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## RESEARCH ARTICLE

# EXPLORING THE PERFORMANCE OF STUDENTS IN THE PHILIPPINE NURSES LICENSURE EXAMINATION OF A SELECTED COLLEGE OF NURSING: IDENTIFYING AREAS OF STRENGTH AND WEAKNESS AND IMPLICATIONS FOR NURSING EDUCATION

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## ABSTRACT

The study analysed the strengths and weaknesses of examinees in the Philippine Nurses Licensure Examination (PNLE) and examine the factors influencing their performance and sought to evaluate the effectiveness of nursing education in the Philippines in preparing nursing graduates for the PNLE and provide recommendations for improvement. The study utilized a quantitative research design, analysing the PNLE results of 100 examinees who took the exam in November 2022. Descriptive statistics are employed to identify areas of strengths and weaknesses among passers and non-passers. Pearson correlation coefficients are used to examine the relationships between the different subjects in the PNLE. The results revealed that passers generally performed well in Community Health Nursing and Maternal and Child Health Nursing while struggling relatively more in Maladaptive Behaviour and related areas. Non-passers scored lower in all subjects compared to passers, with greater variation in scores among non-passers. Correlation analysis indicates moderate associations between some subject pairs among passers, suggesting consistent patterns of performance. However, weak correlations between certain subjects imply that performance in one subject does not guarantee similar performance in others. Based on these results, it is recommended that nursing educators focus on strengthening teaching strategies and resources for Maladaptive Behaviour and Alterations in Oxygenation This may include incorporating more hands-on and practical learning activities, providing additional resources for self-study, and encouraging student collaboration and peer teaching. These recommendations may improve nursing students' academic performance and ultimately contribute to their success in the nursing profession.

### KEYWORDS

Nursing education, Nursing curriculum, Academic performance, licensure examination

## 1. INTRODUCTION

The Philippine Nurses Licensure Examination (PNLE) is a standardized test administered by the Professional Regulation Commission (PRC) to assess the knowledge and competencies of aspiring nurses in the Philippines. The PNLE is a requirement for licensure and practice in the country, and passing the exam is a significant milestone for nursing graduates. In recent years, the PNLE has undergone changes in its content and format, aiming to align it with global nursing standards and ensure that the exam reflects the current healthcare landscape. Understanding the strengths and weaknesses of PNLE examinees can provide valuable insights into the effectiveness of nursing education in the Philippines. Identifying areas where examinees perform well and struggle can guide the development of nursing curricula, teaching methodologies, and training programs.

## 2. LITERATURE REVIEW

The study will use a theoretical framework based on the concept of academic achievement. Academic achievement refers to the level of success attained in academic pursuits, such as grades and test scores. In

this study, academic achievement will be measured through the grades of nursing graduates in the Philippine Nurses Licensure Examination (PNLE). The theoretical framework of this study is based on the Expectancy-Value Theory (EVT) by Eccles and Wigfield, which posits that an individual's achievement-related behaviors and choices are influenced by their expectancies for success and the value they place on a particular task or subject (Eccles and Wigfield, 2002).

Numerous studies have investigated the factors that affect PNLE performance and the strengths and weaknesses of examinees. A study by examined the factors associated with the PNLE pass rate among nursing graduates in a Philippine university (Gaa, Balcueva, et al., 2019). It was found that nursing knowledge and skills, exam-taking skills, and test anxiety significantly influenced exam performance. Similarly, identified the top-performing and low-performing areas of the PNLE based on the results of a mock exam (Cajucon, et al., 2020). The authors found that nursing fundamentals, maternal and child health nursing, and medical-surgical nursing were the most challenging areas for examinees.

Other studies have focused on the effectiveness of nursing education in the Philippines and its impact on exam performance. A study examined the association between the nursing curriculum and PNLE performance

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among nursing students in a Philippine university (Omana, et al., 2021). It was found that a well-designed curriculum that emphasizes critical thinking, problem-solving, and communication skills positively affected exam performance. In the same way, a study by assessed the effectiveness of a nursing review program in improving PNLE performance among nursing graduates (Enoc, et al., 2020). The authors found that the program significantly enhanced exam performance and provided valuable support for examinees.

