/10.1016/j.fsisyn.2019.06.001.

Silva, R. X., C. A. Ferreira, G. G. de Moura Sá, R. Q. Souto, L. M. Barros, and N. Galindo-Neto. 2022. "Preservation of Forensic Traces by Nursing in Emergency Services: A Scoping Review." *Revista Latino-Americana de Enfermagem* 30: e3593. https://doi.org/10.1590/1518-8345.5849.3593.

Snogren, M., A. H. Pakpour, I. Eriksson, M. Stensson, K. Ek, and M. Browall. 2022. "Psychometric Evaluation of a Short-Form Version of the Swedish "Attitudes to and Knowledge of Oral Health" Questionnaire." *BMC Geriatrics* 22, no. 1: 513. https://doi.org/10.1186/s12877-022-03215-z.

Speck, P. M., E. B. Dowdell, and S. A. Mitchell. 2022. "Innovative Pedagogical Approaches to Teaching Advanced Forensic Nursing." *Nursing Clinics* 57, no. 4: 653–670. https://doi.org/10.1016/j.cnur.2022.07.004.

Valentine, J. L., L. K. Sekula, and V. Lynch. 2020. "Evolution of Forensic Nursing Theory—Introduction of the Constructed Theory of Forensic Nursing Care: A Middle-Range Theory." *Journal of Forensic Nursing* 16, no. 4: 188–198. https://doi.org/10.1097/JFN.0000000000000287.

Vinzi, V. E., L. Trinchera, and S. Amato. 2009. "PLS Path Modeling: From Foundations to Recent Developments and Open Issues for Model Assessment and Improvement." In *Handbook of Partial Least Squares*, 47–82. Springer. https://doi.org/10.1007/978-3-540-32827-8_3.

Williams, J. 2022. "The Practice of Forensic Nursing Science in the United States." *Forensic Science Review* 34, no. 2: 90–94.

Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Table S1:** STROBE statement—Checklist of items that should be included in reports of cross-sectional studies.

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