

# Psychometric properties of the Professional Care Scale in hospitalized and outpatient Colombian patients

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## Abstract

**Objective:** To assess the structural validity and reliability of the Profesional Care Scale (CPS) in a large and heterogeneous sample of hospitalized and outpatient individuals from two healthcare institutions in Santander, Colombia.

**Materials and Methods:** A cross-sectional study was conducted between March and April 2024. Eligible participants included hospitalized patients with a length of stay greater than 72 hours and outpatients who had received nursing care. Sociodemographic characteristics and responses to the Spanish version of the CPS were collected. Structural validity was evaluated using principal component factor analysis (PCFA) and structural equation modeling (SEM), applying goodness-of-fit indices. Reliability was examined using Cronbach's alpha and McDonald's omega coefficients.

**Results:** A total of 206 participants were included in the analysis. PCFA supported a two-factor structure—*Compassionate Healer and Competent Healer*—, which accounted for 60.21% of the total variance. While 50% of SEM fit indices were consistent, some indices presented limitations, warranting cautious interpretation. The overall internal consistency of the CPS was  $\alpha = 0.9295$ . For the subscales, Compassionate Healer was  $\alpha = 0.8729$  and Competent Healer yielded  $\alpha = 0.8810$ . McDonald's omega for the total scale was 0.9306.

**Conclusions:** The CPS demonstrated evidence of a two-factor structure and high internal consistency in this sample of Colombian patients. These findings support its acceptable validity and reliability for assessing professional nursing care. The scale offers a valuable resource for nursing professionals and researchers to evaluate and monitor patient satisfaction with skilled nursing care, as well as to identify opportunities for improvement in clinical practice.

**Descriptors:** Nursing Theory; Psychometric; Validation Study; Nursing Care; Patient Satisfaction (font: DeCS, BIREME).

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## Propiedades psicométricas de la Escala de Cuidado Profesional en pacientes colombianos hospitalizados y ambulatorios

### Resumen

**Objetivo:** evaluar la validez estructural y la fiabilidad de la Escala de Cuidado Profesional (CPS) en una muestra amplia y heterogénea de pacientes atendidos en dos instituciones de salud del departamento de Santander, Colombia.

**Materiales y métodos:** se desarrolló un estudio de corte transversal entre marzo y abril de 2024. Se incluyeron pacientes hospitalizados (con estancia >72 horas) y pacientes ambulatorios que recibieron atención de enfermería. Se recolectaron datos sociodemográficos y se aplicó la versión en español de la CPS. La validez estructural se analizó mediante un análisis factorial de componentes principales (AFCP) y un enfoque de modelado de ecuaciones estructurales, evaluando los índices de bondad de ajuste. La fiabilidad se estimó con el coeficiente alfa de Cronbach y el coeficiente omega de McDonald.

**Resultados:** se analizaron datos de 206 participantes. El AFCP respaldó una estructura de dos factores (Sanador compasivo y Sanador competente), explicando el 60,21 % de la varianza total. Aunque el 50 % de los índices de ajuste del modelado de ecuaciones estructurales fueron satisfactorios, algunas métricas presentaron limitaciones, lo que requiere una interpretación cautelosa. En general, la consistencia interna de la CPS fue  $\alpha = 0,9295$ ; para las subescalas, Sanador compasivo fue  $\alpha = 0,8729$  y Sanador competente fue  $\alpha = 0,8810$ . El coeficiente omega de McDonald fue 0,9306.

**Conclusiones:** la CPS mostró evidencia de una estructura bidimensional y una alta consistencia interna en esta muestra de pacientes colombianos. Estos resultados sugieren que la escala presenta validez y fiabilidad aceptables para medir el cuidado profesional de enfermería, constituyéndose en una herramienta útil para evaluar y monitorear la satisfacción del paciente con la atención de enfermería, así como para identificar áreas de mejora en la práctica clínica.

**Descriptores:** Teoría de Enfermería; Psicometría; Estudio de Validación; Cuidados de Enfermería; Satisfacción del Paciente (fonte: DECS, BIREME).

## Propriedades psicométricas da Escala de Cuidado Profissional em pacientes colombianos hospitalizados e ambulatoriais

### Resumo

**Objetivo:** avaliar a validade estrutural e a confiabilidade da PCS em uma amostra grande e diversificada de pacientes atendidos em duas instituições de saúde em Santander, Colômbia.

