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Attitudes toward the nursing process and their relationship with professional socialization among nursing students: a cross-sectional study

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Abstract

Background

Professional socialization is a fundamental component of nursing education that influences professional identity, clinical competence, and quality of patient care. Attitudes toward the nursing process may affect nursing students' professional development and adaptation to professional roles. However, limited evidence exists regarding the relationship between attitudes toward the nursing process and professional socialization among nursing students. Therefore, this study aimed to investigate the relationship between attitudes toward the nursing process and professional socialization among nursing students.

Methods

This descriptive cross-sectional correlational study was conducted among 243 undergraduate nursing students at Hamadan University of Medical Sciences in 2023. Participants were selected using a census sampling method. Data were collected using a demographic questionnaire, the Bowman Attitude toward Nursing Process Questionnaire, and the Chao Professional Socialization Questionnaire. Data were analyzed using descriptive statistics, independent t-test, one-way analysis of variance, and Pearson's correlation coefficient in SPSS version 26.

Results

The mean age of participants was 22.77 ± 2.30 years, and 52.3% were female. The mean score of attitudes toward the nursing process was 65.90 ± 8.42, while the mean professional socialization score was 249.07 ± 39.34. A statistically significant positive correlation was observed between attitudes toward the nursing process and professional socialization ($r = 0.415$, $p < 0.001$). Positive correlations were also found between attitudes toward the nursing process and all dimensions of professional socialization.

Conclusions

Positive attitudes toward the nursing process were associated with higher levels of professional socialization among nursing students. Strengthening nursing process education and professional identity development may improve nursing students' professional growth, clinical competence, and readiness for professional nursing practice.

Background

Professional socialization is one of the most important components of professional development in nursing education and clinical practice. It is a dynamic and continuous process through which nursing students internalize the knowledge, values, attitudes, skills, and professional behaviors necessary for effective performance within the nursing profession [1]. Professional socialization plays a critical role in shaping professional identity, enhancing clinical competence, promoting ethical practice, and improving the quality of patient care [2, 3].

The process of professional socialization begins during undergraduate nursing education and continues throughout professional practice [4]. During this process, nursing students gradually adapt to professional roles and develop professional values through educational experiences, clinical learning environments, and interactions with instructors, nurses, peers, and patients [5]. Successful professional socialization facilitates students' transition into professional nursing roles, strengthens self-confidence, and improves professional commitment and clinical performance [6]. In contrast, inadequate professional socialization may lead to role confusion, decreased professional satisfaction, occupational stress, and reduced quality of nursing care [7].

Recent evidence has emphasized the importance of supportive educational and clinical environments in promoting professional socialization among nursing students. Positive clinical experiences, effective mentorship, and constructive professional relationships have been shown to improve students' professional identity formation and adaptation to clinical settings [8, 9]. Furthermore, professional socialization has been associated with increased professional competency, improved interpersonal communication, and stronger organizational commitment among nursing students and newly graduated nurses [10].

One of the fundamental concepts in nursing education and professional nursing practice is the nursing process. The nursing process is a systematic, evidence-based, and patient-centered framework used by nurses to provide individualized care through assessment, nursing diagnosis, planning, implementation, and evaluation [11]. The nursing process improves critical thinking, clinical reasoning, problem-solving abilities, and patient safety and is considered a core component of professional nursing care [12, 13].

Despite its importance, implementation of the nursing process remains inconsistent in many clinical settings. Several studies have identified barriers to the effective implementation of the nursing process, including insufficient knowledge, limited clinical support, heavy workload, inadequate training, and negative attitudes toward the nursing process [14, 15]. Among these factors, attitudes toward the nursing process are considered one of the most influential determinants affecting its successful application in clinical practice [16].

Positive attitudes toward the nursing process may encourage nursing students to use scientific and systematic approaches in patient care and strengthen their understanding of professional nursing roles [17]. Conversely, negative perceptions of the nursing process may reduce students' motivation to apply nursing standards in clinical practice and may negatively influence professional development and professional identity formation [18].

