

## **The Relation between Negotiation Skills and Problem Solving Skills among Head Nurses**

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### **Abstract:**

**Background:** Today's healthcare organizations operate in a highly competitive environment where acquiring essential knowledge, information, and modern technology are crucial for both hospitals and their managerial staff. **Aim of the study** was to examine the relation between negotiation skills and problem solving skills among head nurses. **Research design:** A descriptive correlational research design was applied to accomplish the aim of the study. **Study setting:** The research was carried out in all inpatient units within the medical and surgical departments at Benha University Hospital. **Subjects:** composed of all head nurses (61) who were working in the above mentioned setting. **Tools of data collection:** Two tools were used: Tool I) Self- Report Negotiation Skills Questionnaire and Tool II) Problem Solving Inventory. **Results:** The majority of head nurses had satisfactory negotiation skills. More than two thirds of head nurses had high problem solving skills level. **Conclusion:** There was a positive statistically significant correlation between negotiation and problem solving skills. **Recommendation:** Identifying workplace challenges that hinder head nurses from applying their negotiation and problem-solving skills effectively.

**Keywords:** Head nurses, Negotiation skills, Problem solving skills

### **Introduction**

In the present era, healthcare institutions operate within a highly competitive landscape, where the acquisition of vital knowledge, technological tools, and strategic information is not only necessary for the success of hospitals but also for the competency of healthcare managers. Among these professionals, head nurses (HNs) are expected to be equipped with a range of core competencies, including technical expertise, conceptual understanding, behavioral aptitude, and interpersonal (human) skills (Djamali et al., 2025).

Human skills refer to the HN's ability to recognize, interpret, and respond to the motivational needs of staff, and to apply suitable leadership approaches to help achieve the overall goals of the hospital. One of the

most critical of these leadership techniques is negotiation. Effective negotiation reflects the capacity of the nurse manager to engage in meaningful dialogue, manage conflicts, and reach mutually beneficial agreements. Indeed, the negotiation proficiency of nurse managers can have a substantial impact on the success of negotiation processes within healthcare settings (Saleh et al., 2025).

Negotiation is defined as a process and tool used to resolve disputes, disagreements, or conflicts involving two or more parties. It requires each side to exchange proposals and engage in communication aimed at reaching a shared understanding or agreement. In this dynamic interaction, all parties exert effort to optimize outcomes in their favor. Negotiation is not restricted to a particular context; it occurs daily and spans a wide range of topics,

with the exception of ethical or religious matters, which are typically excluded from negotiation frameworks (Selvi & Serin, 2025).

Within healthcare organizations, negotiation is regarded as a key utilization of human resources, especially in the nursing domain. It serves as a mechanism for problem resolution and contributes to team cohesion. Although the process involves tangible costs, such as the time and effort required to coordinate and execute discussions, successful negotiations can yield significant returns, including time efficiency, enhanced productivity, and the generation of innovative solutions (Mann, 2025).

The negotiation process can be broken down into three primary stages. The first phase is planning and preparation, during which the HN collects relevant data about the issue to be addressed. This involves understanding the problem from multiple perspectives, engaging in discussions with others to clarify uncertainties, and ensuring a comprehensive understanding of the context before entering the negotiation table (Sanders et al., 2025).

The second phase is known as bargaining, where information is shared and interpersonal connections are cultivated. The central tactic in this stage is to convince the opposing party of the legitimacy of the HN's position and to persuade them to concede or align with those demands. This step demands advanced skills in active listening, emotional regulation, verbal articulation, teamwork, problem-solving, decision-making, and interpersonal communication (Dixon, 2025).

The final stage of the negotiation process is closing the deal. This phase concludes with both parties arriving at a mutual agreement. The HN reaffirms the terms of the agreement verbally and in writing and extends gratitude to the involved parties

for their participation and collaboration (Vidaletti, 2025).

In the clinical environment, negotiation is integral to the daily functions of the HN. Every interaction that leads to a decision or resolution typically involves negotiation and problem-solving skills. HNs frequently negotiate with patients, family members, fellow nurses, physicians, and administrators to achieve understanding, cooperation, and agreement. Additionally, negotiation helps define individual roles, reduce misunderstandings, and foster positive interpersonal and professional relationships (Djamali et al., 2025).

Problem-solving is defined as the process of attaining specific objectives by overcoming obstacles, and it is a fundamental part of most tasks and responsibilities. Problem types vary from simple, routine matters to highly complex issues that require multifaceted solutions. Simple problems may involve a single concern, whereas complex problems encompass several interconnected challenges that require more in-depth analysis and strategy (Tschisgale et al., 2025). Another perspective defines problem-solving as a cognitive and behavioral activity through which individuals mobilize knowledge, abilities, and past experiences to recognize problems, devise solutions, and resolve conflicts effectively (Fadzil & Osman, 2025).

The term problem-solving skills refers to the ability to acquire and apply knowledge toward reaching a resolution. A key component of this ability is critical thinking, which allows individuals to evaluate situations logically and make informed decisions. For HNs, developing problem-solving capabilities is a professional necessity. They must regard problem-solving not as a one-time act, but as a procedural

approach consisting of deliberate, well-defined steps (**Raisch & Fomina, 2025**).