**Materiais e métodos:** Foi realizado um estudo transversal entre março e abril de 2024. Foram incluídos pacientes hospitalizados (permanência > 72 horas) e pacientes ambulatoriais em atendimento de enfermagem. Dados sociodemográficos foram coletados e a versão em espanhol da PCS foi utilizada. A validade estrutural foi avaliada por meio da análise fatorial de componentes principais e de uma abordagem de modelagem de equações estruturais com índices de bondade de ajuste. A confiabilidade foi avaliada pelos coeficientes alfa de Cronbach e ômega de McDonald.

**Resultados:** Foram analisados 206 participantes. A análise fatorial confirmou uma estrutura bifatorial (“Cuidador compassivo” e “Cuidador competente”), explicando 60,21% da variância total. Embora 50% dos índices de ajuste da análise de equações estruturais tenham sido consistentes, alguns apresentaram limitações, exigindo interpretação cautelosa. No geral, a consistência interna do PCS foi de  $\alpha = 0,9295$ ; para as subescalas, “Cuidador compassivo” foi de  $\alpha = 0,8729$  e “Cuidador competente” foi de  $\alpha = 0,8810$ . O ômega do McDonald foi de 0,9306.

**Conclusões:** A PCS apresentou evidências de uma estrutura bifatorial e alta consistência interna nessa amostra de pacientes colombianos. Esses achados sugerem validade e confiabilidade aceitáveis para a mensuração do cuidado profissional de enfermagem, fornecendo uma ferramenta valiosa para que a equipe de enfermagem e pesquisadores avaliem e monitorem a satisfação do paciente com o cuidado profissional de enfermagem e identifiquem áreas de melhoria na prática clínica.

**Descritores:** Teoria de Enfermagem; Psicometria; Estudo de Validação; Cuidados de Enfermagem; Satisfação do Paciente (fuente: DeCS, BIREME).

## Introduction

In recent years, the evaluation of patients' perceptions of care has gained increasing relevance in healthcare institutions (1, 2), particularly among those implementing nursing practice models grounded in disciplinary theories (3, 4). Assessing nursing care has become essential for ensuring quality and fostering continuous improvement in clinical practice. Evidence indicates that patients' experiences with nursing care are a key determinant of their overall satisfaction with healthcare services (5, 6).

Measuring patient satisfaction with nursing care provides valuable insights into patients' experiences and perceptions regarding the care received. This information is critical for identifying areas for improvement and advancing the delivery of patient-centered care (7). Patient satisfaction is a multidimensional indicator influenced by factors such as effective communication, empathy, timeliness of care, technical competence, and the care environment (8).

Middle-range theories, situated at an intermediate level of abstraction within the hierarchy of nursing theoretical thought, represent a valuable resource for nursing research and practice. These more specific theories enable researchers to test and refine concepts, develop measurement instruments, and evaluate practical models, thereby advancing nursing knowledge (9, 10).

Over time, various instruments have been developed—arising from conceptual-theoretical work within the nursing discipline—to measure and evaluate different aspects of care from the patient's perspective as well as from that of the nursing professional (11). In Latin America, some reliable

and valid instruments include the Caring Efficacy Scale (12) and Nyberg's Caring Assessment (13), which evaluate perceptions of care received by patients, and the Caring Behaviors Assessment (14), which assesses the care behaviors patients experience in hospital settings (13, 15). Another relevant contribution is the development of a coding scheme for caring behaviors in encounters between professionals and patients, based on Swanson's theory (16).

The Caring Professional Scale (CPS, hereinafter), developed by Kristen Swanson, is designed to evaluate patient satisfaction with professional nursing care. It comprises two dimensions: *Competent Healer*, which assesses the cognitive and technical skills of the care provider, and *Compassionate Healer*, which evaluates the ability to provide humanized care (17-19). The English version of the CPS was applied in a study conducted in four full-service hospitals (19), where it was used to measure patients' perceptions of nurses' caring behaviors before and after an educational intervention. The CPS demonstrated excellent internal consistency (Cronbach's  $\alpha = 0.97$ ). Its psychometric properties were further supported by a significant correlation with the empathy subscale of the Barrett-Lennard Relationship Inventory ( $r = 0.61$ ,  $p < 0.001$ ), confirming criterion validity. Cronbach's alpha estimates for internal consistency ranged from 0.74 to 0.96 for advanced practice nurses, 0.97 for registered nurses, and 0.96 for physicians.

