

Attitudes of Nursing Students toward Pain Assessment: A Descriptive Cross-Sectional Study

 Sümeyye Akçoban¹,  Hafize Dağ Tüzmen²,  Hümeysra Yüksel³

¹Department of Health Services, Kırıkhan Vocational School, Hatay Mustafa Kemal University, Hatay, Türkiye

²Department of Midwifery, KTO Karatay University Faculty of Health Sciences, Konya, Türkiye

³Department of Orthopedics and Traumatology, Kütahya Evliya Çelebi Training and Research Hospital, Kütahya, Türkiye

Abstract

Introduction: The aim of this study was to determine nursing students' attitudes toward pain assessment.

Methods: This descriptive and cross-sectional study was conducted between June 19 and June 30, 2025, with the participation of nursing students. Data were collected online using the "Student Nurse Introductory Information Form" and the "Nursing Students' Attitudes Scale Toward Pain Assessment (NSASPA)."

Results: The study was completed with 234 nursing students. The mean age of the participants was 20.82±2.04 years; 70.9% were female, and 40.6% were 2nd-year students. The students' mean total NSASPA score was 61.29±9.38. Statistically significant differences were found in attitude scores based on variables, such as having received pain-related training, attending theoretical courses, having clinical experience with patients in pain, and feeling competent in pain assessment ($p<0.05$).

Discussion and Conclusion: Nursing students were found to have generally positive attitudes toward pain assessment. However, these attitudes varied depending on their level of knowledge, clinical experience, and educational background.

Keywords: Attitude; Nursing students; Pain; Pain assessment

Pain is a complex and multidimensional experience that significantly affects an individual's quality of life. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage."^[1,2] This definition emphasizes that pain is not solely a physiological phenomenon but also involves psychological and emotional dimensions.^[2] As a fundamental survival mechanism, pain alerts individuals

to potential harm and promotes protective behaviors. However, its inherently subjective nature makes accurate assessment and effective management challenging. Therefore, the ability of healthcare professionals—particularly nurses—to competently assess and manage pain is critically important in clinical practice.^[3]

Nurses play a key role in identifying, assessing, and managing patient pain. Accurate pain assessment contributes to the development of appropriate treatment

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Correspondence: Sümeyye Akçoban. Hatay Mustafa Kemal Üniversitesi, Kırıkhan Meslek Yüksekokulu, Sağlık Hizmetleri Bölümü, Hatay, Türkiye

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plans and the improvement of patients' quality of life.^[4] Moreover, a positive attitude toward pain assessment facilitates the timely recognition of pain, supports the development of effective treatment strategies, and enhances patients' quality of life. Across the development of empathetic communication skills, nurses can also better understand patients' pain experiences and provide more effective care.^[3] Nevertheless, the literature indicates that nurses often lack sufficient knowledge and skills in pain assessment, which may lead to inadequacies in pain management.^[5,6]

Nursing students must acquire knowledge and skills related to pain assessment and management from the early years of their education. Accordingly, these competencies are essential components of nursing education.^[7] Positive attitudes toward pain assessment among nursing students not only enhance the quality of patient care but also improve the effectiveness of pain management. However, previous studies have shown that nursing students frequently lack adequate knowledge of pain management, which can hinder effective pain control in clinical practice.^[8]

Although the importance of pain assessment and management in nursing education is well recognized, research indicates that nursing students' knowledge and attitudes in this area remain inadequate. For example, a study conducted in Türkiye reported that nursing students' knowledge of pain management was not at a desirable level, limiting their ability to manage patients' pain effectively.^[9] Similarly, another study found that students' knowledge and attitudes toward pain management were insufficient, leading to deficiencies in clinical practice.^[10] However, such studies remain limited, highlighting the need for further research on nursing students' attitudes toward pain assessment.

Therefore, this study aimed to comprehensively examine nursing students' attitudes toward pain assessment. Specifically, the study sought to evaluate students' perceptions of pain as a multidimensional phenomenon, their approaches to assessing pain in clinical settings, and their awareness of the importance of accurate pain assessment in nursing practice. In addition, the study aimed to explore whether nursing students' attitudes toward pain assessment differ according to selected sociodemographic and educational characteristics. Accordingly, the research was guided by questions addressing nursing students' overall attitudes toward pain assessment and the factors associated with these attitudes.