These studies highlight the importance of understanding the strengths and weaknesses of PNLE examinees and the factors that influence exam performance. By identifying areas for improvement, nursing education in the Philippines can better prepare nursing graduates for licensure and practice and ensure that they meet the demands of the changing healthcare landscape.

#### 4. RESULTS AND DISCUSSION

**Table 1: Passers Result of the Examination**

SUBJECTS	Overall Mean	Standard Deviation
Community Health Nursing (Subj01)	81.02	4.01
Maternal and Child Health Nursing (Subj02)	80.98	2.49
Alterations in Oxygenations, Fluids and Electrolytes, Nutrition and Metabolism, Pain, and Perioperative Care (Subj03)	77.18	3.74
Alterations in Fluids and Electrolyte Balance and Acid-Base Balance, Inflammatory and Immunologic Responses, Cellular Aberrations, Acute Biologic Crisis, Disaster and Emergency Situations (Subj04)	76.72	3.95
Maladaptive Behaviors, Age-related, Alterations in Thoughts and Perception, Depression, Mania, and Suicide, Stress, and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05)	75.73	4.47

The data provided shows the mean and standard deviation for five different subjects: Community Health Nursing (Subj01), Maternal and Child Health Nursing (Subj02), Alterations in Oxygenations, Fluids and Electrolytes, Nutrition and Metabolism, Pain, Perioperative Care (Subj03), Alterations in Fluids and Electrolyte Balance and Acid-Base Balance, Inflammatory and Immunologic Responses, Cellular Aberrations, Acute Biologic Crisis, Disaster and Emergency Situations (Subj04), and Maladaptive Behaviors, Age-related, Alterations in Thoughts and Perception, Depression, Mania and Suicide, Stress and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05).

Based on the mean scores, it appears that the students performed best in

#### 3. METHODS

The study used a quantitative research design that described the strengths and weaknesses of examinees based on their PNLE results. The results were based on the scores of the 100 examinees who took the examination in November 2022. The secondary data was lifted from the results issued by the Professional Regulation Commission to San Pablo Colleges. This included the scores of examinees in each section of the exam, as well as their overall scores, and, it served as the main instrument of the study. The data were analyzed using descriptive statistics, such as mean and standard deviation, to describe the distribution of scores in each section of the exam and identify areas of strengths and weaknesses. Correlational analysis, specifically Pearson's  $r$ , was used to identify the relationship between the five subjects.

Community Health Nursing (Subj01) and Maternal and Child Health Nursing (Subj02), with mean scores of 81.02 and 80.98 respectively. On the other hand, students performed relatively worse in Maladaptive Behaviors, Age-related, Alterations in Thoughts and Perception, Depression, Mania and Suicide, Stress and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05), with a mean score of 75.73. The standard deviation scores indicate the degree of variation in scores within each subject. Subjects with higher standard deviation scores (Subj01, Subj03, and Subj05) show that the scores of students were more dispersed around the mean. Conversely, subjects with lower standard deviation scores (Subj02 and Subj04) show that the scores of students were less dispersed around the mean.

**Table 2: Non-Passers Result of the Examination**

SUBJECTS	Overall Mean	Standard Deviation
Community Health Nursing (Subj01)	71.68	7.62
Maternal and Child Health Nursing (Subj02)	72.80	6.51
Alterations in Oxygenations, Fluids and Electrolytes, Nutrition and Metabolism, Pain, and Perioperative Care (Subj03)	63.15	10.16
Alterations in Fluids and Electrolyte Balance and Acid-Base Balance, Inflammatory and Immunologic Responses, Cellular Aberrations, Acute Biologic Crisis, Disaster and Emergency Situations (Subj04)	63.93	8.73
Maladaptive Behaviors, Age-related, Alterations in Thoughts and Perception, Depression, Mania, and Suicide, Stress, and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05)	59.75	9.90

The table shows the mean and standard deviation for five different subjects: Community Health Nursing (Subj01), Maternal and Child Health Nursing (Subj02), Alterations in Oxygenations, Fluids and Electrolytes, Nutrition and Metabolism, Pain, Perioperative Care (Subj03), Alterations in Fluids and Electrolyte Balance and Acid-Base Balance, Inflammatory and Immunologic Responses, Cellular Aberrations, Acute Biologic Crisis, Disaster and Emergency Situations (Subj04), and Maladaptive Behaviors, Age-related, Alterations in Thoughts and Perception, Depression, Mania and Suicide, Stress and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05). The data is specifically for non-passers of the examination.