The Spanish version of the CPS was validated in a study that involved face validity testing with 471 women, content validity assessment by a panel of 11 expert nurses, and construct validity and reliability testing with 150 pregnant women. The results demonstrated high comprehensibility, an overall content validity index of 0.893, and a Cronbach's alpha of 0.907, confirming that the scale effectively measures the construct of professional care through its two dimensions (18).

Given the robust psychometric properties of the original version, the conceptual clarity of its two dimensions, and its adaptation and validation in the Colombian context—specifically among pregnant women—there is a strong rationale for evaluating its psychometric properties in other populations to expand its applicability. To date, evidence of the CPS's validity and reliability in Colombia has been limited exclusively to this specific population. Therefore, validation in larger and more diverse groups is both pertinent and necessary, as it would broaden the scope of its use and ensure its robustness in various healthcare settings. The objective of this study was thus to evaluate the structural validity and reliability of the CPS, based on Kristen Swanson's theoretical framework, in two healthcare institutions in Santander, Colombia.

## Methods

A cross-sectional study was conducted at the Hospital Instituto Cardiovascular (HICV) and the Hospital Internacional de Colombia (HIC) between March 12 and April 4, 2024. Hospitalized patients with a length of stay exceeding 72 hours, who were accompanied by a family member or primary caregiver at the time of the survey, were eligible for inclusion. In the case of pediatric patients, the survey was completed by the accompanying family member or caregiver. Patients were excluded if they were in isolation due to infectious microorganisms or if their clinical condition prevented them from responding to the survey either directly or through their families. In outpatient settings, patients who received nursing care immediately after their consultation were included.

The sample size was calculated as 150 participants, based on the criterion of at least 10 participants per item for the 15-item scale, consistent with established standards for ensuring adequate statisti-

cal power in factor analysis (20). To strengthen the robustness of the factor analysis and minimize potential attrition, the sample was increased by 37%, resulting in a final sample of 206 participants. This also met the criteria for the absolute number of cases ( $n = 200$ ) and cases per parameter (5–20) required for structural equation modeling, as outlined by Vargas and Mora-Esquivel (21).

Sociodemographic variables collected included sex, age, respondent identity (patient or caregiver), marital status, educational level, occupation, city of residence, socioeconomic status, reason for consultation, and healthcare institution. Professional care was assessed using the CPS, developed within Kristen Swanson's theoretical framework and validated for the Colombian population, demonstrating satisfactory psychometric properties (18). The CPS consists of 15 items that evaluate professional care across two dimensions: *Compassionate Healer* and *Competent Healer*. Items are rated on a four-point Likert scale: never (1), sometimes yes/sometimes no (2), most of the time (3), and always (4). Total scores classify care quality as poor ( $< 23$  points), fair (23–37 points), good (38–51 points), or excellent (52–60 points), representing a continuum from impersonal treatment to comprehensive and empathetic care.

Data collection was conducted through a form designed in the REDCap platform. Two trained nurses administered the survey, providing participants with an electronic device for self-completion. When participants or caregivers lacked a mobile device or encountered difficulties using it, the nurses assisted in completing the questionnaire. The survey required approximately 10–15 minutes to be completed. Periodic quality control checks were implemented to ensure data accuracy and adherence to study protocols.

A descriptive analysis of sociodemographic variables was performed to characterize the study population. The structural (construct) validity of the CPS was assessed through principal-components factor analysis (PCFA) with Varimax rotation, following the analytical approach used in the original scale (18) to facilitate comparability. This method was selected for its capacity to optimize variance explanation, identify key factors, and provide a stable and efficient solution (22). Sampling adequacy was evaluated using the Kaiser-Meyer-Olkin (KMO) statistic and Bartlett's test of sphericity, considering KMO values  $\geq 0.7$  and a significant Bartlett's  $\chi^2$  ( $p < 0.05$ ) as indicative of suitability (23). The variance explained by the two-factor model was reported.