Materials and Methods

Study Design and Participants

This descriptive cross-sectional study was conducted among nursing students in the Department of Nursing, Faculty of Health Sciences, after obtaining ethics committee approval and institutional permission, between June 19, and June 30, 2025.

Specifically, this study sought to address the following questions:

- What is the level of nursing students' attitudes toward pain assessment?
- Is there a difference between students' demographic characteristics and their attitudes toward pain assessment?

The study population consisted of all students enrolled in the Department of Nursing at the Faculty of Health Sciences at a university ($n=320$). The sample included 2nd, 3rd-, and 4th-year nursing students with clinical practice experience ($n=280$). First-year students were excluded from the study as they had not yet started clinical practice and therefore lacked experience in assessing patients' pain. Before the study, the required sample size was calculated using G*Power 3.1.9.7 with a theoretical power of 80%. The study was planned in early 2025, before data collection. At the time of planning, although a study using a similar scale had been published in 2024, there were limited studies on nursing students' attitudes toward pain assessment, and none had been conducted in the same context or population. Therefore, standard effect sizes proposed by Cohen (1988) were used as a reference.^[11] Because a t-test was planned to examine differences in pain attitude scale scores according to nursing students' demographic characteristics, the sample size calculation was based on a medium effect size (0.5), an α level of 0.05, and a power ($1-\beta$) of 0.80. Accordingly, a minimum of 210 nursing students were required. The study was completed with the participation of 234 nursing students.

Inclusion Criteria

Nursing students who met the following criteria were included in this study:

- Aged 18 years or older,
- Voluntarily agreed to participate in the study,
- Enrolled in the 2nd, 3rd, or 4th year of the nursing program,
- Completed all survey items.

Data Collection Tools

The following instruments were used for data collection.

Student Nurse Introductory Information Form

This form was developed by the researchers in line with the literature and consisted of 12 items regarding nursing students' age, gender, year of study, and pain-related experiences.^[8,10]

Nursing Students' Attitudes Scale Toward Pain Assessment (NSASPA)

This scale was developed by Bulut et al.^[12] It consists of 15 items and is structured as a five-point Likert scale. Students indicated their level of agreement with each statement as follows: "Strongly disagree (1)," "disagree (2)," "neutral (3)," "agree (4)," and "strongly agree (5)." The scale has two subdimensions: Importance and interest. The importance subdimension includes 12 negatively worded items that are reverse scored, while the interest subdimension consists of three positively worded items. The total score ranged from 15 to 75, with higher scores indicating more positive attitudes toward pain assessment. The Cronbach's alpha reliability coefficient was reported as 0.93 for the overall scale, 0.95 for the importance subdimension, and 0.70 for the interest subdimension.^[12] In the present study, the Cronbach's alpha values were 0.88 for the overall scale, 0.90 for the importance subdimension, and 0.86 for the interest subdimension.

Data Collection

Data were collected online using a measurement tool (Google Form) developed by the researchers. Before data collection, the purpose of the study, confidentiality of the data, and intended use of the findings were explained in detail to student representatives of the relevant classes. The online survey link was then shared with class groups by the student representatives. At the beginning of the data collection form, the purpose of the research and the information about confidentiality were clearly stated. In addition, the researchers' contact information was provided to enable students to ask questions about unclear items or study results. The form took approximately 3–5 min to complete.

Ethical Considerations

Ethical approval was obtained from the KTO Karatay University Faculty of Medicine Non-Drug and Non-Medical Device Research Ethics Committee (Date: 12

June 2025, Meeting no: 06). Institutional permission was obtained from the Faculty of Health Sciences, where the study was conducted. At the beginning of the online survey, students were informed about the study's aim, their right to withdraw at any time, the confidentiality of the information provided, and that the data would not be used for purposes other than research. Informed consent was obtained through the first item of the online form, in which students indicated their voluntary agreement to participate by selecting the statement: "I voluntarily agree to participate in this study." This study was conducted in accordance with the principles of the Declaration of Helsinki. Before data collection, permission to use the scales was obtained via email from the original authors.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences Statistics version 25.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize the data. The normality of the data distribution was examined using skewness, kurtosis, histograms, Q–Q plots, and outlier tests. The Mann–Whitney U test was used to compare non-normally distributed variables with two categories, whereas the Kruskal–Wallis test was applied for comparisons involving three or more categories. Statistical significance was set at $p < 0.05$.

