PREFACE

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It is our hope that the articles presented in this volume will not only inform but also inspire further inquiry, reflection, and collaboration. Through this journal, APCORE affirms its role as a partner in promoting research that is responsive to the needs of society and supportive of sustainable futures.

Research Article

Effectiveness of Values Education Strategies in Higher Education

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ABSTRACT

This study examined the effectiveness of values education strategies and their relationship to students' moral and spiritual formation in a higher education institution in Misamis Occidental. Specifically, it described the respondents' demographic profile, assessed the effectiveness of selected strategies, and determined their relationship to students' value formation. Using a descriptive-quantitative design, the study involved 33 students enrolled in Values Education. Data were collected through a structured questionnaire and analyzed using weighted mean and Pearson's correlation coefficient. Results showed that most respondents were female (79%), aged 17–19 years (88%), and from low-income families (88%). All six strategies—Storytelling, Experiential Learning, Cooperative Learning, Reflective Discussion, Values Clarification, and Service Learning—were rated *Very Effective*, with Storytelling obtaining the highest mean score. Further analysis revealed that only Cooperative Learning showed a significant relationship with students' moral and spiritual formation, highlighting its value in encouraging collaboration, empathy, and shared responsibility. The findings affirm that values integration strategies are effective pedagogical tools for promoting ethical awareness, compassion, and spiritual growth among students in a Catholic educational context. It is recommended that higher education institutions strengthen values integration across curricula, provide professional development for teachers on values-based pedagogy, and conduct further studies to explore the long-term impact of these strategies on students' moral and faith formation.

Keywords: Values Education, Values Integration Strategies, Moral Formation, Philippine Higher Education.

1. INTRODUCTION

A school is an educational institution that teaches, develops, and inculcates students with significant values that shape their behavior. Schools provide learning experiences that create moral values for students to discern right from wrong (Fernandez & Lopez, 2024). Good moral values enable students to act and react appropriately in different situations. Furthermore, Yakubu and Aziz (2024) mentioned that schools are essential in providing students with the required intellectual, social, emotional, cognitive, and moral resources and support in accomplishing life goals guided by ethical principles. He said that the enduring goal of education is to give moral education that prepares people to be competent and virtuous. Thus, it can influence students' behavior and create an ethical mindset.

Effective schools aim to increase and guarantee the quality of teaching and learning processes by creating a school climate that emphasizes the development of values and integration of values education or character education into the curriculum (Duta, 2018). According to Yakubu and Aziz (2024), the resurgence of character education can be attributed to the troubling trend of global social crises. The growing rates of drug misuse, crimes, teen pregnancy, social violence, suicides, disconnected family structure, lack of social values, racial conflicts, and problems with children's discipline have necessitated the inclusion of this subject. Harecker (2012) noted that contemporary societies are plagued by numerous moral deteriorations among students; these individuals partake in various acts of violence, bullying, sexual assaults, rapes, robberies, and the use of lethal weapons both within and beyond school settings. According to Tiwari (2016), values are eroded due to globalization, materialism, consumerism, and

commercialization of education, as threats to humanity due to climatic changes, environmental degradation, violence, and terrorism. These problems have deeply affected society, causing many young people to gradually lose their sense of basic values like respect, empathy, compassion, and kindness.

Values education is essential in building learners with character and definite knowledge of the world. It develops a well-balanced individual with a strong character and values (Open Education Portal, 2022). In addition, Lovat (2017) stated that values education promotes social connections, fosters positive attitudes, and cultivates proper behavior, while providing advice on individual conduct within society and the world. This is also supported by Khatki et al. (2022), who opined that values education is necessary in response to the rise of moral deterioration today. Iyer (2013) asserted that disregarding ethical norms, which should underpin quality education, has resulted in ineffective, degenerate, and vacuous learning.

Meanwhile, this research is rooted in Lev Vygotsky's Social Constructivist Theory, positing that learning is a collaborative endeavor where knowledge is developed through interaction and discourse. The Zone of Proximal Development (ZPD) illustrates the disparity between independent learner capabilities and those achievable with support, emphasizing scaffolding's role in moral and cognitive advancement, particularly in values education through collaborative strategies that enhance ethical comprehension and reflect cultural influences on moral reasoning.

In the context of the researcher, despite the school's strong commitment to integrating faith, life, and culture in its curriculum as a Catholic institution, the researcher observed a growing gap between the intended goals of values education and students' actual behavior. Many students exhibited a lack of basic manners and respect toward teachers and administrators, suggesting that values integration within subjects is not producing the desired moral formation. While values education is formally embedded across courses, its implementation often lacks depth and consistency, as teachers tend to prioritize content delivery over meaningful character development. The use of traditional, teacher-centered approaches further limits student engagement and moral reflection, resulting in superficial learning of values. This disconnect between institutional intent and observable student conduct highlights the need to examine the effectiveness of current values education strategies and to identify more dynamic, experiential, and participatory methods that can genuinely foster moral and spiritual growth among learners.

Statement of the Problem

This study aimed to find out the perceived effectiveness of the values integration strategies on students in a catholic higher education institution in Misamis Occidental. Specifically, it aimed to answer the following questions.

1. What is the demographic profile of the respondents in terms of:
    1.1 Age
    1.2 Gender
    1.3 Socio-Economic Status
2. What is the level of effectiveness of values integration strategies as perceived by the respondents in terms of students' profiles?
3. Is there a significant relationship between the demographic profile of the respondents and their perceived level of effectiveness of the values integration strategy?

2. MATERIALS AND METHODS

Research Design

This study employed a quantitative correlational research design to examine the effectiveness of values integration strategies in the curriculum. The approach focused on determining the relationship between students' demographic characteristics and their perceptions of the effectiveness of these strategies.

Research Locale and Participants

The study was conducted at a Catholic higher education institution in Calamba, Misamis Occidental, under the Archdiocesan Commission on Education (ACE). The setting aligns with the school's mission of providing accessible, faith-based education. The participants were 34 Bachelor of Elementary Education students enrolled in the Good Manners and Right Conduct (GMRC) course. Using purposive sampling, all students directly engaged in values integration practices were included in the study.

Instruments

Data were gathered using a researcher-made questionnaire containing 70 structured items on values education strategies. The instrument was reviewed by the Education Department Program Head to ensure content validity and achieved a Cronbach's alpha of 0.818, indicating good reliability. A pilot test with 30 non-participant respondents was conducted to refine item clarity and accuracy.

Data Collection

Prior to data gathering, formal approval was obtained from the College Dean and Department Head. The researcher implemented embedded values integration strategies and subsequently administered the final questionnaire. Responses were collected, organized, and encoded for statistical analysis. Ethical clearance and informed consent were observed throughout the process.

Data Analysis

The data were analyzed using descriptive statistics—frequency, percentage, mean, and standard deviation—to summarize demographic profiles and levels of effectiveness. Pearson's correlation coefficient was employed to determine relationships between participants' demographic variables and their perceptions of strategy effectiveness. This analytical process ensured data accuracy, reliability, and alignment with the study objectives.

3. RESULTS AND DISCUSSION

The findings in Table 1 show that most respondents were female (79%), confirming the growing participation of women in higher education and the narrowing gender gap worldwide (UNESCO, 2023). Studies indicate that gender can influence academic engagement and performance, with females often exhibiting higher motivation and achievement than males (BMC Medical Education, 2025; Education Sciences, 2025). In terms of age, 88% of respondents were 17–19 years old, representing a developmental stage characterized by identity formation and moral reasoning (Erikson, 1968). Recent research supports that this period fosters self-awareness and social responsibility among university students (Large-Scale Assessments in Education, 2024), suggesting that the study reflects perspectives of individuals actively forming values. Additionally, 88% of respondents came from low-income families, a factor known to affect educational access and learning motivation. Socio-economic status (SES) remains a strong predictor of academic success, with lower-income students often facing resource limitations (Quality in Higher Education, 2023; Education Sciences, 2025).

Table 1
Students' Demographic Profile

Variables	Categories	f	%
Gender	Male	7	21
	Female	27	79
	17-19 years old	30	88
Age	20-22 years old	2	6
	23 -25 years old	2	6
SES	Low Income (10,000 -20,000)	30	88
	High Income (21,000 – 50,000)	4	12

Longitudinal findings further confirm SES as a major determinant of academic achievement (Predictors and Socio-Demographic Disparities in STEM Outcomes, 2024), implying that financial context may influence students' perceptions and engagement in values formation initiatives.

Table 2 illustrates that experiential learning received a Very Effective rating ($\bar{x}$=4.51), signifying that students acknowledge its substantial impact on moral and ethical comprehension. This finding corroborates the assertions of Yusof et al. (2020), who articulated that experiential learning fosters engagement, empowerment, and reflective practices—essential components in the formation of values.

Table 2
Perceived Level of Effectiveness of Experiential Learning Activities as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. I gain a better understanding of values when I participate in hands-on activities that relate to real-life situations.	4.79	Very Effective
2. Role-playing activities help me connect with and internalize moral lessons.	4.71	Very Effective
3. My teachers give me more chances to relate my personal experiences to value education.	4.65	Very Effective
4. Working on service-based projects helps me develop empathy and a genuine concern for others.	4.62	Very Effective
5. Pondering after the activities helps me better understand the moral lessons I've learned.	4.56	Very Effective
6. Experiential learning helps me build a deeper and more meaningful understanding of ethical concepts.	4.50	Very Effective

7. Social exposure activities make me more aware and involved as a citizen.	4.47	Very Effective
8. When I engage in community immersion, I feel a stronger sense of social responsibility.	4.38	Very Effective
9. Difficult tasks improve the way I make ethical decisions.	4.26	Very Effective
10. I actively take part in experiential learning activities that teach important values.	4.24	Very Effective
Average Weighted Mean	4.51	Very Effective

The elevated ratings for practical activities, role-playing, and the incorporation of personal experiences are consistent with Kolb's Experiential Learning Theory. Research published in BMC Medical Education (2025) and Large-Scale Assessments in Education (2024) substantiates its contribution to the enhancement of empathy and civic involvement. The comparatively lower ratings for challenging tasks ($\bar{x}$=4.26) underscore the necessity for organized reflection and guidance, thereby reinforcing the findings of Education Sciences (2025) and Rasmini and Karta (2021).