The first and most essential step is to define the problem. This involves clearly identifying the core issue and ensuring that all relevant voices are considered in understanding its scope and impact. Effective problem-solvers value the perspectives of others and are deliberate in their evaluation of the situation (**Urban, 2025**).

The second step is to generate a list of possible solutions. This brainstorming process, when conducted collaboratively, ensures that multiple viewpoints are incorporated, leading to a broader range of potential approaches. The third step is to analyze and evaluate the alternatives, weighing the pros and cons of each option and assessing how they might affect team members or the broader nursing environment (**Dixon, 2025**).

In the fourth step, the HN selects the most appropriate solution, possibly blending multiple options to meet the needs of all stakeholders. Fifth, the HN must create an implementation plan to put the chosen solution into practice, including monitoring strategies to ensure that it remains effective and sustainable. Lastly, the sixth step involves communicating the solution clearly to all relevant parties, thereby promoting transparency and shared understanding (**Xingye et al., 2025; Hwang et al., 2025**).

Negotiation and problem-solving are two interrelated and indispensable skills for head nurses. Both are critical in navigating the complexities of modern healthcare systems. Negotiation enables HNs to advocate for staff, resolve disagreements, and foster collaborative environments that prioritize quality patient care. At the same time, problem-solving equips them to assess evolving situations, identify underlying issues, and implement practical, evidence-

based solutions. Together, these competencies empower HNs to make confident, timely decisions and lead high-performing nursing teams within multidisciplinary healthcare settings (**Ma, 2025**).

### **Significance of the study**

Negotiation is a routine part of professional life, particularly for HNs in healthcare environments, where the ability to negotiate effectively is essential for managing daily operational demands. To navigate the dynamic and often high-pressure nature of clinical settings, HNs must be equipped with a comprehensive understanding of negotiation strategies and related skills. These competencies enable them to handle a wide range of recurring and challenging situations, especially those requiring sound problem-solving abilities (**Selvi & Serin, 2025**).

Through the researchers's direct supervision and field observation, it became apparent that HNs frequently encounter a variety of managerial challenges. These include issues such as employee absenteeism, staff turnover, workplace conflicts, and breakdowns in communication, staffing shortages, and suboptimal staff performance (**Hoque, 2025**). Such challenges underscore the importance of enhancing both negotiation and problem-solving skills among nursing leaders. Therefore, this study was undertaken to evaluate the connection between negotiation capabilities and problem-solving effectiveness among head nurses.

### **Aim of the study**

The aim of this research was to examine the relation between negotiation skills and problem-solving skills among head nurses.

### **Research Questions**

1. What are the levels of negotiation skills among head nurses?
2. What are the levels of problem-solving skills among head nurses?

3. Is there a relation between negotiation and problem-solving skills among head nurses?

### **Subjects and Method**

#### **Research Design**

A descriptive correlational research design was utilized to fulfill the objectives of the current study.

#### **Setting**

The study was carried out in all inpatient units within the medical and surgical departments at Benha University Hospital.

#### **Subjects**

The study sample included all available head nurses and their assistants ( $n = 61$ ) who were present and working in the designated departments during the period of data collection. The participants were distributed as follows:

- **Medical units:** 46 head nurses
- **Surgical units:** 15 head nurses

#### **Tools of data collection:**

The data required for this study were gathered by using two structured tools, as outlined below:

#### **Tool I: Self-Reported Negotiation Skills Questionnaire**

This instrument was designed by the researchers after reviewing of relevant literature sources (Van et al., 2008; Mamatoğlu & Keskin, 2019; Keune, et al., 2020) to assess levels of negotiation skills among head nurses. The questionnaire was divided into two main parts:

- **Part 1** focused on collecting personal and job characteristic data from participants, included variables such as age, unit of work (medical or surgical), sex, marital status, educational qualifications, and years of professional experience. These characteristics were deemed important for examining potential patterns or correlations with negotiation and problem-solving abilities.

- **Part 2** consisted of 50 items distributed across nine core dimensions of negotiation: Planning (8 items), Negotiator Style (4 items), Rationality and Common Sense (6 items), Sensitivity Towards Opponents (6 items), Goal Orientation (6 items), Effective Communication (6 items), Confident Self-Expression (4 items), Solution Selection (6 items), and Solution Implementation (4 items).

#### **Scoring System:**

Head nurses responses were rated by using a three-point Likert scale: (3) Always, (2) Sometimes, and (1) Rarely. Total scores ranged from 50 to 150. Each head nurses had chosen only one best answer after reading carefully and understanding. Finally, the answer was assigned in numerical values. The cut-off point was done at 60% equals 90 points. So, head nurses' negotiation skills level was categorized according the following; satisfactory negotiation skills  $\geq 60\%$  that equals (90-150) points and unsatisfactory negotiation skills  $< 60\%$  that equals (50-89) points (Keune, et al., 2020).