Recent studies have reported that educational interventions focused on the nursing process can improve nursing students' clinical competence, self-confidence, and professional growth [19, 20]. Since the nursing process constitutes a central element of professional nursing practice, students' attitudes toward it may influence their professional socialization and adaptation to the nursing profession.

Although previous studies have separately examined professional socialization and attitudes toward the nursing process, limited evidence is available regarding the relationship between these variables among nursing students, particularly in Iran. Therefore, the present study aimed to investigate the relationship between attitudes toward the nursing process and professional socialization among nursing students at Hamadan University of Medical Sciences in 2023.

Methods

Study design and setting

This descriptive cross-sectional correlational study was conducted in 2023 among undergraduate nursing students at the Faculty of Nursing and Midwifery of Hamadan University of Medical Sciences. The study aimed to investigate the relationship between attitudes toward the nursing process and professional socialization among nursing students.

Participants and sampling

The study population consisted of undergraduate nursing students enrolled in the fifth to eighth academic semesters during the 2023 academic year. Students who had completed at least one clinical training course and were willing to participate in the study were included. Students who returned incomplete questionnaires were excluded from the analysis.

A census sampling method was used, and all eligible students were invited to participate in the study. Finally, 243 nursing students completed the questionnaires and were included in the final analysis.

Data collection instruments

Data were collected using three instruments, including a demographic information questionnaire, the Bowman Attitude toward Nursing Process Questionnaire, and the Chao Professional Socialization Questionnaire.

Demographic information questionnaire

The demographic questionnaire included variables such as age, gender, marital status, academic semester, place of residence, employment status, grade point average, and level of interest in the nursing profession.

Attitude toward Nursing Process Questionnaire

Students' attitudes toward the nursing process were assessed using the Bowman Attitude toward Nursing Process Questionnaire, which has previously been developed and validated in earlier studies [16, 17]. this instrument consists of 20 items designed to evaluate individuals' attitudes and perceptions regarding the importance, usefulness, and applicability of the nursing process in clinical practice. Items are scored on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Total scores range from 20 to 100, with higher scores indicating more positive attitudes toward the nursing process.

The validity and reliability of this questionnaire have been confirmed in previous studies [16, 17]. In the present study, the internal consistency of the instrument was acceptable, with a Cronbach's alpha coefficient of 0.87.

Professional Socialization Questionnaire

Professional socialization was assessed using the Chao Professional Socialization Questionnaire, a previously developed and validated instrument designed to evaluate dimensions of professional socialization [21]. this questionnaire evaluates professional socialization across several dimensions, including value and recognition of the profession, professional skills, organizational management and policies, and interpersonal communication. The questionnaire contains 48 items scored on a 7-point Likert scale ranging from completely disagree (1) to completely agree (7). Higher scores indicate higher levels of professional socialization.

Previous studies have reported acceptable psychometric properties for this instrument [21]. In the present study, the Cronbach's alpha coefficient for the total scale was 0.91.

Data collection procedure

After obtaining approval from the university authorities and ethics committee, eligible students were approached during classroom sessions and clinical training courses. The objectives of the study were explained to the participants, and written informed consent was obtained prior to participation. Participants completed the questionnaires anonymously, and confidentiality of the collected data was assured.

Data collection was conducted over approximately three months. The average time required to complete the questionnaires was approximately 20–25 minutes.

Statistical analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26 (IBM Corp., Armonk, NY, USA). Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize demographic characteristics and study variables.

The normality of quantitative variables was assessed using the Kolmogorov–Smirnov test. Pearson's correlation coefficient was used to determine the relationship between attitudes toward the nursing process and professional socialization. Independent t-test and one-way analysis of variance were used to compare mean scores across demographic variables where appropriate. A p-value less than 0.05 was considered statistically significant.

Ethical considerations

This study was approved by the Ethics Committee of Hamadan University of Medical Sciences (Ethics code: [TO BE INSERTED]). Written informed consent was obtained from all participants before data collection. Participants were assured that their information would remain confidential and anonymous and would be used solely for research purposes.