Table 3 elucidates that storytelling was appraised as Highly Effective ($\bar{x}$=4.57) in the context of values education, indicating that students perceive it as a robust mechanism for imparting moral and ethical comprehension. In alignment with Rahiem et al. (2020) and Education Sciences (2025), storytelling serves as a conduit for integrating cognitive and emotional learning by promoting empathy and moral contemplation.

Table 3
Perceived Level of Effectiveness of Storytelling as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. I find that stories used in class effectively teach meaningful moral lessons.	4.79	Very Effective
2. My teachers use storytelling to help me understand real-life moral challenges.	4.79	Very Effective
3. Listening to different stories helps me understand other people's moral viewpoints.	4.74	Very Effective
4. When we act out stories or do role-plays, I feel it helps me grow in my understanding of right and wrong.	4.68	Very Effective
5. Lessons that include stories encourage me to think more about my own values.	4.59	Very Effective
6. I participate in storytelling activities and motivate me to be understanding.	4.53	Very Effective
7. Storytelling helps me express my own beliefs about what is right and wrong more clearly.	4.47	Very Effective
8. Storytelling captures my interest and helps me engage more deeply in values discussions.	4.44	Very Effective
9. I can learn more and deepen my understanding through storytelling.	4.41	Very Effective
10. I can remember and apply the values I learn through stories in my everyday life.	4.29	Very Effective
Average Weighted Mean	4.57	Very Effective

The most highly regarded indicators—articulating moral lessons, comprehending real-world dilemmas, and valuing diverse perspectives—underscore its reflective and inclusive characteristics (BMC Medical Education, 2025; Large-Scale Assessments in Education, 2024). The marginally lower evaluations for daily implementation ($\bar{x}$=4.29) imply a necessity for reflective exercises, corroborating the findings of Quality in Higher Education (2023) and Brooman and Stirk (2020).

Table 4 illustrates that reflective discussions and journaling were assessed as Highly Effective ($\bar{x}$=4.45) methodologies for values education, underscoring their significance in augmenting moral awareness, ethical reasoning, and self-reflection. These results corroborate the findings of Education Sciences (2025), which underscore that systematic reflection promotes enduring ethical development.

Table 4

Perceived Level of Effectiveness of Reflective Discussions and Journaling as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. My teachers guide open discussions that let me express and develop my decision-making.	4.65	Very Effective
2. Reflection activities are part of our lessons and help me better understand ethical concepts.	4.59	Very Effective
3. Taking time to reflect in class helps me grow both morally and ethically.	4.56	Very Effective
4. Reflecting on real-life cases in class helps me practice ethical decision-making.	4.50	Very Effective
5. Reflective writing tasks help me become more aware of what I believe and value.	4.47	Very Effective
6. Classroom discussions help me reflect on important moral and ethical issues.	4.44	Very Effective
7. Keeping a journal helps me see how I've grown in character and values over time.	4.44	Very Effective
8. I develop my values in class when I am given time to reflect on what is happening around.	4.38	Very Effective
9. Writing in a journal helps me think more deeply about how I would handle moral dilemmas.	4.32	Very Effective
10. I actively take part in discussions and share values with my classmates.	4.15	Effective
Average Weighted Mean	4.45	Very Effective

The preeminent indicators—teacher-facilitated open discussions ($\bar{x}$=4.65), reflective activities that elucidate ethical concepts ($\bar{x}$=4.59), and classroom reflection fostering moral advancement ($\bar{x}$=4.56)—evidence students' recognition of the value of opportunities to articulate moral reasoning through structured dialogue. This is consistent with the reports from BMC Medical Education (2025) and Large-Scale Assessments in Education (2024), which indicated that reflective practices bolster ethical decision-making and social responsibility. Conversely, the lower-rated aspects concerning journaling ($\bar{x}$=4.32) and engagement in discussions ($\bar{x}$=4.15) imply that certain students may require additional assistance in articulating moral insights. Quality in Higher Education (2023) emphasized that guided reflection and constructive feedback enhance the practical application of moral principles. Furthermore, Mukhtarkhanova (2023) highlighted that the incorporation of multimedia sustains learner engagement, thereby reinforcing the emotional and cognitive dimensions of reflection.

Table 5 elucidates that the utilization of multimedia as an instructional strategy within values education garnered an Effective rating ($\bar{x}$=4.02), indicating that students perceive it as beneficial, albeit not as the principal mechanism for moral development. Instruments such as videos, digital narratives, and visual presentations significantly augment moral comprehension when effectively assimilated into the pedagogical process (Yu, 2022; Yue et al., 2020).

Table 5

Perceived Level of Effectiveness of Use of Multimedia as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. My teachers use multimedia presentations to explain challenging ethical situations.	4.41	Very Effective
2. Videos and digital resources help me understand moral lessons more effectively.	4.35	Very Effective

3. Animations and visual stories make it easier for me to understand important values.	4.35	Very Effective
4. Audio-visual materials support what we learn through traditional teaching in values education.	4.26	Very Effective
5. We use digital platforms in class to have discussions about values and ethics.	4.26	Very Effective
6. Using multimedia helps me apply the values I learn to real-life situations.	4.09	Effective
7. Social media discussions increase my awareness of ethical issues.	4.00	Effective
8. Multimedia content helps me connect emotionally to the ethical concepts being taught.	3.88	Effective
9. E-learning modules help me remember and apply the moral lessons we learn.	3.59	Effective
10. Interactive tools like simulations and online games make learning values more engaging and meaningful for me.	3.06	Neutral
Average Weighted Mean	4.02	Effective

Elevated ratings regarding the elucidation of ethical dilemmas and the implementation of animations underscore the pivotal role of multimedia in elucidating intricate value systems. Nevertheless, the neutral response towards interactive tools ($\bar{x}$=3.06) implies a restricted engagement, thereby highlighting the necessity for game-based, participatory methodologies to enhance ethical decision-making capabilities (Audu & Asino, 2024; Lin et al., 2022).

Table 6

Perceived Level of Effectiveness of Service-Learning Activities as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. Giving service helps me build compassion and a genuine concern for others.	4.53	Very Effective
2. My teachers connect the service activities we do with the values we learn in class.	4.48	Very Effective
3. Community engagement activities help me develop a stronger sense of responsibility as a citizen.	4.38	Very Effective
4. During service projects experiences I understood better the importance of ethical involvement.	4.38	Very Effective
5. I participate in community service projects that help me practice important moral values.	4.29	Very Effective
6. Through engagement in service learning it gives me knowledge about values and apply it in practical situations.	4.26	Very Effective
7. Service learning motivates me to take initiative in solving social problems.	4.21	Very Effective
8. Service-learning projects improve my problem-solving skills in real moral situations.	4.15	Effective
9. Teachers evaluate my moral growth based on my reflections from service-learning activities.	4.09	Effective
10. Service learning encourages me to commit to ethical actions beyond the classroom setting.	4.06	Effective
Average Weighted Mean	4.27	Very Effective

Table 6 illustrates that service-learning was assessed as Highly Effective ($\bar{x}$=4.27), signifying that students perceive it as a significant mechanism for bridging academic curricula with real-world ethical applications. This pedagogical strategy fosters empathy, compassion, and civic responsibility—fundamental components of moral development (Yilmaz & Karadag., 2023; Aramburuzabala et al., 2024; Álvarez & Volante, 2024). The most highly rated aspects—nurturing compassion, aligning service

with educational values, and encouraging citizenship—exemplify its influence on empathy and civic participation (Ordóñez et al., 2022; Chan et al., 2021). Marginally lower evaluations for moral assessment and ethical sustainability indicate a requirement for intentional reflection and ongoing involvement (Kawai, 2021; Lee et al., 2021).

Table 7

Perceived Level of Effectiveness of Values Clarification as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. Classroom activities help me identify and express my own values.	4.62	Very Effective
2. Role-playing activities let me explore different ways to respond based on values.	4.62	Very Effective
3. My teachers encourage me to consider different moral viewpoints.	4.50	Very Effective
4. My teachers guide me to think about the consequences of my moral choices.	4.47	Very Effective
5. Discussion with my peers helps me refined and strengthened my personal ethical beliefs.	4.44	Very Effective
6. Values clarification exercises challenge me to think critically when making decisions.	4.41	Very Effective
7. Self-assessment tasks help me reflect on what matters most to me ethically.	4.35	Very Effective
8. The values clarification approach supports me in building a strong moral foundation.	4.35	Very Effective
9. I am presented with ethical dilemmas that help me clarify what I truly value.	4.24	Very Effective
10. Open discussions about controversial topics improve my moral reasoning.	4.03	Effective
Average Weighted Mean	4.40	Very Effective

Table 7 shows that values clarification received a rating of Very Effective ($\bar{x}$=4.40), indicating that students perceive it as a potent mechanism for enhancing moral awareness, ethical reasoning, and personal reflection. This finding corroborates the research conducted by Ningsih and Desstya (2022), which illustrated that values clarification contributes to the enhancement of tolerance and character development, as well as the assertions made by Kabatiah (2021), who highlighted its significance in facilitating students' analysis and accountability regarding their values. The items receiving the highest ratings—namely, the identification of personal values and the exploration of moral responses via role-play ($\bar{x}$=4.62)—underscore the critical importance of experiential and guided moral exploration (Badeni et al., 2020; Rodríguez-Galván et al., 2022). In a similar vein, the encouragement of diverse perspectives fosters rigorous ethical evaluation (Rombout et al., 2021). Additionally, other highly rated indicators emphasize the pivotal role of educators in cultivating reflective practices and peer discussions, which fortify ethical reasoning and self-assessment (Dienichieva et al., 2021; Ng, 2020). Furthermore, discussions of dilemmas in an online context significantly augment empathy and moral reasoning, thereby enabling students to assimilate values for practical application in real-world scenarios (Juujärvi & Myyry, 2022; Susilo & Asmara, 2020).