#### **Tool II: Problem-Solving Inventory (PSI)**

The second instrument used in the study was the Problem-Solving Inventory, originally developed by El Ghouli (2017) and modified by the researchers based on literature review to suit the current research context. This self-administered inventory was intended to assess the levels of problem-solving skills among head nurses. It consisted of 35 items categorized under five key dimensions: General Orientation (7 items), Problem Definition (6 items), Generation of Alternatives (7 items), Decision-Making (7 items), and Evaluation (8 items).

#### **Scoring System:**

Head nurses responses were rated by using the three-point Likert scale: (3) Always, (2) Sometimes, and (1) Rarely. The total possible score ranged from 5 to 105.

Cut off point was done at 60% equals 63 points. Accordingly, head nurses' problem solving skills levels were categorized as the following:

- **High level** of problem-solving skills:  $\geq 75\%$  that equals (79–105 points)
- **Moderate level**: 60% to  $<75\%$  that equals (62–78 points)
- **Low level**:  $<60\%$  that equals (35–61 points) (El Ghoul, 2017)

### **Administrative Design:**

To initiate the administrative process, an official approval letter was obtained from the Dean of the Faculty of Nursing, Benha University, addressed to the Director of Benha University Hospital. Subsequently, further permissions were granted by the heads of the relevant medical and surgical departments. During this phase, the researchers held a series of meetings with the head nurses from both departments to present and discuss the objectives and significance of the study. These meetings also served as an opportunity to coordinate a suitable schedule for data collection and program implementation that would minimize interference with daily clinical operations. The timeline and process were adjusted based on departmental feedback to ensure collaboration and full institutional support.

### **Tools validity**

The revised tools were submitted to a panel of five academic experts in nursing administration. The panel included three Assistant Professors from Benha University, one Professor and one Assistant Professor from Tanta University. The experts evaluated the tools for clarity, relevance, completeness, and linguistic simplicity. Based on their insights, the necessary revisions were made, and the finalized versions were approved for use in the study

### **Reliability of the tools**

The internal consistency of both instruments was evaluated by using Conbach's Alpha Coefficient, a standard statistical method for measuring the reliability of multi-item scales. The results confirmed that the tools demonstrated acceptable levels of reliability, thus supporting their suitability for use in assessing negotiation and problem-solving skills among HNs.

**Table (A): Reliability of data collection tools**

#### **Pilot Study:**

Data collection tool	Cronbach's Alpha
Self- Report Negotiation Skills Questionnaire	0.979
Problem Solving Inventory	0.968

A pilot study was conducted in April 2024 to evaluate the practicality and clarity of the study instruments prior to full implementation. This preliminary phase aimed to determine whether the tools were understandable, appropriately structured, and suitable for the intended target group. Additionally, it sought to estimate the average time required to complete each questionnaire. The pilot involved six head nurses, representing 10% of the total study sample, selected at random from the study population.

The pilot study served multiple purposes, including assessing the effectiveness of the data collection instruments, identifying potential obstacles in the data collection process, and evaluating the overall feasibility of the study design. During this phase, it was observed that the time needed to complete the tools ranged between 20 to 30 minutes. Since no ambiguities or issues were encountered, and no modifications to the tools were deemed necessary, the head nurses who participated in



the pilot study were included in the main sample of the research.

### **Field Work:**

The fieldwork phase of the study extended over a period of two months, spanning from the beginning of May to the end of June 2024. Following the receipt of official permissions to conduct the study, the researchers initiated contact with the nursing director of Benha University Hospital. A meeting was held to schedule appropriate times for data collection and to ensure cooperation from the administration. After finalizing the logistics, the researchers personally introduced herself to the head nurses in their respective clinical units and explained the aim and significance of the study.

Data collection was organized on a weekly basis, with the researchers visiting the hospital once a week, from 10:00 a.m. to 2:00 p.m. During each visit, the researchers distributed the questionnaires to the participants after clearly explaining the purpose of the study, how the information would be used, and the importance of their participation. Participants were assured of the confidentiality of their responses and were informed that their data would be used strictly for scientific purposes.

The head nurses completed the questionnaires during their work shifts, and the researchers remained available on-site to provide any necessary clarification or guidance. On average, the researchers collected between 7 to 10 completed questionnaires per week, allowing for steady progress in gathering the required data while minimizing disruption to the participants' routine clinical responsibilities.

### **Ethical considerations**

Prior to initiating the study, ethical approval was secured from the Scientific

Research Ethics Committee at the Faculty of Nursing, Benha University under approval reference number REC-NA-P83. The researchers ensured that all ethical standards for human subject research were strictly followed. Participation in the study was entirely voluntary, and informed consent was obtained from each participant after a comprehensive explanation of the study's purpose, nature, procedures, expected duration, and potential benefits. Participants were also informed about how data would be collected and utilized, and that they had the right to withdraw from the study at any point without penalty if they felt their rights were compromised. All data were treated with strict confidentiality and were used solely for academic and research purposes.