The data shows that non-passers of the examination scored lower on all subjects compared to the mean scores of all subjects in the previous

analysis. The subject with the highest mean score among non-passers is Subj02 with 72.80, which is still below the mean score of all subjects from the previous analysis. On the other hand, the subject with the lowest mean score is Subj05 with 59.75. The standard deviation scores for non-passers are generally higher than the standard deviation scores for all students. This suggests that there is greater variation in scores among non-passers. Subj03 had the highest standard deviation, indicating a wide range of scores among non-passers, while Subj02 had the lowest standard deviation, indicating a narrower range of scores among non-passers. Overall, the table shows that non-passers scored lower in all subjects, and the range of scores among non-passers was wider than that of all students. This could suggest that non-passers struggled more with the subjects, and there was a wider variation in their understanding of the material.

**Table 3: Pearson correlation coefficient of Passers**

		Subj01	Subj02	Subj03	Subj04	Subj05
Subj01	Pearson Correlation	1	.372**	.357**	.479**	.316*
	Sig. (2-tailed)		.003	.005	.000	.014
Subj02	Pearson Correlation	.372**	1	.376**	.487**	.256*
	Sig. (2-tailed)	.003		.003	.000	.048
Subj03	Pearson Correlation	.357**	.376**	1	.303*	.403**
	Sig. (2-tailed)	.005	.003		.019	.001
Subj04	Pearson Correlation	.479**	.487**	.303*	1	.227
	Sig. (2-tailed)	.000	.000	.019		.081
Subj05	Pearson Correlation	.316*	.256*	.403**	.227	1
	Sig. (2-tailed)	.014	.048	.001	.081	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table 3 provides the Pearson correlation coefficients between the subjects in the Philippine Nurses Licensure Examination for the passers. These correlation coefficients indicate the strength and direction of the relationships between the subjects. It from weak to moderate, suggesting a moderate level of association between the performance in different subjects among the passers. The highest correlation coefficient observed is 0.479 between Subj01 and Subj04, indicating a moderate positive relationship between the performance of these two subjects. This suggests that passers who perform well in Subj01 tend to have a higher likelihood of performing well in Subj04, and vice versa. Similarly, correlations of 0.372 between Subj01 and Subj02, and Subj02 and Subj03 also indicate a moderate positive relationship between these subject pairs.

On the other hand, the lowest correlation coefficient is 0.227 between Subj04 and Subj05, indicating a weak positive relationship between the performance of these two subjects among the passers. This implies that

passers who excel in Subj04 may not necessarily perform well in Subj05, and vice versa. Similar weak correlations can be observed between Subj04 and Subj02, and Subj05 and Subj02. The significant correlations at the 0.01 level (indicated by \*\*) and the 0.05 level (indicated by \*) suggest that these observed relationships are not due to chance and have statistical significance. These significant correlations indicate that there are consistent patterns of performance among the passers in the Philippine Nurses Licensure Examination. These results of the table suggest that while there are moderate associations between some subject pairs, the relationships between others are relatively weak. This implies that the performance in one subject does not necessarily guarantee similar performance in all other subjects. Candidates who aim to excel in the examination should focus on a comprehensive understanding of each subject individually, as well as identifying potential connections or overlaps between related subjects.