A confirmatory factor analysis (CFA) was then performed using SEM with maximum likelihood estimation to verify the theoretical structure of the CPS and confirm the relationships between indicators and latent factors (21). The model's goodness of fit was evaluated through several indices, including the  $\chi^2/\text{df}$  ratio, the comparative fit index (CFI), the Tucker-Lewis index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and coefficient of determination. Model adequacy was determined based on  $\chi^2/\text{df} < 3$ , CFI and Goodness of Fit Index (GFI) close to 0.90, TLI close to 0.95, RMSEA and SRMR  $< 0.05$ , and a coefficient of determination close to 1 (24). Reliability was assessed using Cronbach's alpha coefficient (25), with 95% confidence intervals (CI), and McDonald's omega coefficient. All analyses were conducted using Stata version 15.

In accordance with Resolution 008430 of 1993, this research adhered to the scientific, technical, and administrative standards for health research in Colombia and was classified as minimal risk. Participant anonymity was preserved through the use of coded identifiers. Permission to use the Spanish version of the CPS was granted by the lead author. The study protocol was reviewed and approved by the Technical-Scientific Committee and the Institutional Ethics Committee of the



Fundación Cardiovascular de Colombia (CEI-2023-06162). Written informed consent was obtained from all participants.

## Results

### *Sociodemographic characteristics of the study population*

A total of 206 participants were included in the analysis, of whom 52.43% ( $n = 108$ ) were male. The median age was 56 years ( $Q1 = 24$ ;  $Q3 = 68$ ). In 63.59% ( $n = 131$ ) of cases, the survey was completed by a family member of the patient, as 20.39% of the sample comprised minors receiving care. Regarding marital status, 34.95% ( $n = 72$ ) were married. In terms of educational attainment, 38.83% ( $n = 80$ ) had a low education level (no formal education or incomplete primary education).

Concerning occupation, 36.41% ( $n = 75$ ) were homemakers or unemployed. A total of 50.97% ( $n = 105$ ) resided in Bucaramanga metropolitan area, and 69.42% ( $n = 143$ ) belonged to the low socioeconomic stratum. More than half of the participants (55.83%;  $n = 115$ ) received inpatient hospital care, while 34.95% ( $n = 72$ ) were receiving care on a scheduled outpatient basis, and 9.22% ( $n = 19$ ) were treated in the emergency department. Data collection was conducted at both participating institutions: 53.40% ( $n = 110$ ) at HIC and 46.60% ( $n = 96$ ) at HICV.

### *Construct validity*

The KMO measure of sampling adequacy yielded an overall value of 0.903, with all individual items exceeding 0.86. Bartlett's test of sphericity was significant,  $\chi^2(105) = 1996.53$ ,  $p < 0.001$ . These results confirmed the suitability of the data for PCFA. Subsequently, the PCFA was performed, extracting two factors and applying Varimax rotation. The analysis explained 60.21% of the total variance. The first factor accounted for 34.62% of the variance (eigenvalue = 5.19), and the second factor explained an additional 25.58% (eigenvalue = 3.83). Together, these two factors represent a substantial proportion of the variance in professional nursing care.

Table 1 presents the rotated factor loadings (pattern matrix) and the unique variances for each CPS item, illustrating their relationship with the two dimensions—*Compassionate Healer* and *Competent Healer*—as well as the proportion of variance not explained by the common factors. Table 1 also allows for the observation of the relationship of each item with the two factors and the specific variance of each one.

Regarding CFA using SEM, the fit indices were as follows:  $\chi^2/df = 2.7$ , CFI = 0.76, TLI = 0.72, RMSEA = 0.15, SRMR = 0.08, and coefficient of determination = 0.96 (Figure 1).

Figure 1 shows the structural equation model illustrating the relationships between the latent constructs *Compassionate Healer* and *Competent Healer* and their respective observed items (cps1-cps15). The numbers on the unidirectional arrows from the latent constructs to the observed items represent the standardized factor loadings. The curved bidirectional arrow between the latent constructs indicates the correlation between them. Circles labeled "E" represent the unique measurement errors for each observed item. The numbers within the rectangles of the observed items indicate the proportion of variance ( $R^2$ ) explained by the corresponding latent construct.