### **Statistical analysis**

Before analysis, all collected data were carefully reviewed and verified for accuracy and completeness prior to being entered into the computer. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS), version 22. Descriptive statistics, including frequencies and percentages, were used to summarize the quantitative variables. To examine relationships between the total scores of negotiation and problem-solving variables, the Pearson correlation coefficient ( $r$ ) was utilized. A  $p$ -value greater than 0.05 was interpreted as not statistically significant, while a  $p$ -value of  $\leq 0.05$  was considered statistically significant. A highly significant result was noted when the  $p$ -value was  $\leq 0.001$ .

### **Results**

**Table (1)** illustrates the personal and job characteristics of the study participants. The majority of head nurses (90.2%) were within the age group of 30 to less than 40 years old, with a mean age of  $34.01 \pm 3.86$  years. Approximately three-quarters (75.4%)

of the participants were working in medical units. In terms of sex and marital status, the vast majority of head nurses were female (80.3% & 82%) of them were female and married respectively. Regarding educational qualifications, less than two-thirds (65.5%) of the head nurses held a Bachelor's degree in nursing. With respect to professional experience, around three-quarters (75.4%) of the sample had between 10 to less than 20 years of job experience, with a mean of  $11.90 \pm 3.21$  years.

**Figure (1)** displays the overall distribution of negotiation skill levels among the participants. It was found that the majority (85.2%) of head nurses possessed satisfactory negotiation skills, while 14.8% exhibited unsatisfactory negotiation skill levels.

**Table (2)** presents the mean scores and standard deviations for negotiation skills and their respective dimensions. The overall mean negotiation skill score was  $134.73 \pm 10.68$ , representing 89.82% of the total possible score. Among the assessed dimensions, the highest mean score was observed in the Planning domain ( $22.40 \pm 2.17$ ), accounting for 93.33% of its total

possible score. Conversely, the Negotiator Style dimension had the lowest mean score ( $10.3 \pm 1.05$ ), representing 85.91% of the total score for that domain.

**Figure (2)** highlights participants' levels of problem-solving skills. It reveals that approximately two-thirds (68.2%) of head nurses demonstrated high-level responses in relation to their problem-solving competencies.

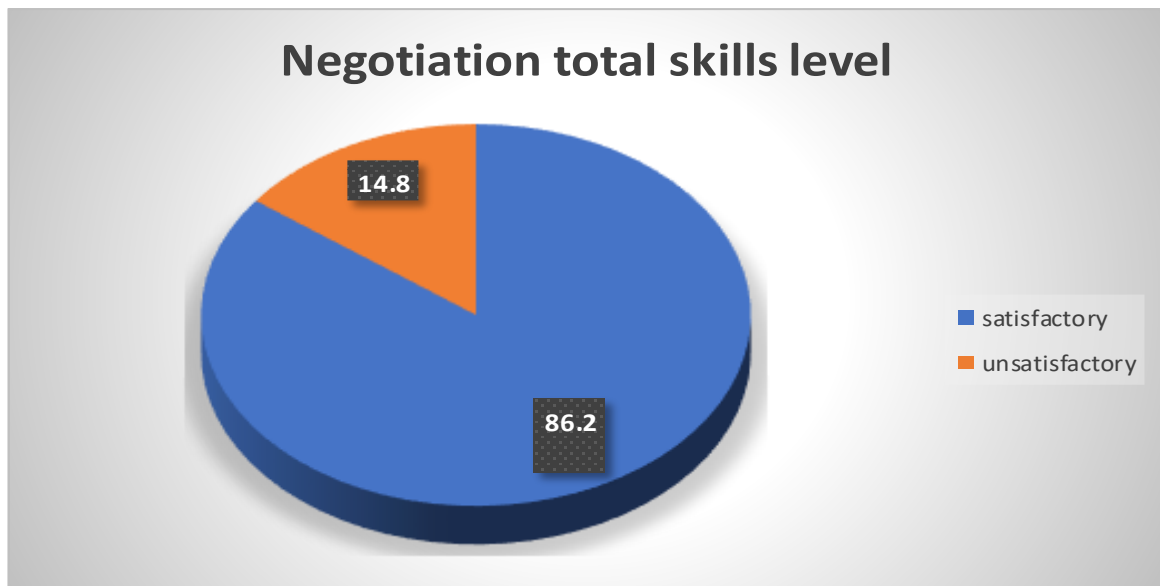
**Table (3)** details the mean and standard deviation of total problem-solving skills and its sub-dimensions. The overall mean score for problem-solving skills was  $134.73 \pm 10.68$ , reflecting 89.82% of the total score. The Evaluation domain recorded the highest mean score ( $21.70 \pm 2.11$ ), representing 90.41% of its total, while the Define the Problem domain had the lowest mean ( $14.24 \pm 1.72$ ), which equaled 79.11% of its total score.

Finally, **table (4)** demonstrates the presence of a statistically significant positive correlation between negotiation skills and problem-solving skills among head nurses, indicating that individuals with stronger negotiation abilities also tend to exhibit more advanced problem-solving capabilities.