Table 8

Perceived Level of Effectiveness of Cooperative Learning as a Values Education Strategy

Indicators	Weighted Mean	Verbal Interpretation
1. Group activities help me practice teamwork and cooperation.	4.85	Very Effective
2. Cooperative learning helps me develop a strong sense of accountability in my moral behavior.	4.68	Very Effective
3. I am encouraged to listen to and consider different viewpoints during discussions.	4.59	Very Effective
4. Working on cooperative projects lets me practice respect, empathy, and leadership.	4.56	Very Effective
5. Collaborative learning experiences support my social and	4.56	Very Effective

moral growth.

6. My teachers design activities that encourage shared decision-making and ethical thinking.	4.56	Very Effective
7. Interacting with my peers teaches me and reinforces important ethical values.	4.50	Very Effective
8. Team-based problem-solving activities improve my skills in making ethical decisions.	4.35	Very Effective
9. Small-group discussions help me engage more deeply with values-based topics.	4.24	Very Effective
10. Peer mentoring programs remind me of the importance of responsibility and integrity.	4.21	Very Effective
Average Weighted Mean	4.50	Very Effective

Table 8 illustrates that cooperative learning was evaluated as Highly Effective ($\bar{x}=4.50$), signifying that students perceive it as a profoundly influential method for cultivating teamwork, ethical consciousness, and moral development. This finding corroborates previous research demonstrating that cooperative learning facilitates social, cognitive, and affective growth (Colomer et al., 2021) and enhances motivation, interpersonal relationships, and academic performance (Ortíz et al., 2020). The most highly rated dimensions—teamwork ($\bar{x}=4.85$), accountability ($\bar{x}=4.68$), and empathy ($\bar{x}=4.56$)—underscore its significance in the cultivation of interpersonal and leadership competencies (Biem & Morrison, 2023; Albulera-Mulet et al., 2021). Cooperative learning fosters civic competence and a democratic educational environment through active engagement and critical analysis (Malazonia et al., 2023). Furthermore, it augments students' moral reasoning and sense of social responsibility via dilemma-based discourse and ethical collaborative problem-solving (Brandel et al., 2024; Juujärvi & Myyry, 2022). In alignment with the findings of Harianto et al. (2020), and Wang and Wu (2022), this pedagogical strategy fortifies moral conduct, a sense of responsibility, and principles of sustainable development.

Table 9
Significant Relationship between Age and Students' Perceived Level of Effectiveness of the Values Integration Strategy

Values Integration Strategy	*r* value	*p*-value	Significance
1. Storytelling	0.034	0.849	Not Significant
2. Experiential Learning Activities	0.140	0.430	Not Significant
3. Cooperative Learning	-0.358	0.038	Significant
4. Reflective Discussion and Journaling	-0.158	0.373	Not Significant
5. Values Clarification	-0.149	0.401	Not Significant
6. Service-Learning Activities	-0.180	0.309	Not Significant
7. Use of Multimedia	-0.362	0.035	Significant

Table 9 illustrates that age exerts a significant influence on students' perceptions regarding the efficacy of certain values integration strategies. A negative correlation was identified between age and the perceived effectiveness of Cooperative Learning ($r = -0.358$, $p = 0.038$) and Use of Multimedia ($r = -0.362$, $p = 0.035$), suggesting that younger students regard these pedagogical methods as more efficacious (Nava et al., 2023). Conversely, other strategies—namely Storytelling, Experiential Learning, Reflective Discussion, Values Clarification, and Service-Learning—exhibited no significant correlation with age, indicating a uniform perception of effectiveness across varied age demographics (Brunetti et al., 2024; Gunawardena & Brown, 2021; Aláez et al., 2022). These results underscore the imperative to tailor interactive strategies to accommodate older learners while preserving universal methodologies for comprehensive values education (Noguera et al., 2024).

Age-relatedness of values integration effectiveness can be used to help teachers sequence moral concepts based on cognitive readiness. Younger students, for example, might be best served by the use of well-structured routines that teach respect and fairness, or older students by assigning open-ended projects that will cause them to confront ethical decisions once they learn something about ethical decision-making; peer mentoring with a grounding in value linking to serious social and environmental

issues.

Table 10
Significant Relationship between Gender and Students' Perceived Level of Effectiveness of the Values Integration Strategy

Values Integration Strategy	r value	p-value	Significance
1. Storytelling	0.293	0.093	Not Significant
2. Experiential Learning Activities	0.519	0.002	Significant
3. Cooperative Learning	0.403	0.018	Significant
4. Reflective Discussion and Journaling	0.350	0.042	Significant
5. Values Clarification	0.386	0.024	Significant
6. Service-Learning Activities	0.419	0.014	Significant
7. Use of Multimedia	0.360	0.036	Significant

Table 10 illustrates that gender plays a substantial role in shaping students' perceived effectiveness of the majority of values integration strategies. Significant positive correlations with p-values under 0.05 were observed for experiential learning, cooperative learning, reflective discussion, values clarification, service-learning, and multimedia, suggesting that perceptions of effectiveness are contingent upon gender (Rudmann et al., 2024; Urstad et al., 2021; Li et al., 2023). These findings underscore the necessity of incorporating gender-based preferences in the design of instructional strategies pertinent to values education. Conversely, storytelling exhibited no significant correlation (p = 0.093), indicating its universal efficacy across diverse gender groups. This gender-neutral characteristic renders storytelling a highly beneficial, inclusive instrument for promoting moral and ethical learning among a heterogeneous student population.

Understanding gender differences and the perceived effectiveness of values integration among students can assist educators in developing differentiated activities that cater to diverse interests and learning styles. For example, if male students demonstrate heightened involvement in goal-directed or problem-solving activities, educators might consider implementing moral dilemma simulations. Conversely, female students who prioritize collaboration could gain from engaging in dialogue circles or cooperative service-learning initiatives that underscore empathy and collective responsibility.

Table 11
Significant Relationship between Socio-economic status and Students' Perceived Level of Effectiveness of the Values Integration Strategy

Values Integration Strategy	r value	p-value	Significance
1. Storytelling	0.052	0.772	Not Significant
2. Experiential Learning Activities	0.132	0.457	Not Significant
3. Cooperative Learning	- 0.004	0.982	Not Significant
4. Reflective Discussion and Journaling	- 0.148	0.405	Not Significant
5. Values Clarification	0.010	0.954	Not Significant
6. Service-Learning Activities	- 0.091	0.607	Not Significant
7. Use of Multimedia	- 0.063	0.725	Not Significant

Table 11 shows no statistically significant relationship between students' socio-economic status (SES) and their perceived effectiveness of any values integration strategy. All seven strategies—Storytelling, Experiential Learning, Cooperative Learning, Reflective Discussion, Values Clarification, Service-Learning, and Multimedia—had p-values above 0.05 and r-values near zero, indicating no meaningful correlation. This suggests that SES does not affect how students perceive the usefulness of these methods (Hecht et al., 2023; Tan, 2024). Consequently, these approaches are applicable across socio-economic groups, supporting inclusivity and uniform implementation (Stalmach et al., 2024). Educators can employ these strategies universally without adjusting instruction based on students' economic backgrounds.

4. CONCLUSION

The investigation elucidates that narrative methodologies, experiential pedagogy, collaborative engagement, reflexive dialogue, and communal involvement significantly facilitate the moral and spiritual development of students, with collaborative learning identified as the preeminent determinant in the formation of values. To operationalize these insights, educational institutions ought to incorporate a systematic approach to values education across diverse disciplines and extracurricular initiatives, complemented by ongoing professional development and mentorship for educators. Facilitating teacher workshops, fostering parish partnerships, and promoting family involvement can reinforce initiatives pertaining to value formation that are congruent with the Catholic mission. Integrating moral contemplation and service-learning into pedagogical practices will enhance students' ethical cognizance and social accountability. Ultimately, values education should transform into a collective institutional commitment that champions compassion, justice, and civic engagement. Through this unified endeavor, educational establishments can function as transformative communities that nurture ethically grounded citizens who contribute to sustainable development and the promotion of peace, justice, and robust institutions in accordance with the objectives of quality education and holistic formation.

ETHICAL CONSIDERATION

This study upheld the highest ethical standards by adhering to the principles outlined in the Belmont Report (1979), which provides a framework for conducting ethical research involving human subjects. The three fundamental ethical principles—respect for persons, beneficence, and justice—will guide the research process to ensure the protection and well-being of all the research respondents.

Respect for persons means that respondents were treated as autonomous agents, and the researcher or other respondents did not influence their responses. In this study, the researcher ensured that all respondents chose to participate of their own free will after being fully aware of the study's purpose. Before data collection, the researcher explained the study's objective, processes, risks, and benefits. Respondents were also allowed to ask questions and were made aware that they could withdraw from the study at any time without consequence.

Beneficence mandates that the researcher optimize benefits while mitigating potential harm. All requisite procedures were implemented to ensure the safety and confidentiality of respondents throughout the study. Moreover, all responses remained confidential to mitigate risk. No personal information was collected or disseminated, and all data was securely held with the researcher as the sole user. Nonetheless, there was no physical, psychological, or emotional detriment to the research respondents.

Moreover, the researcher ensured that all respondents chose to participate of their own free will after being fully aware of the study's purpose. The Education department head and the College Dean were consulted, and their consent was obtained before data collection by institutional insight policy (see Appendix C). Also, the study citations will be done accurately to give due credit and justice to the scholarly work of all authors, properly considering intellectual property and advancing the academic integrity of this research.