**Table 1.** Confirmatory principal component factor analysis, rotated factor loadings (Pattern Matrix), and Unique Variances (n = 206)

Item	Factor 1	Factor 2	Uniqueness
1. Did the nurse make you feel well?	0.5893	0.4458	0.4540
2. Did the nurse have a positive attitude towards you?	0.5827	0.4070	0.4948
3. Did you feel the nurse listened to your needs?	0.7319	0.1607	0.4385
4. Was the nurse aware of your feelings?	0.4365	0.5828	0.4698
5. Did you feel the nurse was concerned about your care?	0.7362	0.2194	0.4099
6. Did you understand your symptoms and concerns?	0.8322	0.1310	0.2903
7. Did the nurse show preparedness to perform their job?	0.5860	0.4493	0.4547
8. Did the nurse encourage the patient to continue caring for himself/herself?	0.4748	0.4358	0.5846
9. Was the nurse respectful to you?	0.2522	0.6380	0.5294
10. Did the nurse provide help and collaboration?	0.6884	0.3019	0.4349
11. Did you provide proper care?	0.7608	0.4045	0.2576
12. Did you feel cared for during your care?	0.8077	0.2602	0.2800
13. Did you clearly explain the instructions to follow?	0.3753	0.6609	0.4224
14. Was the nurse kind to you?	0.1862	0.8913	0.1709
15. Did nurses treat you as a person?	0.1812	0.8305	0.2774

Source: authors.

**Figure 1.** Confirmatory factor analysis for the Professional Care Scale



Source: authors.

## Reliability

The overall internal consistency of the CPS was  $\alpha = 0.9295$  (95% CI: 0.8926-0.9664). For the *Compassionate Healer* dimension, Cronbach's alpha was  $\alpha = 0.8729$  (95% CI: 0.8189-0.9270), and for the *Competent Healer* dimension,  $\alpha = 0.8810$  (95% CI: 0.7948-0.9671). Comparable results were obtained with McDonald's omega coefficient (0.9306), supporting that the assumptions underlying Cronbach's alpha were met.

Table 2 presents the CPS internal consistency, including Cronbach's alpha coefficients for the total scale and each dimension. It also reports item-test correlations, item-rest correlations, and the average inter-item covariance, all of which confirm that the instrument demonstrates adequate internal consistency for measuring professional nursing care.

**Table 2.** Internal Consistency of the Kristen Swanson Professional Care Scale (n = 206)

Item	Sign	Item-test correlation	Item-rest correlation	Average inter-item covariance	Alpha
<i>Compassionate healer</i>					<b>0.8729</b>
1. Did the nurse make you feel well?	+	0.7769	0.6727	0.0927	0.8521
2. Did the nurse have a positive attitude towards you?	+	0.7489	0.6543	0.0986	0.8548
3. Did you feel the nurse listened to your needs?	+	0.7519	0.6662	0.1002	0.8542
4. Was the nurse aware of your feelings?	+	0.7050	0.5873	0.0995	0.8632
5. Did you feel the nurse was concerned about your care?	+	0.7960	0.6998	0.0914	0.8482
6. Did you understand your symptoms and concerns?	+	0.7757	0.6701	0.0926	0.8526
7. Did the nurse show preparedness to perform their job?	+	0.7279	0.6238	0.0992	0.8584
<i>Competent healer</i>					<b>0.8810</b>
8. Did the nurse encourage the patient to continue caring for himself/herself?	+	0.6962	0.5692	0.0707	0.8767
9. Was the nurse respectful to you?	+	0.6487	0.5581	0.0779	0.8749
10. Did the nurse provide help and collaboration?	+	0.7462	0.6564	0.0713	0.8651
11. Did you provide proper care?	+	0.8258	0.7535	0.0665	0.8544
12. Did you feel cared for during your care?	+	0.7839	0.6980	0.0685	0.8606
13. Did you clearly explain the instructions to follow?	+	0.7730	0.6809	0.0685	0.8626
14. Was the nurse kind to you?	+	0.7471	0.6554	0.0709	0.8652
15. Did nurses treat you as a person?	+	0.7145	0.6427	0.0767	0.8689
<b>Total</b>					<b>0.9295</b>

Source: authors.



## Discussion

This study evaluated the construct validity and reliability of Kristen Swanson's CPS in a sample of 206 participants from two healthcare institutions in Santander, Colombia. The confirmatory factor analysis results partially supported a two-factor structure—*Compassionate Healer* and *Competent Healer*—consistent with the original structure proposed by Swanson. This suggests that the CPS captures two potentially distinct dimensions of professional care: one centered on compassion, empathy, and emotional connection with the patient, and another focused on competence, efficiency, and the delivery of high-quality care. However, the fit indices obtained should be interpreted with caution, given certain limitations. Despite this, the Cronbach's alpha coefficients for the total scale and subscales indicate good internal consistency, supporting the reliability of the CPS for measuring professional nursing care in this context. Future research involving larger and more diverse samples is warranted to confirm and strengthen the validity of this factorial structure and address the limitations observed in the fit indices.