Results

Participants' characteristics

A total of 243 undergraduate nursing students participated in this study, yielding a response rate of 93.4%. The mean age of participants was 22.77 ± 2.30 years (range: 20–31 years). Among the participants, 127 students (52.3%) were female and 116 (47.7%) were male. Most participants were single (90.5%) and resided in student dormitories (61.3%). The majority of students were studying in the sixth and seventh academic semesters. Detailed demographic characteristics of the participants are presented in Table 1.

Table 1
Demographic characteristics of nursing students participating in the study (n = 243)

Variable	Category	n (%)
Gender	Female	127 (52.3)
	Male	116 (47.7)
Marital status	Single	220 (90.5)
	Married	23 (9.5)
Semester	Fifth	54 (22.2)
	Sixth	68 (28.0)
	Seventh	71 (29.2)
	Eighth	50 (20.6)
Residence status	Dormitory	149 (61.3)
	Personal home	94 (38.7)
Employment status	Employed	39 (16.0)
	Unemployed	204 (84.0)

Age (years), mean ± SD: 22.77 ± 2.30

Attitudes toward the nursing process and professional socialization

The mean score of attitudes toward the nursing process was 65.90 ± 8.42, indicating a moderate-to-high positive attitude toward the nursing process among nursing students. The mean total score of professional socialization was 249.07 ± 39.34.

Among the dimensions of professional socialization, the highest mean score was related to “value and recognition of the profession,” whereas the lowest mean score was associated with “organizational management and policies.” Descriptive statistics of the study variables are presented in Table 2.

Table 2
Descriptive statistics of attitudes toward the nursing process and dimensions of professional socialization

Variable	Mean ± SD	Minimum	Maximum
Attitude toward nursing process	65.90 ± 8.42	42	89
Professional socialization (total)	249.07 ± 39.34	151	329
Value and recognition of profession	73.21 ± 11.47	40	96
Professional skills	68.44 ± 10.12	39	89
Organizational management and policies	49.88 ± 9.31	24	70
Interpersonal communication	57.54 ± 8.62	31	77

Correlation between attitudes toward the nursing process and professional socialization

Pearson's correlation analysis demonstrated a statistically significant positive correlation between attitudes toward the nursing process and overall professional socialization among nursing students ($r = 0.415$, $p < 0.001$).

Furthermore, attitudes toward the nursing process showed statistically significant positive correlations with all dimensions of professional socialization. The strongest correlation was observed with the dimension of "value and recognition of the profession" ($r = 0.410$, $p < 0.001$), followed by "professional skills" ($r = 0.393$, $p < 0.001$), "organizational management and policies" ($r = 0.347$, $p < 0.001$), and "interpersonal communication" ($r = 0.260$, $p < 0.001$). The correlation coefficients are presented in Table 3.

Table 3
Correlation between attitudes toward the nursing process and dimensions of professional socialization

Variable	Correlation coefficient (r)	p-value
Professional socialization (total)	0.415	< 0.001
Value and recognition of profession	0.410	< 0.001
Professional skills	0.393	< 0.001
Organizational management and policies	0.347	< 0.001
Interpersonal communication	0.260	< 0.001

Association between demographic variables and study variables

Students who reported greater interest in the nursing profession had significantly higher mean scores for both attitudes toward the nursing process and professional socialization ($p < 0.001$). In addition, students with higher academic grade point averages demonstrated higher professional socialization scores.

No statistically significant associations were observed between gender, marital status, residence status, and total professional socialization scores ($p > 0.05$). Comparisons of mean scores according to selected demographic variables are shown in Table 4.