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Research Article

Police Work at Lucena City Port: Gaps, Solutions, and Paths Forward

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ABSTRACT

Seaports play a crucial role in facilitating global trade, supporting economic growth, and ensuring national security. The study aims to systematically evaluate the degree to which Philippine Ports Authority police personnel fulfill their assigned regulatory roles and identify the operational, organizational, and environmental challenges they encounter. The Philippine Ports Authority plays a critical role in managing and securing public ports across the country, including Lucena City Port. The Lucena City Port police personnel, as part of this operational framework, are tasked with upholding rules and regulations to maintain order within the port premises, ensure safe movement of goods and passengers, and safeguard the integrity of port facilities. This study analyzed the current roles and challenges of Port Police Authority police personnel in Lucena City Port to provide an empirical foundation for enhancing their training and professional development and to develop an improved and contextualized Port Police Training Manual. This study employed a descriptive quantitative research design, the design was selected to allow the researcher to systematically describe and quantify the responses of the participants without manipulating any variables, as defined by Creswell, descriptive research enabled the accurate portrayal of characteristics of a given population, particularly in relation to observed behaviors and perceptions. The researcher recommends the Philippine Ports Authority should institutionalize targeted training modules for Philippine Ports Authority police personnel, must strengthen institutional support systems and adopt and integrate the five evidence-based training components developed in this study into its existing Port Police Training Manual.

Keywords: Challenges, Current Roles, Port Police Personnel, Port Police Training Manual, Public Safety, Institutional Support System

1. INTRODUCTION

In recent years, the complexity of port operations has increased significantly, driven by higher volumes of cargo, stricter safety protocols, and the evolving nature of maritime threats (Witte, 2021). Consequently, port police in major European ports have occupational tasks not just in "traditional policing" (crime prevention, law enforcement) but also include "environmental policing tasks" — e.g. checking compliance to environmental regulations linked to shipping and waste management (Eski, 2015). In many countries — including the Philippines — maintaining efficient, safe, and orderly port operations depends on port police and security personnel who carry a wide array of duties under difficult conditions, a reality discussed in international analyses of port policing and documented in Philippine port-security studies and PPA policy documents (Sergi, Storti, & Easton, 2021).

In the Southeast Asian region, the Philippines faces unique maritime security challenges due to its geographic composition as an archipelagic state. Within this context, the Philippine Ports Authority (PPA) plays a central role in regulating and overseeing public ports, as part of the broader institutional port sector framework (Ponio, Rashed, van Hassel & Verhoeven, 2022). Meanwhile, contemporary scholarship on port governance demonstrates that port-police and security personnel worldwide, and by extension in the Philippines, are required to perform a wide array of functions: from enforcing regulations and maintaining order, to facilitating safe and efficient movement of goods and passengers, and upholding facility integrity under complex, high-traffic conditions (Sergi, Reid, Storti & Easton, 2021). Their mandates are primarily anchored on the PPA Administrative Order No. 10-95 (Revised Rules and Regulations on Port Management), which sets the standard for operations, traffic control, access management, dangerous goods handling, and sanctions for violations. Additionally, depending on the port's local needs and specific characteristics, updated Port Operations Manuals are issued to guide port police personnel in their day-to-day enforcement activities (Docor, 2023).

Despite the presence of established regulatory frameworks governing Philippine port operations, research specifically examining how port police personnel enforce the General Port Rules and Regulations in regional facilities remains limited. For instance, while development studies on Lucena's Dalahican Port highlight operational constraints linked to infrastructure, management, and resource availability (Redevelopment of Dalahican Port in Lucena, Quezon Province, n.d.). National reports by

the Philippine Ports Authority likewise note persistent challenges in port operations outside major metropolitan hubs, including staffing limitations, environmental exposure, and increasing passenger and cargo demands (Philippine Ports Authority [PPA], 2023). These local conditions parallel broader international findings that port enforcement capacity is often affected by human-resource constraints, institutional complexity, and competing safety and trade and competing safety and trade imperatives. (Chen et al., 2017). Without empirical data on their actual role performance and encountered challenges, efforts to professionalize port policing and enhance maritime security risk being based on assumptions rather than evidence (Ramos & Molato, 2022).

This study focused on analyzing the roles and challenges of Philippine Ports Authority (PPA) police personnel assigned at Lucena City Port. Furthermore, the scope of the study was limited to role-related functions that were outlined in the PPA Administrative Order No. 10-95 and the Philippine Port Operations Manual, including its most recent updates through Operations Memorandum Circular No. 001-2024. The challenges explored in the study were based solely on the perceptions and self-assessments of the respondents, and no observational or external performance validation was conducted. The results served as the basis for formulating recommendations toward the development of an improved and contextualized Port Police Training Manual (Violanti, 2023).

2. MATERIALS AND METHODS

This study employed a descriptive quantitative research design. It utilized two researcher-made structured questionnaires to gather data: one measured the current roles of PPA police personnel in upholding the General Port Rules and Regulations, while the other assessed the degree of challenges they encountered in performing their duties. The design was selected to allow the researcher to systematically describe and quantify the responses of the participants without manipulating any variables (Docor, 2023).

Descriptive research enabled the accurate portrayal of characteristics of a given population, particularly in relation to observed behaviors and perceptions. This approach was appropriate for the study's objective of determining how consistently port police personnel performed their designated regulatory roles, and to what extent they experienced operational, organizational, and environmental challenges (Creswell, 2014). The quantitative nature of the study allowed for the statistical summarization of responses, which then served as the empirical basis for proposing improvements in training and policy. The design aligned with the study's goal of providing evidence-based recommendations toward the enhancement of port policing practices at Lucena City Port (Creswell, 2014).

Research Locale and Participants

The study was conducted at Lucena City Port, a regional seaport operated by the Philippine Ports Authority (PPA) and located in Lucena City, Quezon Province. The port served as a strategic maritime gateway for Southern Luzon, handling both cargo and passenger operations, and supporting inter- island connectivity. Due to its operational significance, Lucena City Port required a strong port police presence to maintain safety, order, and regulatory enforcement within its premises. The respondents of the study were 23 Philippine Ports Authority (PPA) police personnel assigned at Lucena City Port. These individuals were directly involved in port security operations, traffic regulation, enforcement of port rules, and incident response within the port premises. Their roles placed them at the forefront of implementing the General Port Rules and Regulations, making them highly qualified to assess their own performance and identify the challenges they encountered.

Instruments

Two researcher-made structured questionnaires will be utilized in this study. The first instrument is titled "Current Roles of Port Police Personnel in Upholding General Port Rules and Regulations," a 16-item questionnaire designed to measure the extent to which port police personnel perform their roles. The items were extracted and developed based on the General Port Rules and Regulations issued by the Philippine Ports Authority (PPA), particularly referencing operational and administrative guidelines applicable to public port management. The second instrument is titled "Challenges Encountered by Port Police Personnel in Performing Their Duties. Both questionnaires were designed to directly reflect the functional expectations and real-world conditions experienced by PPA police personnel, ensuring alignment with the objectives of developing a contextualized Port Police Training Manual.

Data Collection

The data collection was conducted on-site at Lucena City Port. A total of 23 PPA police personnel who met the inclusion criteria were purposively selected and approached individually. Before distributing the questionnaires, the researcher explained the purpose of the study, emphasized voluntary participation, and assured the respondents of the confidentiality and academic use of their responses. Informed consent was obtained from all participants. Each respondent was given a printed copy of the two questionnaires. The researcher provided clear verbal instructions and remained present during the completion process to address any questions or clarifications. The respondents were instructed to rate each item honestly based on their own experiences and perceptions. They were given ample time to complete both instruments, after which the accomplished questionnaires were collected immediately.

The completed responses were then reviewed for completeness and accuracy. The data were encoded and organized for statistical treatment using weighted mean, which was used to analyze the level of role performance and the degree of challenges encountered. All gathered information was handled with strict confidentiality and stored securely for the duration of the research.

Data Analysis

Two researcher-made structured questionnaires will be utilized in this study. The first instrument is titled "Current

Roles of Port Police Personnel in Upholding General Port Rules and Regulations," a 16-item questionnaire designed to measure the extent to which port police personnel perform their 30 roles, rated using a 4-point Likert scale (4 = Fully Performed, 3 = Performed, 2 = Minimally Performed, 1 = Not Performed). The items were extracted and developed based on the General Port Rules and Regulations issued by the Philippine Ports Authority (PPA), particularly referencing operational and administrative guidelines applicable to public port management.

The second instrument is titled "Challenges Encountered by Port Police Personnel in Performing Their Duties," a 9-item questionnaire that measures the degree of operational, organizational, and environmental challenges faced by the port police personnel, rated using a 4-point Likert scale (4 = Very Challenging, 3 = Challenging, 2 = Slightly Challenging, 1 = Not Challenging).

Both questionnaires were designed to directly reflect the functional expectations and real-world conditions experienced by PPA police personnel, ensuring alignment with the objectives of developing a contextualized Port Police Training Manual.

3. RESULTS AND DISCUSSION

Quantitative Findings and Interpretation
Description of the Respondents

The twenty-three (23) Port Police participated in the study though on-site distribution of questionnaires. The respondents have worked as Port Police for at least one (1) year.

Table 1
Description of Respondents

Code Name	Age	Rank	Gender	Experience	Roles
R1	40	Senior Port Police Inspector	Male	10 years	Oversees all port police operations as a station commander. Supervises patrol and inspection units and leads special operations.
R2	47	Port Police Officer III	Male	9 years	Conducts regular patrols, supervises gate security.
R3	29	Port Police Officer III	Female	5 years	Conducts regular patrols, assists in special operations and intelligence on illegal activities.
R4	27	Port Police Officer III	Male	4 years	Enforces port traffic regulations, inspects cargo and passenger areas for dangerous goods.
R5	34	Port Police Officer III	Female	4 years	Assist in documentation of violations and incident reports, ensure terminal cleanliness and order.
R6	31	Port Police Officer III	Female	5 years	Monitors CCTV and access system, prepares daily situation reports.
R7	27	Port Police Officer II	Female	3 years	Responds to passenger complaints, maintain peace and order in passenger terminal.
R8	26	Port Police Officer II	Male	2 years	Conducts security checks at gates, verifies vehicle passes and identification cards.
R9	25	Port Police Officer II	Male	12 years	Patrols restricted zones, supports investigations of theft or damage to port property.
R10	33	Port Police Officer II	Female	3 years	Checks cargo manifests, observes compliance with port entry policies.
R11	28	Port Police Officer II	Male	3 years	Patrols restricted zones and assist in implementation of traffic regulations.