This is the second study to evaluate the psychometric properties of the CPS in Spanish. The findings are consistent with the first validation in Colombia, conducted by Vesga and Ruíz (18) in a sample of 150 pregnant women in Bogotá. Both studies—despite some reservations regarding the robustness of the fit indices in the present research—preliminarily support a two-factor structure explaining the “professional care” construct, grounded in Kristen Swanson's concepts, with 56.0% and 60.2% of variance explained, respectively. Of the six goodness-of-fit indices evaluated, 50% were consistent with the PCFA results. Notably, factor 1 represents the *Compassionate Healer* dimension, where most items loaded, except for item 4 (“allowed you to express your feelings”), which could also be associated with factor 2, showing a higher correlation. Factor 2 corresponds to the *Competent Healer* dimension; however, items 10, 11, and 12 correlated more strongly with the *Compassionate Healer* factor (providing help and collaboration, correctly performing care, and ensuring the patient felt cared for during care delivery).

Additionally, both studies also reported high internal consistency, with Cronbach's alpha values of 0.907 in Vesga and Ruíz (18) and 0.929 in the present study, indicating that the scale's items consistently measure the same construct. Subscale reliability was similarly high: *Compassionate Healer* (0.852 in Vesga and Ruíz vs. 0.872 in this study) and *Competent Healer* (0.859 vs. 0.880), further confirming internal consistency.

From a theoretical perspective, the preliminary confirmation of the two-factor structure—subject to validation in larger samples—supports the applicability of Swanson's theory for evaluating professional care. Differentiating between *Compassionate Healer* and *Competent Healer* in the care process reflects the integration of humanized care with scientific knowledge, as evidenced by the nurse's interest in understanding the patient's situation, concerns, and needs (26). This distinction also underscores the importance of individualized care grounded in respect and commitment to patient well-being, fundamental for delivering patient-centered and evidence-based care (27).

In terms of practical implications, the findings contribute to the monitoring and objective evaluation of professional nursing care quality through an empirical indicator that operationalizes theoretical concepts in measurable terms (28). This is particularly relevant in clinical practice settings where care delivery is guided by Kristen Swanson's middle-range theory of caring (29).

The study presents important methodological strengths, including a cross-sectional design appropriate for evaluating validity and reliability; an adequate sample size and random sampling strategy for confirmatory factor analysis; the use of a reliable data collection platform (REDCap) with quality controls to ensure data accuracy; the application of appropriate statistical methods for evaluating construct validity and reliability; and the use of an instrument previously adapted and validated for the Colombian population, which increases confidence in its use in this context.

This study offers valuable information. However, it is necessary to consider certain limitations. First, although the sample size was adequate for factor analysis, participants were drawn from two high-complexity healthcare institutions in Santander, Colombia, which may limit the generalizability of the findings to other settings and populations. Additionally, confirmatory factor analysis generally requires large sample sizes (30); although sufficient for factor analysis, a larger sample would be desirable to confirm the goodness of fit for all indices and strengthen the evidence supporting the bifactorial structure. Second, professional care was assessed through patient perceptions, which may be influenced by subjective factors. However, patient perception remains a key component in evaluating care quality and is the most widely used measurement approach. Third, patients may have difficulty recalling all aspects of care, particularly if surveyed at the end of a prolonged hospital stay. Finally, the study did not compare the CPS with other instruments measuring professional care, limiting the ability to assess concurrent validity.

## Conclusion

Kristen Swanson's CPS demonstrated indications of a two-factor structure and good internal consistency in this sample of Colombian patients. These findings provide evidence of satisfactory validity and reliability for the CPS in measuring professional nursing care in the Colombian context. The instrument can be used by nurses and researchers to evaluate care quality and identify areas for improvement in clinical practice. Future research should explore the relationship between CPS scores and other variables, such as patient satisfaction, health outcomes, and nursing staff well-being, and—critically—employ larger samples to more robustly confirm the bifactorial structure and strengthen evidence of model fit.

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