Results

The study was completed with 234 nursing students. The mean age of the participating students was 20.82 ± 2.04 years; 70.9% were female, and 40.6% were 2nd-year students. It was determined that 69.72% of the students had previously received training on pain management, 65.0% of whom had received this training as part of a course, and 44.4% had theoretical knowledge of pain-assessment tools. In addition, 72.6% of the students reported having experience working with patients experiencing pain during clinical practice, and 51.7% stated that they had provided individual care to a patient with pain. While 61.1% of the students indicated that they did not experience difficulties in pain assessment, 26.1% reported conducting pain assessments through behavioral observation. Moreover, 59.4% of the participants stated that they did not feel competent in pain assessment, and 68.4% reported having taken a theoretical course on pain management (Table 1).

The mean total score on the NSASPA was 61.29 ± 9.38 , with subscale means of 50.67 ± 3.18 for importance and

Table 1. Descriptive characteristics of student nurses (n=234)

Variables	Mean±SD (min-max)	
Age (years)	20.82±2.4 (19–36)	
	n	%
Gender		
Female	166	70.9
Male	68	29.1
Grade		
2 nd year	95	40.6
3 rd year	89	38.0
4 th year	50	21.4
Have you ever received training on pain assessment or pain management?		
Yes	163	69.7
No	71	30.3
If you have received training. Across which method was it delivered?		
As part of a course	152	93.3
During clinical training	5	3.1
At a symposium/conference	6	3.6
Do you have knowledge of using pain assessment tools (e.g., VAS, NRS, Wong-Baker, etc.)?		
Yes. I have theoretical knowledge	104	44.5
Yes. I have both theoretical and practical knowledge	41	17.5
No. I have no knowledge	89	38.0
Have you ever had experience observing a patient with pain in clinical practice?		
Yes	170	72.6
No	64	27.4
Have you ever provided individual care to a patient experiencing pain?		
Yes	121	51.7
No	113	48.3
Have you experienced any difficulties while performing a pain assessment on a patient you cared for during clinical practice?		
Yes	91	38.9
No	143	61.1
Which tool do you use/have you used most frequently for pain assessment?		
VAS	53	22.6
NRS	42	18.0
Wong-Baker face scale	33	14.1
Behavioural observation	61	26.1
I don't have a vehicle	45	19.2
Do you feel competent in pain assessment?		
Yes	95	40.6
No	139	59.4
Have you received any theoretical lessons on pain so far?		
Yes	160	68.4
No	74	31.6

%: Percentage; SD: Standard deviation; Min: Minimum; Max: Maximum; VAS: Visual Analogue Scale; NRS: Numerical Rating Scale.

Table 2. Distribution of total and subscale mean scores of NSASPA among student nurses (n=234)

	Mean±SD	Min-Max
Significance	50.76±8.03	13–60
Interest	10.52±3.18	3–15
NSASPA	61.29±9.38	17–75

NSASPA: Nursing students' attitude scale toward pain assessment; SD: Standard deviation.

10.52±3.18 for interest (Table 2). NSASPA scores were compared according to students' demographic and educational characteristics. No significant differences were found based on sex for the total ($U=2434.0$, $p=0.665$), importance ($U=2600.50$, $p=0.486$), or interest ($U=2880.0$, $p=0.060$) subscales. Similarly, year of study was not associated with significant differences in total ($KW=4.146$, $p=0.126$), importance ($KW=4.836$, $p=0.089$), or interest ($KW=2.222$, $p=0.329$) scores. However, students who had received pain education demonstrated significantly higher NSASPA total ($U=4166.0$, $p<0.001$), importance ($U=4520.50$, $p=0.008$), and interest ($U=4837.50$, $p=0.044$) subscale scores compared with those who had not received such education. Regarding the method of education, students who received clinical training in pain assessment showed significantly higher total NSASPA and interest subscale scores than those who attended symposiums or conferences ($KW=6.229$, $p=0.044$ and $KW=8.337$, $p=0.015$, respectively) (Table 3).