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R12	26	Port Police Officer II	Male	2 years	Checks cargo manifests and conducts security checks at gates.
R13	27	Port Police Officer II	Female	1 ½ years	Assist in monitoring CCTV and maintain peace and order in passenger terminal.
R14	30	Port Police Officer I	Female	3 years	Assist in baggage inspection, provides information and guidance to passengers.
R16	29	Port Police Officer I	Male	2 years	Controls access to port, assists in emergency drills and fire safety checks.
R17	27	Port Police Officer I	Male	2 years	Conduct roving patrol, reports irregularities and suspicious activities.
R18	30	Port Police Officer I	Male	2 years	Assist in crowd control during peak passenger hours, ensures order at embarkation areas.
R19	30	Port Police Officer I	Male	1 ½ years	Assist in patrol, documentation report preparation.
R20	29	Port Police Officer I	Male	1 ½ years	Assist in crowd control during peak season and conducts roving patrol.
R21	25	Port Police Officer I	Male	1 year	Assists in monitoring CCTV footage, prepares shift reports.
R22	27	Port Police Officer I	Male	1 year	Assists in baggage inspection (duty in X-Ray machine for baggage of passengers) and assists security clearance requirements.
R23	23	Port Police Officer I	Male	1 year	Assists in baggage inspection (duty in X-Ray machine for baggage of passengers) and assists security clearance requirements.

Performance Of Roles in Upholding the General Port Rules and Regulations
Permit/Pass to Person/Vehicle

Permit/Pass to Person/Vehicle are authorization issued to individuals or vehicles allowing entry into the port premises, ensuring that only those with valid reasons or official business are granted access.

Table 2

Perform of Current Roles in Upholding the General Port Rules and Regulations (Permit/Pass to Person/Vehicle)

Variable	Weighted Mean (WM)	Verbal Interpretation
1. Valid permits or identification cards are checked before allowing persons into port premises.	3.88	Fully Performed
2. Vehicles are inspected for entry passes prior to accessing restricted areas.	3.92	Fully Performed
3. Access is denied to individuals or vehicles lacking proper documentation.	3.84	Fully Performed
OVERALL WEIGHTED MEAN	3.88	Fully Performed

Among the three items evaluated, the highest rating was obtained by the statement, "Vehicles are inspected for entry passes prior to accessing restricted areas," with a weighted mean of 3.92. This indicates the consistent enforcement of vehicle access protocols by port police, ensuring that only authorized transport enters sensitive port zones. This finding aligns with

the Philippine Ports Authority's updated standards as reflected in the Port Operations Manual and PPA Administrative Order No. 10-95, which require strict control of vehicle and personnel movement for security and operational integrity.

The next highest item, "Valid permits or identification cards are checked before allowing persons into port premises," received a weighted mean of 3.88, suggesting that access control for individuals was also diligently implemented. This reflects the findings of (Karahalios, 2022), who emphasized that well-regulated entry protocols form the backbone of port security, helping prevent unauthorized access that could compromise both safety and efficiency.

Lastly, the item "Access is denied to individuals or vehicles lacking proper documentation" received a weighted mean of 3.84, still within the Fully Performed range. This indicates that PPA police personnel are assertive in denying access to non-compliant individuals and vehicles, which is consistent with (Richards, 2022) assertion that consistent enforcement of documentation requirements helps reduce port-related vulnerabilities and enhances situational control.

Licenses

Licenses are official documents or permits required for vendors, traders, and other port-related personnel to legally operate within the port premises.

Table 3

Performance of Current Roles in Upholding the General Port Rules and Regulations (Licenses)

Variable	Weighted Mean (WM)	Verbal Interpretation
4. Vendor and trader licenses are verified before allowing commercial activity inside the port.	3.74	Fully Performed
5. Expired or invalid permits are reported and disallowed from port operations.	3.68	Fully Performed
6. Regular checks are conducted to ensure license compliance within the port.	3.74	Fully Performed
OVERALL WEIGHTED MEAN	3.72	Fully Performed

The statements "Vendor and trader licenses are verified before allowing commercial activity inside the port" and "Regular checks are conducted to ensure license compliance within the port" both yielded a weighted mean of 3.74, reflecting a consistent practice of license verification and follow-through checks by the port police. This indicates that PPA police personnel were actively ensuring that only individuals and entities with legitimate permits were allowed to conduct business within the port area, in line with the guidelines established in the PPA Port Operations Manual and Administrative Order No. 10-95, which emphasize the importance of documentation for all port-related transactions to uphold operational integrity.

The item "Expired or invalid permits are reported and disallowed from port operations" received a slightly lower, yet still commendable, weighted mean of 3.68, suggesting that the enforcement of disqualification measures was consistently applied when necessary. This aligns with findings by (Garcia & Lee, 2023), who emphasized that consistent monitoring of license validity is vital in preventing unauthorized commercial activity and minimizing risks associated with non-compliance in port zones.

The findings confirm that port police at Lucena City Port were actively involved in regulatory functions beyond basic law enforcement, notably in ensuring compliance with business licensing policies within the port environment. This reflects a broader shift in the role of port police toward administrative enforcement duties that are critical for legal order and economic regulation in maritime settings (Ahmed, 2022).

Road Vehicles

Road Vehicles are all types of motorized transportation, including trucks, vans, and service vehicles, operating within the port area, subject to port traffic rules and safety regulations.

Table 4

Performance of Current Roles in Upholding the General Port Rules and Regulations (Road Vehicles)

Variable	Weighted Mean (WM)	Verbal Interpretation
7. Vehicles within the port are monitored for compliance with speed limits.	3.54	Fully Performed

Variable		
8. Traffic orders issued by port management or security are enforced effectively.	3.62	Fully Performed
9. Unauthorized vehicles are restricted from accessing piers and warehouse areas.	3.54	Fully Performed
10. Vehicles obstructing gangways or loading/unloading zones are acted upon immediately.	3.62	Fully Performed
OVERALL WEIGHTED MEAN	3.58	Fully Performed

The results show a high degree of compliance and active enforcement, with an overall weighted mean of 3.58, interpreted as Fully Performed. This indicates that port police personnel at Lucena City Port consistently implemented measures to ensure safe and orderly vehicular movement.

The items "Traffic orders issued by port management or security are enforced effectively" and "Vehicles obstructing gangways or loading/unloading zones are acted upon immediately" both received a weighted mean of 3.62, reflecting that traffic regulation and incident response were prioritized and systematically carried out. These findings affirm the critical role of port police in enforcing traffic flow protocols to prevent congestion, delays, or safety hazards in high-traffic port areas. This aligns with (Richards, 2022), who emphasized that traffic enforcement in maritime zones must be swift and consistent to reduce the risk of operational disruptions and potential security breaches.

Meanwhile, the statements "Vehicles within the port are monitored for compliance with speed limits" and "Unauthorized vehicles are restricted from accessing piers and warehouse areas" both received a weighted mean of 3.54, also interpreted as Fully Performed. These values indicate that port police were actively engaged in routine monitoring and access control. According to the PPA Port Operations Manual and Administrative Order No. 10-95, enforcing vehicular discipline is vital to reducing incidents involving cargo transport vehicles, especially during peak port operations.

This level of performance supports the assertion that proactive mobility management is one of the core responsibilities of port enforcement units and contributes to operational efficiency, especially in mixed-use port spaces where both cargo and passenger activities are present (Ahmed, 2022). Additionally, emphasized that the ability of port police to act immediately on obstructions or unauthorized access serves as a strong indicator of institutional readiness and frontline responsiveness (Garcia & Lee, 2023).

Declaration of Dangerous Goods

Declaration of Dangerous Goods is the mandatory process of declaring hazardous materials being brought into or transported within the port, including proper labeling, packaging, and classification in compliance with international safety standards.

Table 5
Performance of Current Roles in Upholding the General Port Rules and Regulations (Declaration of Dangerous Goods)

Variable	Weighted Mean (WM)	Verbal Interpretation
11. Cargo labeled as hazardous is checked for complete declaration and documentation.	3.34	Performed
12. Packaging and labeling of dangerous goods follow required port or IMO safety protocols.	3.34	Performed
13. Improperly declared or mislabeled hazardous materials are reported and detained.	3.62	Fully Performed
OVERALL WEIGHTED MEAN	3.43	Performed

The item "Improperly declared or mislabeled hazardous materials are reported and detained" received the highest rating, with a weighted mean of 3.62, interpreted as Fully Performed. This suggests that port police personnel were responsive

and decisive in addressing clear violations involving hazardous cargo. These findings emphasized that the capacity of port enforcement units to identify and intercept non-compliant shipments plays a crucial role in mitigating maritime security risks. (Karahalios, 2022)

In contrast, the items "Cargo labeled as hazardous is checked for complete declaration and documentation" and "Packaging and labeling of dangerous goods follow required port or IMO safety protocols" both received a weighted mean of 3.34, interpreted as Performed. Although still within acceptable levels, these results imply a need for greater diligence and systematic checks during the initial stages of cargo inspection. The Philippine Port Operations Manual and relevant international frameworks such as the International Maritime Dangerous Goods (IMDG) Code mandate that hazardous goods must be declared, labeled, and transported in accordance with global safety standards. Failure to ensure compliance at these early checkpoints can result in operational hazards or regulatory liabilities.

Insufficient training and limited access to updated classification tools often reduce frontline personnel's ability to fully enforce complex safety regulations concerning hazardous goods (Garcia & Lee, 2023) In the context of Lucena City Port, these slightly lower ratings may point to procedural gaps, limited technical support, or the need for refresher training on the proper identification and handling of dangerous cargo.