Table 4
Comparison of mean scores of attitudes toward the nursing process and professional socialization according to selected demographic variables

Variable	Attitude toward nursing process Mean ± SD	p-value	Professional socialization Mean ± SD	p-value
Gender		0.284		0.316
Female	66.41 ± 8.11		251.38 ± 37.92	
Male	65.34 ± 8.76		246.55 ± 40.87	
Interest in nursing profession		< 0.001		< 0.001
High interest	69.15 ± 7.42		264.18 ± 35.26	
Moderate/low interest	61.27 ± 8.03		228.94 ± 38.71	
Employment status		0.119		0.087
Employed	67.28 ± 7.93		255.74 ± 36.18	
Unemployed	65.63 ± 8.51		247.79 ± 39.91	

Figure 1 illustrates the positive linear relationship between attitudes toward the nursing process and professional socialization among nursing students. As shown in the scatter plot, higher scores of attitudes toward the nursing process were associated with higher levels of professional socialization. The distribution of data points further supports the statistically significant positive correlation identified through Pearson's correlation analysis ($r = 0.415$, $p < 0.001$).

Discussion

The present study investigated the relationship between attitudes toward the nursing process and professional socialization among undergraduate nursing students. The findings demonstrated a statistically significant positive correlation between attitudes toward the nursing process and professional socialization. Nursing students who reported more positive attitudes toward the nursing process exhibited higher levels of professional socialization across all measured dimensions. These

findings suggest that perceptions regarding the nursing process may play an important role in professional identity formation and adaptation to professional nursing roles.

Professional socialization is considered a key component of nursing education because it facilitates the development of professional identity, clinical competence, ethical practice, and organizational adaptation among nursing students and newly graduated nurses [22, 23]. In recent years, the importance of strengthening professional identity and preparing nursing students for complex clinical environments has received increasing attention in nursing education research [24]. The findings of the present study support the notion that positive educational and professional attitudes may facilitate students' integration into the nursing profession.

The present findings are consistent with previous studies reporting that supportive educational environments and effective clinical learning experiences positively influence professional socialization among nursing students [25, 26]. Noviani et al. reported that structured professional socialization programs improved nursing students' professional competence and readiness for clinical practice [3]. Similarly, Prosen and Ličen found that successful professional socialization contributes to improved professional competency, communication skills, and confidence among newly graduated nurses [2].

One possible explanation for the observed relationship is that the nursing process constitutes one of the fundamental scientific frameworks of professional nursing practice. The nursing process encourages systematic clinical reasoning, evidence-based decision-making, patient-centered care, and professional accountability [11, 12]. Nursing students with positive attitudes toward the nursing process may therefore develop stronger professional values, greater appreciation of nursing responsibilities, and more effective clinical decision-making abilities.

In the present study, positive correlations were observed between attitudes toward the nursing process and all dimensions of professional socialization. The strongest relationship was found with the dimension of "value and recognition of the profession," followed by professional skills. This finding suggests that nursing students with more positive perceptions of the nursing process may demonstrate stronger appreciation of professional nursing values, responsibilities, and clinical competencies. Previous studies have similarly emphasized that educational experiences enhancing professional values and clinical competence are associated with stronger professional identity formation among nursing students [24, 27].

The findings also revealed that students with greater interest in the nursing profession demonstrated significantly higher scores in both attitudes toward the nursing process and professional socialization. This finding is consistent with previous research demonstrating that motivation, professional commitment, emotional intelligence, and positive educational experiences contribute to successful professional socialization among nursing students [10, 28]. Students who are genuinely interested in the nursing profession may participate more actively in clinical learning environments and professional development activities.

Another important finding was the relatively lower score observed in the “organizational management and policies” dimension. This result may indicate that nursing students experience challenges in understanding organizational structures, management processes, and institutional policies during clinical education. Similar findings have been reported in previous studies suggesting that limited exposure to organizational decision-making processes and insufficient managerial support may negatively affect students’ organizational adaptation [25, 29].

The findings of the present study have important implications for nursing education and clinical training. Nursing educators and clinical instructors should create supportive learning environments that strengthen students’ understanding and application of the nursing process. Educational interventions such as simulation-based learning, reflective practice, mentorship programs, and competency-based clinical education may improve both professional socialization and students’ attitudes toward professional nursing care [30–32].