Knowledge of pain assessment tools also affected attitude scores. Students with both theoretical and practical knowledge had significantly higher NSASPA total ($KW=7.728$, $p=0.021$) and importance subscale ($KW=6.489$, $p=0.039$) scores than those without such knowledge. Students with experience observing patients in pain during clinical practice had higher NSASPA total ($U=3890.0$, $p=0.001$) and importance subscale ($U=3901.0$, $p<0.001$) scores than those without such experience. Similarly, students who had experience providing individual care to patients with pain scored significantly higher on the NSASPA total ($U=5473.50$, $p=0.008$) and interest subscale ($U=5516.50$, $p=0.010$).

Students who felt competent in pain assessment also demonstrated higher attitude scores, consistent with their self-perceived competence. Their NSASPA total ($U=5425.00$, $p=0.020$) and importance subscale ($U=5075.50$, $p=0.003$) scores were significantly higher than those who did not feel competent. Finally, comparison by theoretical course attendance revealed that students who had taken a theoretical course on pain had significantly higher NSASPA total ($U=4149.50$, $p<0.001$) and importance subscale ($U=4199.0$, $p<0.001$) scores than those who had not. These findings

indicate that theoretical education positively influenced students' attitudes toward pain assessment (Table 3).

Discussion

This study aimed to determine nursing students' attitudes toward pain assessment and included 234 nursing students. The total score on the NSASPA was above the scale mean. Similarly, Gülнар et al.^[13] reported that nursing students' attitudes toward pain assessment were above the mean score in their study examining nursing students' pain management self-efficacy and attitudes toward pain assessment. In line with this, Belli also found that nursing students' attitudes toward pediatric pain were above the scale mean.^[14] In contrast, some other studies have reported that nursing students' attitudes toward pain were below the mean score.^[9,10]

When the NSASPA subscales were examined, nursing students scored above the mean in both the "importance" and "interest" subscales. A similar finding was reported in a study investigating nursing students' attitudes toward pain assessment, where both subscales were above the mean.^[15] These results indicate that students adopt a more conscious and sensitive approach to pain assessment, suggesting that the theoretical and practical knowledge provided during their education positively influences their attitudes toward pain assessment. However, the differing findings in the literature highlight those variables, such as nursing curriculum content, the availability of clinical practice opportunities, and students' clinical experience levels may be decisive factors affecting attitudes.

In our study, students who had previously received education on pain not only had significantly higher NSASPA total scores but also scored higher on both the "importance" and "interest" subscales. Similarly, Erol Ursavaş and Karayurt^[16] found that nursing students' attitudes toward pain improved after pain management education. These findings demonstrate that theoretical and practical pain management education contributes to the development of more sensitive, conscious, and responsible approaches among students. The knowledge and awareness gained through education not only enhance students' cognitive competence but also strengthen attitudinal attributes, such as empathy and a professional approach. Therefore, incorporating pain management into nursing curricula is of great importance in supporting students' holistic approach to patient care.^[17]

In this study, nursing students who had experience observing patients with pain during clinical practice scored significantly higher on the NSASPA total scale. The literature indicates that nurses' knowledge and experience in pain assessment and management are critical determinants of their approach

Table 3. Comparison of student nurses' attitudes toward pain assessment according to their descriptive characteristics (n=234)