**Table (1): Frequency distribution of the studied head nurses regarding their personal characteristic (n=61).**

Personal characteristics	No.	%
<b>Age</b>		
>30 years	3	4.9
30>40 years	55	<b>90.2</b>
≤40years	3	4.9
<b>( Mean± SD)      34.01±3.86</b>		
<b>Unit</b>		
Medical	46	<b>75.4</b>
Surgical	15	24.6
<b>Sex</b>		
Male	12	19.7
Female	49	<b>80.3</b>
<b>Marital status</b>		
Unmarried	11	18.0
Married	50	<b>82.0</b>
<b>Educational qualification</b>		
Nursing diploma	2	3.3
Technical institute of nursing	15	24.6
Bachelor of nursing	40	<b>65.5</b>
Post-graduation studies	4	6.6
<b>Years of job experience</b>		
>10 years	14	23.0
10>20 years	46	<b>75.4</b>
≤20years	1	1.6
<b>( Mean± SD)      11.90±3.21</b>		

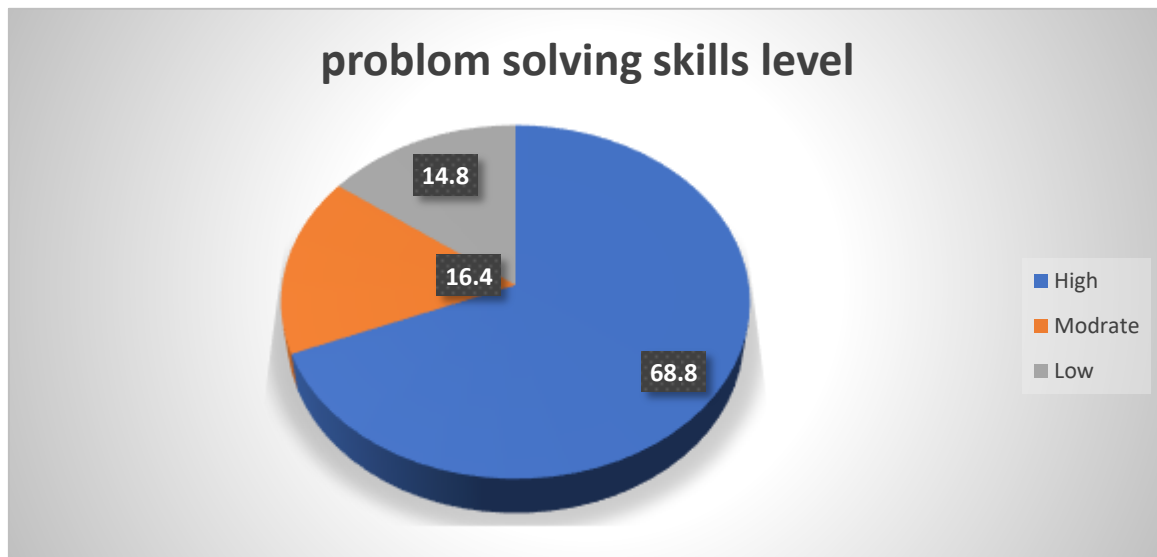




**Figure (1): Percentage distribution of negotiation skills total levels among head nurses**

**Table (2): The mean scores and mean percent of negotiation skills dimensions among head nurses**

Negotiation skills dimensions	Max scores	M $\pm$ SD	Mean %	Ranking
Planning	24	22.40 $\pm$ 2.17	93.33 %	1
Negotiator style	12	<b>10.31<math>\pm</math>85.91</b>	85.91 %	9
Rationality and common sense	18	15.98 $\pm$ 1.38	88.77 %	7
Sensitivity towards opponents	18	16.09 $\pm$ 1.39	89.38 %	6
Goal orientation	18	16.18 $\pm$ 1.27	89.88 %	4
Effective communication	18	16.13 $\pm$ 0.129	89.61 %	5
Self-expression for sure	12	10.44 $\pm$ 0.94	87.0 %	8
Choosing solutions	18	16.23 $\pm$ 1.34	90.16 %	3
Implement solutions	12	10.97 $\pm$ 1.03	91.41 %	2
<b>Total skills</b>	<b>150</b>	<b>134.73<math>\pm</math>10.68</b>	<b>89.82%</b>	



**Figure (2): Percentage distribution of problem solving skills total levels among head nurses**

**Table (3): The mean scores and mean percent of problem solving skills dimensions among head nurses**

Problem solving dimension	Max scores	M $\pm$ SD	Mean %	Ranking
General orientation	21	18.16 $\pm$ 1.94	86.47 %	2
Define of the problem	18	14.24 $\pm$ 1.72	79.11 %	5
Generating alternatives	21	18.08 $\pm$ 2.10	86.09 %	3
Make decision	21	17.04 $\pm$ 1.99	81.14 %	4
Evaluation	24	21.70 $\pm$ 2.11	90.41 %	1
<b>Total problem solving</b>	<b>105</b>	<b>89.22<math>\pm</math>8.01</b>	<b>84.97 %</b>	