Despite the important findings of this study, several limitations should be acknowledged. First, the cross-sectional design limits the ability to establish causal relationships between variables. Second, the study was conducted at a single university, which may limit generalizability of the findings to other educational and cultural settings. Third, the use of self-report questionnaires may increase the possibility of response bias. Future multicenter and longitudinal studies are recommended to further investigate factors influencing professional socialization and nursing process attitudes among nursing students.

Conclusions

The findings of the present study demonstrated that positive attitudes toward the nursing process were significantly associated with higher levels of professional socialization among nursing students. Nursing students who demonstrated stronger acceptance and understanding of the nursing process reported greater professional identity, stronger professional values, and improved adaptation to professional nursing roles.

Considering the important role of professional socialization in preparing competent future nurses, nursing education programs should prioritize educational strategies that strengthen nursing process competencies, clinical reasoning, and professional identity development. Improving nursing students’ attitudes toward the nursing process may contribute to enhanced professional growth, clinical competence, and quality of patient care.

Future studies are recommended to evaluate the long-term effects of educational and clinical interventions aimed at improving nursing process competencies and professional socialization among nursing students in different educational contexts.

Abbreviations

ANOVA

Analysis of variance
SD
Standard deviation
SPSS
Statistical Package for the Social Sciences

Declarations

Ethics approval and consent to participate

This study was approved by the Ethics Committee of Hamadan University of Medical Sciences (Ethics code: IR.UMSHA.REC.1402.346). Written informed consent was obtained from all participants before data collection. Participation in the study was voluntary, and confidentiality and anonymity of participants' information were assured throughout the study. All methods were carried out in accordance with relevant guidelines and regulations and in accordance with the Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

[H.Azami & M.M. Jamasbi] contributed to the study conception and design. Data collection and analysis were performed by [F.Shahbazi & S. Moamer]. The first draft of the manuscript was written by [H.Azami & S.A Bonyad], and all authors reviewed and approved the final manuscript.

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Data Availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

1. Moon S, Chang SJ. Professional socialization of hospital nurses: A scale development and validation study. BMC Nurs. 2023;22:2. 10.1186/s12912-022-01169-6.
2. Prosen M, Ličen S. Newly graduated nurses' perceptions of their professional role and professional competency: a qualitative focus group study. BMC Med Educ. 2023;23:755. 10.1186/s12909-023-04747-7.
3. Noviani W, Chong MC, Tang LY. Socialization in professional reality integration for nursing student transition (SPRINT) to improve professional competence: a quasi-experimental study. Heliyon. 2023;9:e13433. 10.1016/j.heliyon.2023.e13433.
4. Dinmohammadi M, Peyrovi H, Mehrdad N. Concept analysis of professional socialization in nursing. Nurs Forum. 2013;48:26–34. 10.1111/nuf.12006.
5. Mabuda BT, Peu MD, Netshikweta ML. Professional socialisation of student nurses in the clinical learning environment: a qualitative study. Heliyon. 2023;9:e18611. 10.1016/j.heliyon.2023.e18611.
6. Kim SY, Shin YS. Structural model of professional socialization of nursing students with clinical practice experience. J Nurs Educ. 2020;59:133–41. 10.3928/01484834-20200220-04.
7. Heggestad AKT, Konow-Lund AS, Christiansen B, Nortvedt P. A vulnerable journey towards professional empathy and moral courage. Nurs Ethics. 2022;29:1040–52. 10.1177/09697330221074013.
8. Gazaway S, Gibson RW, Schumacher A, Anderson L. Impact of mentoring relationships on nursing professional socialization. J Nurs Manag. 2019;27:1182–9. 10.1111/jonm.12813.
9. Rudberg SL, Lachmann H, Sormunen T, Scheja M, Westerbotn M. The impact of learning styles on attitudes to interprofessional learning among nursing students. BMC Nurs. 2023;22:68. 10.1186/s12912-023-01225-9.
10. Lim S, Yeom Y. Factors influencing organizational socialization of nursing students. J Ind Converg. 2023;21:97–105.
11. Toney-Butler TJ, Thayer JM. Nursing Process. StatPearls. 2023.
12. Park J, Jeong S. The analysis of nursing diagnoses determined by students for patients in rehabilitation units. J Exerc Rehabil. 2022;18:299–307. 10.12965/jer.2244478.239.
13. Seçer S, Karaca A. Evaluation of nurses' perceptions regarding nursing process. Florence Nightingale J Nurs. 2021;29:229–38. 10.5152/FNJN.2021.20198.
14. Munangatire T, Nambuli SMT. Nursing students' perceptions and experiences of utilizing the nursing process. Int J Afr Nurs Sci. 2022;16:100393. 10.1016/j.ijans.2022.100393.