Variables	NSASPA significance Median (IQR) [min-max]	NSASPA interest Median (IQR) [min-max]	NSASPA total Median (IQR) [min-max]
Gender			
Female	54.0 (10.0) [20.0–60.0]	10.0 (4.0) [3.0–15.0]	63.0 (13.0) [23.0–75.0]
Male	53.0 (9.0) [13.0–60.0]	11.0 (4.0) [3.0–15.0]	63.0 (12.75) [17.0–73.0]
Test (U); p	2600.50; 0.486	2880.0; 0.060	2434.0; 0.665
Grade			
2 nd year	54.0 (10.0) [13.0–60.0]	10.0 (3.0) [3.0–15.0]	63.0 (11.0) [17.0–71.0]
3 rd year	54.0 (10.50) [35.0–60.0]	11.0 (5.50) [3.0–15.0]	64.0 (15.0) [41.0–73.0]
4 th year	55.50 (8.0) [14.0–60.0]	11.0 (4.0) [3.0–15.0]	65.50 (11.0) [29.0–75.0]
Test (KW); p	4.836; 0.089	2.222; 0.329	4.146; 0.126
Have you ever received training on pain assessment or pain management?			
Yes	55.0 (8.0) [34.0–60.0]	11.0 (4.0) [3.0–15.0]	65.0 (11.0) [38.0–73.0]
No	50.0 (14.0) [13.0–60.0]	10.0 (3.0) [3.0–15.0]	60.0 (16.0) [17.0–75.0]
Test (U); p	4520.50; 0.008**	4837.50; 0.044**	4166.0; p<0.001*
If you have received training. Across which method was it delivered?			
As part of a course ¹	55.0 (8.0) [34.0–60.0]	11.0 (4.0) [3.0–15.0]	65.0 (11.0) [38.0–73.0]
During clinical training ²	56.0 (12.0) [37.0–60.0]	15.0 (4.0) [9.0–15.0]	71.0 (14.0) [46.0–73.0]
At a symposium/conference ³	49.50 (26.75) [13.0–60.0]	6.50 (6.75) [3.0–15.0]	56.0 (27.0) [17.0–71.0]
Test (U); p	1.483; 0.476	8.337; 0.015** . 2>3	6.229; 0.044** . 2>3
Do you have knowledge of using pain assessment tools (e.g., VAS, NRS, Wong-Baker, etc.)?			
Yes, I have theoretical knowledge ¹	55.0 (8.75) [34.0–60.0]	11.0 (4.0) [3.0–15.0]	65.0 (12.0) [38.0–73.0]
Yes, I have both theoretical and practical knowledge ²	56.0 (9.0) [34.0–60.0]	10.0 (4.0) [3.0–15.0]	66.0 (11.0) [44.0–71.0]
No, I have no knowledge ³	53.0 (11.0) [13.0–60.0]	10.0 (4.0) [3.0–15.0]	63.0 (13.0) [17.0–75.0]
Test (KW); p	6.489; 0.039** . 2>3	1.894; 0.388	7.728; 0.021** . 2>3
Have you ever had experience observing a patient with pain in clinical practice?			
Yes	55.0 (8.0) [13.0–60.0]	11.0 (4.0) [3.0–15.0]	65.0 (11.0) [17.0–73.0]
No	50.0 (15.0) [20.0–60.0]	10.0 (3.75) [3.0–15.0]	58.50 (18.50) [23.0–75.0]
Test (U); p	3901.0; p<0.001*	4607.50; 0.069	3890.0; 0.001**
Have you ever provided individual care to a patient experiencing pain?			
Yes	55.0 (9.0) [13.0–60.0]	11.0 (5.0) [3.0–15.0]	66.0 (11.0) [17.0–73.0]
No	53.0 (10.0) [14.0–60.0]	10.0 (3.0) [3.0–15.0]	63.0 (13.0) [23.0–75.0]
Test (U); p	5956.0; 0.087	5516.50; 0.010**	5473.50; 0.008**
Have you experienced any difficulties while performing a pain assessment on a patient you cared for during clinical practice?			
Yes	53.0 (10.0) [34.0–60.0]	10.0 (4.0) [3.0–15.0]	63.0 (13.0) [43.0–72.0]
No	55.0 (9.0) [13.0–60.0]	10.0 (4.0) [3.0–15.0]	65.0 (12.0) [17.0–75.0]
Test (U); p	5777.0; 0.146	5936.0; 0.255	5661.50; 0.094
Do you feel competent in pain assessment?			
VAS ¹	55.0 (9.0) [13.0–60.0]	11.0 (5.0) [3.0–15.0]	66.0 (12.0) [17.0–72.0]
NRS ²	55.0 (9.0) [35.0–60.0]	11.0 (4.0) [3.0–15.0]	66.50 (11.25) [43.0–73.0]
Wong-Baker face scale ³	55.0 (8.0) [35.0–60.0]	11.0 (6.50) [3.0–15.0]	65.0 (12.0) [38.0–73.0]
Behavioural observation ⁴	54.0 (9.0) [34.0–60.0]	11.0 (4.0) [3.0–15.0]	63.0 (10.50) [43.0–73.0]
I don't have a vehicle ⁵	49.0 (18.0) [14.0–60.0]	9.0 (2.50) [3.0–15.0]	58.0 (19.50) [23.0–75.0]
Test (KW); p	11.312; 0.023** . 2>5	9.001; 0.061	17.203; 0.002** . 2>5