**Table (4): Correlation matrix between head nurses' skills regarding negotiation and problem solving skills**

Variables		Total Problem solving skills
Total negotiation skills	R	0.255*
	P. value	0.047

(\*statistical significant difference  $P \leq .05$ )

### Discussion

Negotiation is recognized as a dynamic and continuous interpersonal process, essential in various professional domains, particularly within healthcare organizations. It serves as a strategic mechanism through which professionals can achieve mutual understanding, settle disputes, explore alternative solutions, and collaborate effectively to reach shared goals. In hospital settings, negotiation fosters decision-making, resource sharing, and the development of flexible approaches to solve ongoing operational problems. For head nurses (HNs), who are central figures in coordinating nursing teams, managing patient care logistics, and resolving unit-level conflicts, the ability to negotiate effectively is indispensable. Strong negotiation skills empower HNs to address challenges, overcome organizational barriers, and maintain high standards of leadership and communication (Batu et al., 2025).

In the current study, personal and job characteristic data revealed that most participating HNs were aged between 30 and 40 years. Approximately three-quarters were employed in medical units, and substantial majority were both female and married. In terms of educational qualifications, less than two-thirds of HNs held a bachelor's degree in nursing. Regarding professional tenure, nearly 75% had between 10 to less than 20 years of clinical and managerial experience, reflecting a relatively seasoned workforce capable of navigating complex healthcare environments.

Regarding head nurses' total skills levels regarding negotiation. The findings of the current study revealed that the majority of head nurses had negotiation skills levels. From the researchers's perspective, this outcome is expected, given the nature of their responsibilities, which frequently involve managing interpersonal disputes, mediating between departments, negotiating staff

assignments, and facilitating patient-care coordination. These daily interactions demand advanced communication and leadership abilities, which are closely interlinked with negotiation proficiency.

The results of this study are consistent with the findings of Higazee & Gab Allah, (2022), who conducted research exploring the relationship between political skills and negotiation behaviors among front-line nursing managers. Their study concluded that a significant proportion of HNs possessed adequate negotiation skills. Similarly, the findings align with Ahmed et al., (2016), whose study on HNs' knowledge about conflict management, mediation, and negotiation styles also indicated that most nurse leaders had satisfactory negotiation capabilities.

On the contrary, the present findings diverge from those of Mann, (2025), who examined the effects of principle-based negotiation training in collective bargaining contexts. Mann's study revealed that a large proportion of participants demonstrated unsatisfactory negotiation skill levels, highlighting potential contextual or training-related differences between managerial and union-based negotiation environments.

The total mean total negotiation score among HNs was high of the overall possible score. Among the various skill dimensions, planning ranked highest. Conversely, Negotiator style ranked the lowest mean and standard deviation

From the researchers's viewpoint, the high achievement in the planning dimension is reflective of the intrinsic nature of nursing leadership. HNs are regularly involved in creating staff schedules, allocating resources, preparing for emergency scenarios, and coordinating multidisciplinary teams, tasks that demand foresight, organization, and strategic thinking. Thus, strong planning skills are often naturally cultivated through daily

responsibilities. On the other hand, the relatively lower performance in the negotiator style dimension may stem from its reliance on more nuanced behavioral traits such as adaptability, emotional intelligence, and persuasive communication. These traits, being more personality-dependent and less structured than procedural planning, may pose challenges for consistent mastery across individuals.

These findings are in agreement with **Huang & Wang, (2024)**, who conducted a simulation-based study on how personality traits influence negotiation outcomes. They found that participants scored highest in planning-related dimensions. Similarly **Ibrahim, et al., (2018)** in their investigation of expertise tension and authority negotiation between emergency nurses and physicians, reported that participants achieved notably strong scores in planning domains, indicating that structured decision-making remains a central strength in nursing negotiation.

Moreover, the study findings are echoed in the results of **Woo et al., (2025)**, who observed that among various negotiation skill dimensions, the negotiator style consistently yielded the lowest performance scores. This further confirms that while cognitive and task-based competencies are often well-developed in HNs, behavioral adaptability in negotiation contexts may require further targeted training. Likewise, **Higazee & Gab Allah, (2022)** observed that nurse leaders demonstrated lower proficiency in negotiator style compared to other dimensions, underscoring a potential developmental gap in interpersonal negotiation approaches.

However, in contrast to these findings, **Ahmed et al., (2016)** reported that the choosing solutions dimension, rather than planning, was the highest-rated component in their assessment of negotiation skills, suggesting variability across institutional contexts and populations.

This findings of the current study was disagreement In further support of the present findings, the study conducted by **Ghattas & Abdou, (2025)** in Alexandria, titled "Challenges and Best Practices for Moving Forward in Interprofessional Collaboration in Critical Care Units: Nurses' Perspectives", revealed that participants exhibited the lowest mean score and standard deviation in the effective communication domain of negotiation skills. This suggests that even within highly experienced teams, communication remains a vulnerable point in negotiation, particularly in critical care units where rapid decisions and high-stakes interactions with multidisciplinary teams are the norm. The alignment of this result with the current study indicates a broader, systemic challenge regarding communication-focused negotiation skills among nurses.