**Table 4: Pearson correlation coefficient of non-passers**

		Subj01	Subj02	Subj03	Subj04	Subj05
Subj01	Pearson Correlation	1	.505**	.483**	.655**	.628**
	Sig. (2-tailed)		.001	.002	.000	.000
Subj02	Pearson Correlation	.505**	1	.339*	.603**	.477**
	Sig. (2-tailed)	.001		.032	.000	.002
Subj03	Pearson Correlation	.483**	.339*	1	.533**	.316*
	Sig. (2-tailed)	.002	.032		.000	.047
Subj04	Pearson Correlation	.655**	.603**	.533**	1	.566**
	Sig. (2-tailed)	.000	.000	.000		.000
Subj05	Pearson Correlation	.628**	.477**	.316*	.566**	1
	Sig. (2-tailed)	.000	.002	.047	.000	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table 4 presents the Pearson correlation coefficients between the subjects in the Philippine Nurses Licensure Examination for those who failed the exam. These correlation coefficients indicate the strength and direction of the relationships between the subjects. The correlation coefficients range from moderate to strong, indicating a relatively higher level of association between the performance in different subjects among those who failed the exam. The highest correlation coefficient observed is 0.655 between Subj01 and Subj04, suggesting a strong positive relationship between the performance of these two subjects. This implies that candidates who struggled in Subj01 also tend to face difficulties in Subj04, and vice versa. Similarly, strong positive correlations of 0.603 between Subj02 and Subj04, and 0.628 between Subj01 and Subj05, indicate consistent patterns of performance between these subject pairs. Furthermore, moderate positive correlations are observed between Subj01 and Subj03 (0.483), Subj03 and Subj04 (0.533), and Subj04 and Subj05 (0.566). These correlations suggest a moderate level of association between the performance in these subject pairs among the candidates who failed the examination.

The significant correlations at the 0.01 level (indicated by \*\*) indicate that

these observed relationships are unlikely to occur due to chance and have statistical significance. This suggests that the associations between the subjects are consistent and provide valuable insights into the patterns of performance among those who failed the examination. The results of the table indicate that candidates who struggled in one subject tend to face difficulties in related subjects as well. This implies that there might be specific areas of weakness or challenges that contribute to the performance across multiple subjects. Candidates who failed the examination can use these correlations as indicators to identify areas that require additional focus and improvement. By addressing these areas comprehensively, candidates can increase their chances of success in the Philippine Nurses Licensure Examination.

## 5. CONCLUSION

The results and discussion provide valuable insights into the performance of students in the Philippine Nurses Licensure Examination. Passers performed exceptionally well in Community Health Nursing (Subj01) and Maternal and Child Health Nursing (Subj02), while they struggled relatively more in Maladaptive Behaviors, Age-related Alterations in Thoughts and Perception, Depression, Mania and Suicide, Stress and

Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05). The standard deviation scores indicated greater variation in scores for Subj01, Subj03, and Subj05, whereas scores were less dispersed for Subj02 and Subj04. On the other hand, non-passers scored lower in all subjects compared to the mean scores of all subjects. Subj02 had the highest mean score among non-passers, while Subj05 had the lowest mean score. The standard deviation scores for non-passers indicated a wider variation in scores.

The analysis of Pearson Correlation Coefficients revealed moderate positive correlations between certain subject pairs for passers, indicating a moderate level of association between the performance in different subjects. The highest correlation was observed between Subj01 and Subj04, while the lowest correlation was found between Subj04 and Subj05, suggesting a weak positive relationship. In contrast, non-passers exhibited moderate to strong positive correlations between the performance in different subjects. The highest correlation was observed between Subj01 and Subj04, indicating a strong positive relationship among non-passers. Strong positive correlations were also observed between Subj02 and Subj04, and Subj01 and Subj05, with moderate positive correlations found between other subject pairs.

These findings suggest that performance in one subject does not guarantee similar performance in all other subjects. It is important for candidates to focus on developing a comprehensive understanding of each subject individually while recognizing potential connections between related subjects. Additionally, the correlations among non-passers highlight areas of weakness or challenges that may contribute to performance across multiple subjects. Addressing these areas comprehensively through targeted support and remedial measures can enhance the chances of success in the examination.