15. Moghadas T, Sedaghati Kesbakhi M. Factors influencing implementation of nursing process by nursing students: a qualitative study. J Med Educ. 2020;19:e110810. 10.5812/jme.110810.
16. Parvan K, Hosseini FA, Jasemi M, Thomson B. Attitude of nursing students following implementation of comprehensive computer-based nursing process. BMC Med Inf Decis Mak. 2021;21:10. 10.1186/s12911-020-01342-6.
17. Khatiban M, Tohidi S, Shahdoust M. Effects of applying an assessment form based on health functional patterns on nursing students' attitudes and skills. Int J Nurs Sci. 2019;6:329–33. 10.1016/j.ijnss.2019.06.004.
18. Sadeghnezhad H, Yaghmaei S. Assessing attitudes of nursing students regarding the nursing process. J Nurs Educ. 2022;11:10–7.
19. Noviani W, Chong MC, Tang LY. Professional competence and socialization in nursing students. Heliyon. 2023;9:e13433. 10.1016/j.heliyon.2023.e13433.
20. an de Mortel TF, Nilsson J, Lepp M. Validating the nurse professional competence scale with Australian baccalaureate nursing students. Collegian. 2021;28:244–51. 10.1016/j.colegn.2020.07.004.
21. Chao GT, O'Leary-Kelly AM, Wolf S, Klein HJ, Gardner PD. Organizational socialization: its content and consequences. J Appl Psychol. 1994;79:730–43. 10.1037/0021-9010.79.5.730.
22. Moon S, Chang SJ. Professional socialization of hospital nurses: A scale development and validation study. BMC Nurs. 2023;22:2. 10.1186/s12912-022-01169-6.
23. Prosen M, Ličen S. Newly graduated nurses' perceptions of their professional role and professional competency: a qualitative focus group study. BMC Med Educ. 2023;23:755. 10.1186/s12909-023-04747-7.
24. Mangolian Shahrbabaki P, Nouhi E. Explaining professionalism and professional socialization process in nursing students. J Qual Res Health Sci. 2023;12:1–8.
25. Mabuda BT, Peu MD, Netshikweta ML. Professional socialisation of student nurses in the clinical learning environment: a qualitative study. Heliyon. 2023;9:e18611. 10.1016/j.heliyon.2023.e18611.
26. Rudberg SL, Lachmann H, Sormunen T, Scheja M, Westerbotn M. The impact of learning styles on attitudes to interprofessional learning among nursing students. BMC Nurs. 2023;22:68. 10.1186/s12912-023-01225-9.
27. Heggestad AKT, Konow-Lund AS, Christiansen B, Nortvedt P. A vulnerable journey towards professional empathy and moral courage. Nurs Ethics. 2022;29:1040–52. 10.1177/09697330221074013.
28. Lim S, Yeom Y. Factors influencing organizational socialization of nursing students. J Ind Converg. 2023;21:97–105.
29. Kim SY, Shin YS. Structural model of professional socialization of nursing students with clinical practice experience. J Nurs Educ. 2020;59:133–41. 10.3928/01484834-20200220-04.

30. van de Mortel TF, Nilsson J, Lepp M. Validating the nurse professional competence scale with Australian baccalaureate nursing students. Collegian. 2021;28:244–51. 10.1016/j.colegn.2020.07.004.