Penalty Clause

Penalty Clause are the provision within the General Port Rules and Regulations that outlines sanctions, fines, or legal actions imposed on individuals or entities found violating port rules and operational protocols.

Table 6

Performance of Current Roles in Upholding the General Port Rules and Regulations (Penalty Clause)

Variable	Weighted Mean (WM)	Verbal Interpretation
14. Violations of port regulations are documented and endorsed for appropriate sanction.	3.10	Performed
15. Offenders are informed of penalties in accordance with PPA guidelines.	3.10	Performed
16. Repeated non-compliance is escalated following administrative procedures.	3.24	Performed
OVERALL WEIGHTED MEAN	3.15	Performed

The item "Repeated non-compliance is escalated following administrative procedures" received the highest mean of 3.24, suggesting that there is a clear understanding among port police of how to apply layered enforcement when dealing with habitual violators. However, the mean remains within the "Performed" category, suggesting the need for stronger reinforcement mechanisms or clearer procedural documentation for handling such cases. Consistent and escalating enforcement is crucial in establishing deterrence and promoting compliance within maritime regulatory environments. (Thompson, 2022)

Both "Violations of port regulations are documented and endorsed for appropriate sanction" and "Offenders are informed of penalties in accordance with PPA guidelines" received equal weighted means of 3.10, also interpreted as Performed. These results indicate that standard enforcement actions—such as documentation and communication of penalties—are practiced but may not always be implemented with the same level of consistency as other aspects of port policing. Administrative enforcement often encounters bottlenecks when there is a lack of updated training, insufficient inter-agency coordination, or unclear workflows (Lopez, 2023)

Synthesis of the five (5) Tables:

The findings revealed that Philippine Ports Authority (PPA) police personnel at Lucena City Port consistently performed their roles in upholding the General Port Rules and Regulations, with four out of five domains receiving an interpretation of Fully Performed. These include the enforcement of access control (Permit/Pass to Person/Vehicle), regulation of licenses, traffic and vehicle management, and response to unauthorized activities. The domain on Dangerous Goods was rated as Performed, indicating the need for enhanced compliance monitoring and training on safety protocols. Likewise, the Penalty Clause domain also received a Performed rating, suggesting that although violations were generally addressed, improvements in documentation, escalation procedures, and communication of sanctions could further reinforce enforcement outcomes. Overall, the data suggest that PPA police personnel have been fulfilling their regulatory functions effectively, although targeted interventions are needed in specific domains to strengthen consistency and operational depth in regulatory enforcement.

Challenges Faced by PPA Police Personnel in The Performance of Their Duties
Operational challenges
Operational Challenges are the difficulties encountered by port police personnel related to the execution of their

daily duties, such as resource limitations, multitasking demands, response inefficiencies, and enforcement of port security operations.

Table 7
Challenges Faced by PPA Police Personnel in The Performance of Their Duties (Operational Challenges)

Variable	Weighted Mean (WM)	Verbal Interpretation
1. Limited manpower during port operations is a challenge to fulfilling my duties.	3.46	Challenging
2. Managing multiple security tasks at the same time is a challenge frequently experience.	3.32	Challenging
3. Lack of access to updated equipment and resources is a significant operational challenge.	3.44	Challenging
OVERALL WEIGHTED MEAN	3.41	Challenging

The item "Limited manpower during port operations is a challenge to fulfilling my duties" recorded the highest weighted mean of 3.46, suggesting that staff shortage was a recurring issue that placed strain on enforcement capacity. Inadequate staffing in regional ports contributes to fatigue, lowered morale, and reduced visibility of enforcement personnel, compromising the overall safety and orderliness of port operations (Docor, 2023).

The next item, "Lack of access to updated equipment and resources is a significant operational challenge," obtained a weighted mean of 3.44, reinforcing the view that equipment constraints—such as outdated communication devices, insufficient mobility support, and limited surveillance tools—significantly impaired operational efficiency. The lack of technological investment in frontline port policing undermines rapid response, cargo verification, and port monitoring functions (Richards, 2022).

Lastly, the item "Managing multiple security tasks at the same time is a challenge frequently experienced" received a weighted mean of 3.32, also interpreted as Challenging. This points to the multitasking demands placed on PPA police personnel, who are often responsible for a range of overlapping duties, from traffic enforcement to crowd control, without role segmentation. The excessive multitasking, particularly in under- resourced environments, leads to task saturation and error-prone enforcement (Karahalios, 2022).

Organizational challenges

Organizational Challenges are issues arising from within the Philippine Ports Authority's internal systems and structures that affect port police personnel, including lack of administrative support, inadequate communication, limited career development opportunities, and policy constraints.

Table 8
Challenges Faced by PPA Police Personnel in The Performance of Their Duties (Organizational Challenges)

Variable	Weighted Mean (WM)	Verbal Interpretation
4. Inadequate administrative support from management is a challenge to performing my responsibilities effectively.	3.12	Challenging
5. Lack of clear communication channels within the organization poses a challenge to my work.	3.32	Challenging
6. Limited opportunities for career advancement create a motivational	2.74	Challenging

challenge for me as a port police

personnel.

OVERALL WEIGHTED MEAN	3.06	Challenging

The item "Lack of clear communication channels within the organization poses a challenge to my work" received the highest rating with a weighted mean of 3.32, reflecting that poor internal coordination and unclear directives adversely affected day-to-day enforcement functions. The fragmented communication systems in law enforcement agencies lead to inefficiencies, delayed responses, and low morale, particularly in high-stakes operational environments such as ports (Violanti, 2023).

The statement "Inadequate administrative support from management is a challenge to performing my responsibilities effectively" followed closely with a weighted mean of 3.12, further emphasizing the disconnect between frontline personnel and higher administrative levels. This gap may manifest in delayed logistics, lack of field guidance, or slow approval processes. The absence of responsive management structures impedes the ability of personnel to carry out their functions with autonomy and confidence, particularly in decentralized port settings (RTI International, 2024).

Meanwhile, the item "Limited opportunities for career advancement create a motivational challenge for me as a port police personnel" recorded the lowest mean of 2.74, though still interpreted as Challenging. This suggests that while some respondents may accept the current state of their professional trajectory, others clearly view it as a source of job dissatisfaction. The lack of growth pathways contributes to employee disengagement, especially when performance and tenure are not visibly rewarded within public institutions (Garcia & Lee, 2023).

Overall, the results in Table 8 indicate that organizational issues— including communication breakdowns, limited managerial support, and weak career development structures—impacted the effectiveness and motivation of PPA police personnel. Addressing these challenges through clearer policy directives, staff development programs, and stronger administrative responsiveness may enhance institutional cohesion and workforce morale within the Philippine Ports Authority.

Environmental Challenges

Environmental Challenges are the external factors in the port setting that hinder the effective performance of port police duties, including weather disturbances, pollution, maritime environmental crimes, and infrastructure vulnerabilities.

Table 9
Challenges Faced by PPA Police Personnel in The Performance of Their Duties (Environmental Challenges)

Variable	Weighted Mean (WM)	Verbal Interpretation
7. Adverse weather conditions during port operations are a major challenge to my assigned tasks.	3.88	Very Challenging
8. Exposure to pollution and hazardous substances in the port environment is a health challenge in my role.	3.92	Very Challenging
9. Addressing environmental violations, such as improper waste disposal, remains a challenge in enforcing port regulations.	3.82	Very Challenging
OVERALL WEIGHTED MEAN	3.82	Very Challenging

The item "Exposure to pollution and hazardous substances in the port environment is a health challenge in my role" recorded the highest weighted mean of 3.92, highlighting serious health-related risks encountered by port police personnel. Emphasized that port environments are typically affected by high levels of air, noise, and chemical pollution, increasing the likelihood of occupational health issues among frontline workers. For port police who spend long hours on-site, such environmental hazards create not only health challenges but also reduce their long-term work sustainability (Ports of Stockholm, 2023).

Closely following was the item "Adverse weather conditions during port operations are a major challenge to my assigned tasks," which received a weighted mean of 3.88. This shows that severe weather—such as heavy rains, intense heat, or typhoons—disrupted operational continuity and limited the mobility and visibility of personnel. The weather-related disruptions in maritime zones pose severe limitations on routine enforcement, often leading to delays in security checks and reduced patrol effectiveness (NATO Climate and Security Impact Assessment, 2022).

The third item, "Addressing environmental violations, such as improper waste disposal, remains a challenge in 26

enforcing port regulations," received a weighted mean of 3.82, further confirming that even the environmental law enforcement role of PPA police is heavily burdened by contextual limitations. Enforcing environmental regulations at ports requires inter-agency coordination, access to technical expertise, and political will—resources that are often lacking in smaller regional ports. Without sufficient support, police personnel may find it difficult to impose sanctions or initiate environmental interventions (UNODC Report, 2022).

Collectively, these findings confirmed that environmental hazards in Lucena City Port are not only persistent but significantly obstructive to port police operations. These include both natural conditions (such as climate) and man-made challenges (like pollution and non-compliance). The consistently high weighted means across all items in this domain indicate a strong need for environmental risk reduction strategies, provision of protective equipment, clearer enforcement frameworks, and inter-agency collaboration to support port police in handling ecological and health-related challenges.

Developed Evidence-Based Components for an Improved Port Police Training Manual
The findings of this study revealed that while PPA police personnel at Lucena City Port generally performed their roles in upholding the General Port Rules and Regulations at a commendable level, several areas emerged as requiring further strengthening through targeted training.