The present study has several limitations that should be considered when interpreting the results. The primary limitation is the availability of data, which is limited to the results of the Philippine Nurses Licensure Examination (PNLE) in November 2022. This means that the study only considers the performance of nursing graduates who have taken the PNLE, and other factors that may influence academic achievements, such as prior education, socioeconomic status, and personal factors, are not included in the data set. Additionally, the study is limited in its ability to establish causal relationships between factors and academic achievement due to the correlational nature of the data. Furthermore, the study only includes quantitative data analysis of the exam results, which may not fully capture the nuances and complexities of the factors that influence academic achievement.

In conclusion, the study provides insights into the strengths and weaknesses of nursing graduates who have taken the Philippine Nurses Licensure Examination (PNLE) and explores the relationships between the subjects in the exam. Despite the limitations of the available data, the study's findings shed light on the following points:

1. Strengths and weaknesses of nursing graduates: The analysis of exam results reveals that nursing graduates performed well in Community Health Nursing (Subj01) and Maternal and Child Health Nursing (Subj02), while struggling comparatively in Maladaptive Behaviors, Age-related, Alterations in Thoughts and Perception, Depression, Mania and Suicide, Stress and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05). These findings indicate areas of strength and areas that may require more attention and improvement for nursing graduates preparing for the PNLE.
2. Relationships between subjects in the PNLE: The correlation analysis suggests that there are moderate associations between the performance in different subject pairs among the passers. For example, there is a moderate positive relationship between Subj01 and Subj04, indicating that success in one subject may be indicative of potential success in the other. However, some subject pairs exhibit weak correlations, suggesting that performance in one subject does not necessarily guarantee similar performance in all other subjects. This implies that candidates should focus on a comprehensive understanding of each subject individually and identify potential connections or overlaps between related subjects.

Based on the results, the following recommendations will be implemented:

1. Strengthening of weaker subjects: Since the data indicates that nursing graduates performed relatively poorer in subjects like Maladaptive Behaviors, Age-related Alterations in Thoughts and

Perception, Depression, Mania and Suicide, Stress and Anxiety, Maladaptive Personality Patterns, Substance Abuse (Subj05), it is recommended to focus on these subjects and allocate more resources and study materials to help nursing graduates improve their understanding and performance in these areas. This could include targeted review sessions, additional practice materials, and guidance from instructors or mentors who specialize in these subjects.

2. Emphasize comprehensive understanding: While there are moderate associations between certain subject pairs, the data also suggests that performance in one subject does not guarantee similar performance in all other subjects. Therefore, it is important to emphasize the development of a comprehensive understanding of each subject individually. This can be achieved through a well-rounded curriculum, effective teaching methods, and encouraging students to make connections between related subjects to enhance their overall understanding and performance.
3. Targeted support for non-passers: The data for non-passers indicates lower mean scores and wider variation in performance compared to all students. It is essential to provide targeted support and remedial measures for non-passers to help them overcome their challenges and improve their performance in subsequent attempts. This could involve personalized study plans, one-on-one tutoring, or additional support programs aimed at addressing the specific weaknesses identified in each individual's performance.
4. Encourage interdisciplinary learning: Since the correlation analysis reveals varying levels of association between different subject pairs, encouraging interdisciplinary learning and understanding can be beneficial. Creating opportunities for nursing graduates to explore connections and overlaps between subjects can help them develop a holistic approach to their studies and better prepare for the integrated nature of nursing practice.
5. Continual assessment and improvement: It is crucial to continually assess the effectiveness of the nursing curriculum, teaching methodologies, and examination structure to ensure that they align with the evolving needs and expectations of the profession. Regular evaluation and feedback from both students and faculty can provide valuable insights for making necessary improvements and adjustments in the educational and examination processes.
6. Expand the dataset for further analysis: As the present study is limited by the availability of data, it is recommended to expand the dataset by including a larger and more diverse sample of nursing graduates who have taken the PNLE. This would enable a more comprehensive analysis of the strengths, weaknesses, and relationships between subjects, providing more robust recommendations for improving the preparation and performance of nursing graduates in the examination.

By implementing these recommendations, it is anticipated that nursing graduates will have an increased likelihood of success in the examination and be better prepared to contribute effectively to the field of nursing.

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