Table 3 (cont.). Comparison of student nurses' attitudes toward pain assessment according to their descriptive characteristics (n=234)

Variables	NSASPA significance Median (IQR) [min-max]	NSASPA interest Median (IQR) [min-max]	NSASPA total Median (IQR) [min-max]
Do you feel competent in pain assessment?			
Yes	56.0 (9.0) [34.0–60.0]	11.0 (4.0) [3.0–15.0]	65.0 (11.0) [38.0–73.0]
No	53.0 (11.0) [13.0–60.0]	10.0 (4.0) [3.0–15.0]	63.0 (14.0) [17.0–75.0]
Test (U); p	5075.50; 0.003**	6428.0;0.729	5425.00; 0.020**
Have you received any theoretical lessons on pain so far?			
Yes	55.0 (7.0) [34.0–60.0]	11.0 (4.0) [3.0–15.0]	65.0 (10.75) [38.0–73.0]
No	48.0 (14.0) [13.0–60.0]	10.0 (4.25) [3.0–15.0]	58.0 (16.75) [17.0–75.0]
Test (U); p	4199.0; p<0.001*	5158.0; 0.110	4149.50; p<0.001*

1–5: Post-hoc Bonferroni. *: p<0.001. **: p<0.05. NSASPA: Nursing students' attitude scale toward pain assessment; U: Mann–Whitney U Test; KW: Kruskal–Wallis Test; IQR: Interquartile Range; min-max: Minimum-maximum; VAS: Visual Analogue Scale; NRS: Numerical Rating Scale.

to patients in pain.^[3,18,19] This finding suggests that patient observation enables students to reinforce their knowledge and develop a more empathetic perspective on pain. Time spent with patients and observation-based learning help students understand pain not only as a clinical problem but also as a personal, physical, and emotional experience. Thus, increasing patient observation and experiential learning opportunities in nursing education can strengthen students' knowledge-based and human-sensitive approaches, thereby improving the quality of patient-centered care.

In our study, students who perceived themselves as competent in pain assessment demonstrated significantly higher attitude scores. This finding is consistent with previous studies. Gülnar et al.^[13] reported that students with high self-efficacy had higher levels of both confidence in pain management and attitude scores, while Sayın Kasar and Kütmeç Yılmaz found that students who felt confident in pain management displayed significantly more positive attitudes.^[20] These results show that when students feel confident, they perceive pain as both theoretical knowledge and a manageable clinical condition. Students with high self-efficacy can approach pain with greater empathy, awareness, and confidence in practice.

Limitations

This study was conducted only with nursing students from a single university; therefore, the findings cannot be generalized to all nursing students. As the data were collected through an online questionnaire, students' responses were based on their self-perceptions and self-reports, which may have introduced bias into the measurements. In addition, the cross-sectional design of the study limits the ability to establish causal relationships. For these reasons, future research with larger samples, across different institutions,

and using longitudinal designs is recommended to provide stronger contributions to the field.

Conclusion

This study found that nursing students had generally positive attitudes toward pain assessment. In particular, students who had received pain education, had clinical experience with patients experiencing pain, and perceived themselves as competent in pain assessment scored significantly higher on the attitude scale. These findings indicate that knowledge and clinical experience strengthen students' approaches to and attitudes toward pain. Accordingly, enhancing both theoretical and practical education on pain assessment and management within nursing curricula may not only improve students' knowledge but also foster the development of empathetic and patient-centered attitudes toward pain management.

Ethics Committee Approval: The KTO Karatay University Faculty of Medicine Non-Drug and Non-Medical Device Research Ethics Committee granted approval for this study (date: 12.06.2025, number: 06).

Informed Consent: Informed consent was obtained through the first item of the online form, where students indicated their voluntary agreement to participate by selecting the statement: "I voluntarily agree to participate in this study."

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