With regard to the overall problem-solving skill levels among head nurses (HNs), the findings of the present study revealed that approximately two-thirds of HNs demonstrated a high level of problem-solving ability. From the researchers's perspective, this outcome is both expected and encouraging, as PS is regarded as a foundational leadership competency within complex healthcare systems. HNs are frequently responsible for navigating a multitude of clinical and administrative challenges, including staff coordination, workload management, patient care dilemmas, emergency response planning, and conflict resolution. Their ability to apply critical thinking, analyze situations holistically, and implement timely and effective solutions is therefore paramount.

The researchers believes that the development of such skills may be attributed to multiple factors, including structured exposure to real-world case studies, collaborative scenario analysis, problem-based group discussions, and the integration of decision-

making frameworks into leadership training programs. These learning experiences likely contributed to the participants' capacity to approach challenges in a rational and solution-oriented manner. This interpretation aligns with the findings of **Wantoro et al., (2025)**, who conducted a study entitled "Development of a Guided Discovery-Based Scientific Approach Module for Enhancing Problem-Solving Skills." Their research revealed that the majority of participants expressed high satisfaction with their problem-solving performance following structured training interventions, supporting the notion that guided and discovery-based learning can significantly enhance nurses' critical thinking and PS abilities.

The current study's results was also consistent with the work of **Hwang et al., (2025)**, who investigated problem-solving tendencies in their study "Facilitating Students' Critical Thinking, Metacognition, and Problem-Solving Tendencies in Geriatric Nursing Classes: A Mixed-Method Study." Their findings highlighted that participants attained satisfactory levels of PS performance, reinforcing the idea that educational strategies emphasizing reflection, evaluation, and strategic thinking are instrumental in fostering PS competencies among nursing professionals.

In contrast, however, the present study's results diverge from those of **Wijaya & Insih (2024)**, who conducted a study titled "Development of Problem-Based Learning Collaborative (PBL-C) Physics E-Worksheet to Improve Student Problem Solving and Collaboration Skills." Their research reported satisfactory skill levels, yet fell short of demonstrating the significant skill advancement observed in the current study. This discrepancy could stem from differences in professional roles, the learning context, or the complexity of the content. While student learners in academic settings may require longer periods to

internalize problem-solving processes, practicing HNs are constantly engaged in real-world decision-making, which may accelerate skill acquisition.

Concerning the quantitative findings of the current research assessed, the evaluation domain recorded the highest performance, with a mean score. This finding suggests that HNs are highly competent in assessing the outcomes of implemented strategies, identifying the effectiveness of decisions, and refining approaches based on real-time feedback and patient outcomes.

According to the researchers's interpretation, such strong performance in evaluation likely reflects the professional culture of nursing leadership, where outcome assessment and continuous improvement are integral to patient care and departmental success. Conversely, the lowest-scoring dimension was Defining the Problem, with a mean score of  $14.24 \pm 1.72$ , representing 79.11% of its total score. This lower score may reflect a common challenge faced by HNs: the difficulty of pinpointing the root cause of complex or multilayered issues in fast-paced, high-pressure clinical environments.

From the researchers's perspective, the ability to define a problem accurately requires time, clarity of information, and situational insight, resources that are often limited in healthcare settings. The urgency of care delivery, overlapping responsibilities, insufficient communication between units, and shifting patient needs may all contribute to a tendency to address symptoms rather than underlying causes. This may explain why HNs, despite strong overall problem-solving performance, demonstrate relatively weaker scores in the initial diagnostic stage of the problem-solving process.

The findings of the current study are further supported by the results of **Hwang et**

**al., (2025)**, who conducted a study entitled "Facilitating Students' Critical Thinking, Metacognition, and Problem-Solving Tendencies in Geriatric Nursing Class: A Mixed-Method Study." Their research revealed that among all problem-solving skill domains, the Evaluation dimension recorded the highest mean and standard deviation among participants. Similarly, this is in alignment with the findings of **Wantoro et al., (2025)**, who likewise found that participants demonstrated peak performance in the Evaluation dimension of problem-solving, emphasizing the role of reflective assessment in clinical decision-making.

Consistent with the present findings, **Vujančić et al., (2022)** conducted a study titled "Patients' and Nurses' Perceptions of Importance of Caring Nurse–Patient Interactions," and their results showed that the Problem Definition domain had the lowest mean and standard deviation among the assessed problem-solving skills. This was mirrored in the findings of **Farokhzadian et al., (2024)** in their study "Nurses' Challenges for Disaster Response: A Qualitative Study," which similarly reported that participants scored lowest in the Define the Problem dimension. This recurring observation across studies may indicate a common challenge in clinical practice, namely, the difficulty of accurately diagnosing the root cause of multifactorial issues under high-pressure conditions.

On the other hand, a point of divergence from the current study emerged in the findings of **Wantoro et al., (2025)**, who, in another segment of their research, concluded that the Make a Decision dimension, not Evaluation, had the highest mean and standard deviation in participants' problem-solving skills. This suggests that in some contexts, especially educational ones, decision-making is a more

prominent skill outcome than reflective evaluation.