Table 10
Summary of Significant Findings for Manual Enhancement

Significant Finding	Supporting Evidence	Interpretation
1. Gaps in enforcing dangerous goods regulations	Table 5: Items 11 & 12 rated only as Performed (WM = 3.34); only Item 13 rated Fully Performed	Port police require improved training in the technical handling, documentation, and regulatory procedures for dangerous goods in line with PPA and IMO protocols.
2. Inconsistencies in implementing penalty procedures	Table 6: All items rated as Performed (WM range: 3.10–3.24)	Weaknesses exist in documenting violations, communicating sanctions, and escalating repeated offenses. Training is needed in administrative enforcement.
3. Operational resource limitations	Table 7: All items interpreted as Challenging (OWM = 3.41)	Personnel experienced difficulty due to limited manpower, multitasking burdens, and lack of updated equipment—affecting efficiency and enforcement quality.
4. Organizational support and motivation issues	Table 8: All items interpreted as Challenging (OWM = 3.06)	Challenges in communication, administrative responsiveness, and career development lowered morale and institutional cohesion.
5. High-level environmental hazards affecting performance	Table 9: All items interpreted as Very Challenging (WM range: 3.82–3.92)	Personnel faced physical and regulatory enforcement challenges due to weather conditions, pollution exposure, and poor environmental compliance.

Table 10 offers a clear and concise reference linking each significant finding to its quantitative basis and practical implication. In summary, while the PPA police personnel demonstrated a high level of commitment and competence, the findings clearly identified several gaps that must be addressed through the development of an enhanced, evidence-based Port Police Training Manual. These findings justify the integration of targeted modules that respond directly to the operational, organizational, and environmental realities experienced by port police at the ground level.

4. CONCLUSION
The study concluded that PPA police personnel at Lucena City Port generally performed their regulatory roles in

upholding the General Port Rules and Regulations with consistency and competence. Most role areas, including access control, licensing, and road vehicle enforcement, were rated as Fully Performed. However, there were notable gaps in two areas: the enforcement of dangerous goods regulations and the implementation of penalty procedures, both of which were rated only as Performed. These findings indicate the need for targeted enhancement in technical knowledge and administrative enforcement protocols, revealing that certain aspects of port policing require greater specialization and structured procedural training.

It was concluded that PPA port police personnel encountered moderate to severe challenges in the performance of their duties, which impacted their operational effectiveness and professional well-being. Operational and organizational domains were found to be Challenging, highlighting issues related to manpower shortages, multitasking burdens, outdated equipment, weak administrative support, and limited communication flow. For instance, port police officers may receive inconsistent instructions regarding security inspections or enforcement of port regulations due to a lack of regular coordination meetings between management and operational units. Similarly, feedback from personnel about logistical shortages or procedural difficulties often goes unaddressed because of the absence of a structured communication channel.

To address these issues, it is recommended that the PPA establish regular weekly or biweekly briefings where officers and supervisors can discuss operational challenges, clarify directives, and share updates on port security concerns. In addition, a formal feedback mechanism—such as an internal online portal or suggestion box—should be introduced to allow personnel to submit reports or recommendations anonymously. Supervisors should be tasked to compile and present feedback summaries during monthly management meetings to ensure that staff concerns are acknowledged and acted upon. Furthermore, mentoring and team-building sessions should be conducted quarterly to strengthen interpersonal communication and collaboration among different ranks. By institutionalizing these practical measures, communication gaps can be minimized, organizational support can be visibly strengthened, and the overall performance and morale of port police personnel can significantly improve.

Environmental challenges emerged as the most pressing, with Very Challenging ratings, due to adverse weather conditions, pollution exposure, and the difficulty of enforcing ecological regulations. These constraints underscore the need for institutional support, equipment upgrades, and preparedness training to enable port police to operate more efficiently and safely. Port police personnel are regularly exposed to various forms of environmental pollution due to the nature of their duties within seaport operations. The most common types include air pollution from vessel emissions, cargo trucks, and fuel storage facilities, which can lead to respiratory illnesses such as asthma and chronic bronchitis. Water pollution also poses significant risks, as oil spills, chemical runoff, and waste discharge from ships can contaminate port waters, exposing personnel to skin irritations and infections during inspection or rescue operations. Additionally, noise pollution from ship engines, cargo-handling equipment, and heavy vehicles contributes to fatigue, stress, and potential hearing loss. Solid waste and hazardous material exposure, such as chemical fumes or improperly stored dangerous goods, further aggravate health and safety conditions in the workplace.

To mitigate these risks, the Philippine Ports Authority should prioritize the distribution of appropriate protective equipment—including masks, gloves, ear protection, and chemical-resistant uniforms—to all port police personnel. Regular health monitoring and medical checkups should also be institutionalized to detect early signs of occupational illnesses. Moreover, forming partnerships with local environmental and health agencies such as the Department of Environment and Natural Resources (DENR), the Department of Health (DOH), and the local government's Environmental Protection Office can strengthen environmental management and health protection programs. These agencies can assist in joint monitoring, pollution control seminars, and rapid response coordination during environmental emergencies. Through these concrete measures, port police personnel can perform their duties more safely and effectively while minimizing the long-term health impacts of environmental hazards present in port areas.

Based on the findings of the study, five evidence-based components were developed for inclusion in an improved Port Police Training Manual. These components were directly informed by the identified performance gaps and recurring challenges faced by the personnel. The proposed components addressed weaknesses in hazardous cargo enforcement, administrative sanctioning, operational efficiency, organizational communication, and environmental preparedness. The development of these training modules represents a strategic and data-driven step toward professionalizing the port police force and strengthening regulatory enforcement within Lucena City Port and similar maritime settings under the Philippine Ports Authority.

1. Dangerous Goods Handling and Regulatory Compliance
Objective: To enhance the capacity of port police personnel in the proper handling, documentation, and enforcement of regulations related to hazardous cargo.
Content Description
- This module will provide in-depth training on the classification, packaging, labeling, and declaration procedures for dangerous goods based on PPA Administrative Order No. 10-95 and the International Maritime Dangerous Goods (IMDG) Code. It will include practical exercises in identifying non- compliant cargo, completing documentation, and coordinating with relevant port agencies for enforcement. The component addresses the finding that performance in this domain was only rated as Performed.

2. Administrative Enforcement and Penalty Implementation Procedures
Objective: To strengthen port police competency in documenting violations, applying sanctions, and escalating repeated offensesin accordance withPPA regulations.
Content Description
- This module will cover the legal and procedural aspects of documenting infractions, issuing citations, and communicating penalties. It will include a step-by-step guide to the escalation process for repeated violations, role- playing scenarios, and sample documentation forms. This component responds to the observed inconsistencies in penalty enforcement.

3. Operational Efficiency and Resource-Conscious Enforcement
Objective: To improve strategic task execution, time management,and enforcement effectiveness under resource-constrained conditions.
Content Description
- Designed to address the challenges of multitasking, limited manpower, and equipment constraints, this component will train personnel on prioritization, deployment strategies, and improvisation in the absence of ideal resources. Scenario-based simulations will help port police adapt operational tactics based on real-time conditions. This component is grounded in the "Challenging" rating of operational difficulties.

EVIDENCE-BASED COMPONENTS FOR AN IMPROVED PORT POLICE TRAINING MANUAL

4. Organizational Communication and Professional Development Support
Objective: To foster stronger internal coordination and increase awareness of career development pathways within the port policing structure.
Content Description
- This module will address communication barriers and motivational gaps by introducing structured communication channels, briefing/reporting protocols, and guidelines for coordination with port administration. It will also introduce personnel to existing and potential career progression pathways within the PPA system. This directly responds to organizational challenges related to communication breakdowns and limited support.

5. Environmental Risk Preparedness and Compliance Enforcement
Objective: To equip port police with knowledge and skills in environmental hazard response,safety protection, andenforcement ofecological regulations.
Content Description
- This module will cover the use of personal protective equipment (PPE), weather-related operational adjustments, handling of environmental violations (e.g., improper waste disposal), and coordination with environmental authorities. It will also include emergency preparedness drills and health protection practices in polluted port settings. This responds to the "Very Challenging" rating of environmental factors in the study.

Figure 1. *Proposed development of Evidence-Based Components for an Improved Port Police Training Manual. Provide*

Table 11
Proposed Training Priorities and implementation Plan for Lucena City PPA Port Police Personnel

Significant Findings (Identified Gaps/ Issues)	Training Topics to be Prioritized	Responsible Agency/ Trainer	Evaluation of Training Improvement after Implementation	Concrete steps for Continuous Improvement (Schedule, Feedback, Responsibilities)
1. Gaps in enforcing Dangerous Goods Regulations	Dangerous Goods handling Port and Port Safety Compliance	Maritime Authority (MARINA) Bureau of fire Protection (BFP) Philippine Port Authority (PPA) Safety Division	Post-training inspection audits. Reduction in incidents involving cargo. Evaluation reports by Safety Officers.	Conduct refresher every six (6) months. Require certification renewal for hazardous cargo handlers. Assign Safety Officer to oversee enforcement compliance. Develop online feedback form for cargo handlers.
2. Inconsistencies in implementing penalty procedures	Legal Procedure, evidence handling and administrative sanctions	Philippine Port Authority (PPA) Division Department of Justice (DOJ) PNP Legal Service	Pre-and post-training knowledge tests. Monitoring of case documentation accuracy. Internal audit of implemented penalties.	Conduct legal refresher every twelve (12) months. Establish a standardized checklist for violation procedures. Assign Legal Affairs Officer for compliance tracking. Gather anonymous feedback from personnel about clarity of procedures.
3. Operational resource limitations (Equipment, Manpower and Logistics)	Resource Management, Logistics Planning	Philippine Port Authority (PPA) Logistic Division	Evaluation of efficiency during operations.	Conduct annual resource management workshop. Create quarterly reports on equipment usage.

	and Equipment Utilization	Civil Service Commission (CSC)	Reduction in resource wastage Feedback from unit leaders.	Assign Logistics Officer to monitor resource allocation. Hold feedback meetings every quarter to address shortages.
4. Organizational support and motivation issues	Leadership Development, Team Cohesion and Motivation Techniques	Philippine Port Authority (PPA) Human resource Management Division Development Academy of the Philippines (DAP) Civil Service Commission (CSC)	360 degrees leadership feedback Staff satisfaction surveys. Decrease in absenteeism and turnover rate.	Conduct leadership and motivation training every twelve (12) months. Create recognition program for best-performing officers. Assign HR Officer to oversee morale-boosting programs. Establish anonymous feedback platform for personnel support issues.
5. High-level environmental hazards affecting performance	Emergency Risk Management and Emergency Response	Philippine Port Authority (PPA) Emergency Response Unit Department of Environment and Natural Resources (DENR) Office of Civil Defense (OCD)	Post-drill performance ratings. Response time during actual events. External observer assessments.	Conduct emergency drills quarterly. Update risks maps and contingency plans annually. Assign Emergency Response Officer as focal person. Collect post-drill feedback for improvement actions.