Figures

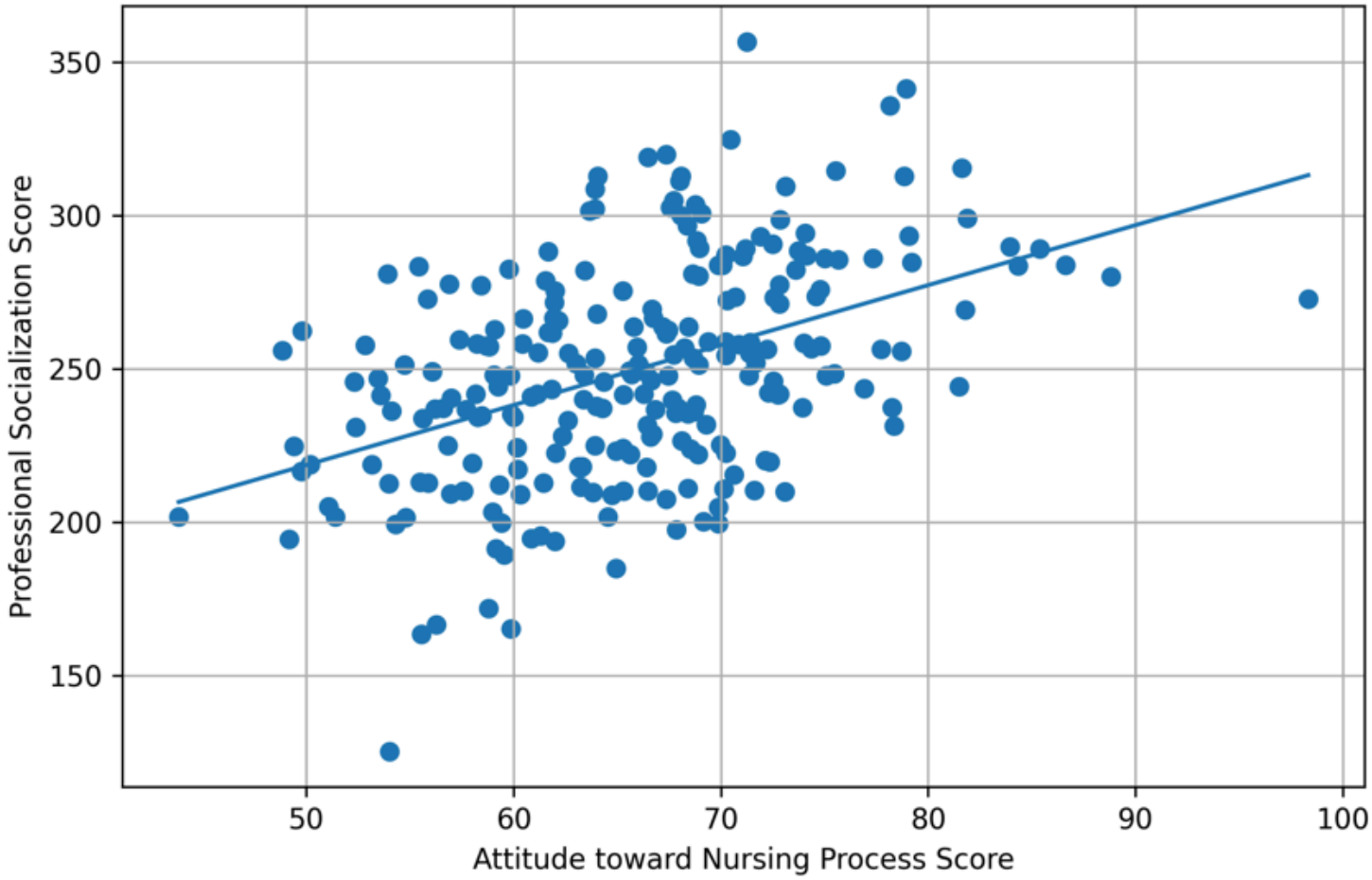


Figure 1

Scatter plot illustrating the positive correlation between attitudes toward the nursing process and professional socialization among nursing students.