Additionally, the current study contrasts with the findings of **Viale, (2024)**, whose research titled "Enactive Problem-Solving: An Alternative to the Limits of Decision Making" reported that the General Orientation dimension yielded the lowest mean and standard deviation among all problem-solving domains. This variation highlights that the relative strength or weakness of specific problem-solving dimensions may vary depending on the clinical or academic setting, the nature of training, and the learners' level of experience.

In terms of the relationship between negotiation and problem-solving skills among HNs, the present study revealed a statistically significant correlation between the total negotiation scores and total problem-solving skills of the participants. From the researchers's perspective, this result is logically expected, as both skill domains rely on several shared cognitive and behavioral attributes. Effective negotiation and problem-solving both require critical thinking, emotional regulation, assertive communication, decision-making under pressure, and the ability to navigate interpersonal dynamics. Within clinical and administrative environments, HNs are constantly required to resolve conflicts and simultaneously identify practical, efficient solutions to a variety of operational challenges. These tasks are rarely isolated, and their overlapping nature may explain why competence in one area tends to reinforce the other.

These findings are in agreement with the study conducted by **Sianturi & Anggara, (2025)**, titled "Collaboration and Negotiation Practice by Students in News Production," which found a statistically significant correlation between negotiation and problem-solving skills among participants. Similarly,



**Higazee & Gab Allah, (2022)** reported parallel results in their research on "The Relationship between the Political Skills and Negotiation Behaviors of Front-Line Nursing Managers," confirming a positive correlation between negotiation ability and problem-solving performance in nursing leadership roles.

In contrast, however, the present findings are not in line with the results of **Ahmed et al., (2016)**, who conducted a study on "Head Nurses' Knowledge about Conflict Management Strategies, Mediation, and Negotiation Styles." Their research concluded that there was no statistically significant correlation between negotiation and problem-solving skills among HNs, suggesting that other contextual factors may mediate the relationship between these two competencies. Furthermore, **Ali & Hamed, (2024)**, in their analytical study "Negotiation Strategies and Their Effect on Organizational Success: Research in the Iraqi Ministry of Industry and Minerals," also reported no significant correlation between the two skill sets, which may reflect differences in professional settings, organizational culture, or the measurement tools used.

### **Conclusion**

Based on the study findings, the current study concluded that; head nurses had high level of negotiation skills and problem solving skills. And also there was positive correlation between negotiation skills and problem solving skills among head nurses.

### **Recommendations:**

**Based on the result of the current study, the following recommendations can be suggested**

- Promoting a culture of critical thinking and communication within nursing teams by encouraging open dialogue, shared decision-making, and collaborative problem-solving, with head nurses serving as role models and facilitators.

- Identifying workplace challenges that hinder head nurses from effectively applying their negotiation and problem-solving skills.

- Incorporating negotiation and problem-solving modules into routine leadership training and orientation programs for newly head nurses to ensure sustained skill development and knowledge retention.

- Ensuring practical application opportunities for these skills in clinical decision-making, conflict resolution, and resource management to solidify their integration into everyday nursing responsibilities

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## العلاقة بين مهارات التفاوض ومهارات حل المشكلات لدى رؤساء التمريض

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تعمل مؤسسات الرعاية الصحية اليوم في بيئة تنافسية شديدة، حيث يُعدّ اكتساب المعرفة الأساسية والمعلومات والتكنولوجيا الحديثة أمرًا بالغ الأهمية لكل من المستشفيات وكوادرها الإدارية لذلك هدفت الدراسة إلى دراسة العلاقة بين مهارات التفاوض ومهارات حل المشكلات لدى رؤساء التمريض. **تصميم البحث:** تم استخدام تصميم وصفي ارتباطي لتحقيق هدف الدراسة. **مكان البحث:** أُجريت الدراسة في جميع وحدات المرضى الداخليين في الأقسام الطبية والجراحية بمستشفى بنها الجامعي. **العينة:** شملت الدراسة جميع رؤساء التمريض (عدد 61) العاملين في الأقسام المعنية. **أدوات جمع البيانات:** استُخدمت أداتان: الأداة الأولى: استبيان مهارات التفاوض الذاتي، والأداة الثانية: مقياس حل المشكلات. **النتائج:** كشفت النتائج أن الأغلبية من رؤساء التمريض الذين شملتهم الدراسة لديهم مستويات عالية من مهارات تفاوض مرضية. كان لدى أكثر من ثلثي من رؤساء التمريض الذين شملتهم الدراسة لديهم مستويات عالية من مهارات حل المشكلات. **الاستنتاج:** أسفرت النتائج إلى أن هناك علاقة إيجابية ذات دلالة إحصائية بين مهارات التفاوض و مهارات حل المشكلات. **التوصيات:** وأوصت الدراسة إلى تحديد تحديات مكان العمل التي تعيق رؤساء التمريض عن تطبيق مهاراتهم في التفاوض وحل المشكلات بشكل فعال.