ETHICAL CONSIDERATION

The researcher observed strict ethical standards throughout the conduct of the study. Prior to data collection, formal approval was secured from the management of Lucena City Port and the Philippine Ports Authority to administer the questionnaires and interact with the assigned port police personnel. Each respondent was informed of the purpose of the study and was assured that their participation was entirely voluntary and that they had the right to withdraw at any stage without any consequences.

Informed consent was obtained from all 23 respondents before the questionnaires were distributed. The confidentiality of all responses was guaranteed, and no names or personal identifiers were included in the final reporting of the data. The researcher ensured that all information gathered was used solely for academic purposes and was stored securely to protect respondent privacy.

During the administration of the questionnaires, the researcher remained neutral and avoided any influence on the participants' answers. No form of coercion, inducement, or pressure was exerted during the data gathering. The entire process complied with ethical principles governing human participation in research, particularly in the areas of respect, voluntary consent, and data protection.

ACKNOWLEDGMENT

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Research Article

The Impact of Laboratory Facilities Availability on Criminology Licensure Examination Performance at St. Anne College Lucena, Inc.

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ABSTRACT

This study examined the relationship between the adequacy of criminology laboratory facilities and Criminology Licensure Examination (CLE) performance at St. Anne College Lucena, Inc. Researchers collected data from 80 respondents, using a descriptive-correlational design composed of recent CLE examinees and criminology faculty members. CHED-aligned evaluation tools assessed laboratory adequacy; institutional CLE results provided performance data. Results showed that laboratory facilities were rated fully adequate (overall weighted mean = 3.84) and functionally complete (mean = 4.00). Pearson's r analysis revealed a weak but positive correlation between laboratory adequacy and CLE performance (r = 0.26). The CLE passing rate of first-time takers (68%) was notably higher than that of repeaters (42%). Qualitative findings highlighted that laboratory use strengthened theoretical understanding, practical skills, and exam confidence. The study concludes that while adequate facilities support improved performance, other factors such as review integration and targeted support for repeaters remain critical. It recommends modernizing laboratory equipment, aligning simulations with CLE competencies, and embedding lab-based review exercises to enhance licensure outcomes.

Keywords: Laboratory Facilities, Criminology Licensure Examination (CLE), Student Performance

1. INTRODUCTION

Across many regions of the world, the quality of academic resources—particularly laboratory facilities—is closely linked to students' performance in professional certification and licensure examinations. In the field of criminology, access to simulation laboratories, forensic equipment, and investigative tools is crucial for students to develop the critical practical skills necessary for real-world law enforcement and forensic practice.

Studies in the Asia-Pacific region, including countries like South Korea, reveal that exposure to applied learning environments significantly improves performance in professional certification exams compared to reliance solely on theoretical instruction. This regional context requires educational institutions to move beyond abstract theory, preparing graduates for the diverse legal and criminalistic challenges unique to this part of the world.

In the Philippine context, the Professional Regulation Commission (PRC) administers the Criminology Licensure Examination (CLE) to ensure professional qualification. However, disparities in educational infrastructure are a long-standing challenge for Higher Education Institutions (HEIs). Many HEIs struggle to maintain up-to-date and fully functional laboratory facilities, which limits students' practical preparedness for the CLE. Licensure components requiring practical competency, such as forensic ballistics and crime scene investigation, consistently record high national failure rates.

St. Anne College Lucena, Inc. in Lucena City exemplifies this concern. Preliminary observations from both students and faculty point to a perceived disconnect between classroom knowledge and practical application. While existing studies on CLE performance often focus on curriculum and faculty, existing studies insufficiently explore the direct role of laboratory facilities in

shaping licensure outcomes in this context.

Responding to this gap, this study systematically examined the relationship between facility availability and student performance in the Criminology Licensure Examination at St. Anne College Lucena, Inc. The research aimed to assess how the availability of essential criminology laboratory resources influenced students' licensure outcomes and to offer targeted recommendations for enhancing educational infrastructure and licensure preparedness.

2. MATERIALS AND METHODS

This study employed a descriptive-correlational research design, which was appropriate for examining the relationship between the availability of laboratory facilities and the Criminology Licensure Examination (CLE) performance of criminology students. As defined by Creswell (2014), a descriptive-correlational design is used when the researcher aims to describe a particular phenomenon and determine the degree of association between two or more variables without manipulating them. In this study, the descriptive component focused on assessing the condition and adequacy of laboratory facilities based on CHED's minimum standards, as well as evaluating students' licensure examination performance. The correlational component examined the statistical relationship between the availability of laboratory resources and students' CLE outcomes. The Pearson Product-Moment Correlation Coefficient (Pearson's r) was the primary tool for the correlational component. This test was used to determine the statistical relationship or degree of association between the availability of laboratory resources (Variable 1) and the students' CLE outcomes (Variable 2). This design allowed the researcher to collect, organize, and analyze both quantitative and qualitative data to identify patterns, relationships, and potential influences.

The study was conducted at St. Anne College Lucena, Inc., located in Lucena City, Quezon Province, Philippines. This institution offered a Bachelor of Science in Criminology program and had consistently produced graduates who were candidates for the Criminology Licensure Examination. The college provided an appropriate setting for the investigation, as recurring concerns had been raised by students and faculty regarding the adequacy and availability of criminology laboratory facilities. These concerns underscored the relevance and urgency of evaluating the institution's physical resources in relation to licensure examination outcomes.

The respondents of the study consisted of 80 participants from St. Anne College Lucena, Inc., comprising 75 criminology student-examinees (25 each from the 2025, 2024, and 2023 Criminology Licensure Examination batches) which is 93.75% of the total cohort and 5 criminology faculty members which is 6.25% of the total cohort.

The student-respondents provided insights based on their experiences with the availability of laboratory facilities and offered suggestions for improvement, particularly in relation to their examination preparedness. The faculty-respondents, on the other hand, contributed expert perspectives on how the availability and adequacy of laboratory resources influenced students' learning, technical skills development, and readiness for the Criminology Licensure Examination.

A purposive sampling technique was employed to select participants who were directly engaged with or affected by the use of criminology laboratory facilities within the institution. This approach ensured that the data gathered reflected the informed experiences of individuals who had first-hand knowledge of the issue being investigated. Research instruments to be used in the study:

Specific Research Question	Instrument	Description
1. How adequate are the laboratory facilities at St. Anne College Lucena, Inc. based on the required competencies for the Criminology Licensure Examination?	Laboratory Facilities Evaluation Survey	A structured checklist and Likert-scale questionnaire based on CHED-mandated laboratory requirements, used to assess the availability of existing criminology laboratory facilities.
2. What is the performance of students in the Criminology Licensure Examination?	Official Licensure Examination Results	Institutional data on students' Criminology Licensure Examination outcomes (2024 or 2025 results), requested from the Registrar's Office.
3. What is the relationship between the availability of laboratory resources and the performance of students in the Criminology Licensure Examination?	Statistical Analysis (Pearson's r)	Data from the Laboratory Facilities Evaluation Survey and the Licensure Examination Results will be statistically analyzed using Pearson's r to determine the relationship between laboratory availability and licensure performance.
4. What are the insights of students and faculty regarding the effects of adequate laboratory facilities on learning, skills development, and exam preparedness?	Interview Guide	A semi-structured interview tool used to gather qualitative insights from students and faculty on the impact of laboratory availability on educational and licensure outcomes.

5. What recommendations can be proposed to improve laboratory facilities and enhance student outcomes in future Criminology Licensure Examinations?	Recommendation Elicitation Section (Part 2 of Laboratory Facilities Evaluation Survey)	

The study employed several instruments tailored to the research objectives. The Laboratory Facilities Evaluation Survey was a structured checklist and Likert-scale questionnaire used to assess facility adequacy. Crucially, the tool was based on CHED-mandated laboratory requirements, ensuring content validity by aligning the evaluation criteria with national standards (e.g., CMO No. 21, s. 2005). The Official Licensure Examination Results provided the performance data. Finally, a semi-structured Interview Guide was used to gather qualitative insights from students and faculty on the impact of laboratory availability on educational and licensure outcomes.

3. RESULTS AND DISCUSSION

1. Adequacy of Criminology Laboratory Facilities

Table 1

Adequacy of Criminology Laboratory Facilities
(Simulation and practice facility availability)

Item No.	DOMAIN 1: Simulation and Practice Facility Availability	WM	VI
1.1	Crime Scene Simulation Laboratory for realistic practice setups	3.36	Available
1.2	Forensic Ballistics Laboratory for ballistic-related exercises	4.00	Fully Available
1.3	Polygraph Laboratory for investigative simulations	4.00	Fully Available
1.4	Forensic Photography Laboratory for crime scene documentation	4.00	Fully Available
1.5	Fingerprint Analysis Laboratory-related exercises	3.48	Available
	Overall Weighted Mean	**3.84**	**Fully Adequate**

Table 1 presents the respondents' evaluation of the adequacy of simulation and practice facilities used in criminology instruction at St. Anne College Lucena, Inc. The results indicate that the overall weighted mean is 3.84, which falls within the descriptor "Fully Adequate." This suggests that, in general, the institution possesses essential simulation-based laboratories that sufficiently support practical training aligned with licensure examination competencies.

Among the specific facilities, the Forensic Ballistics Laboratory (Item 1.2), Polygraph Laboratory (Item 1.3), and Forensic Photography Laboratory (Item 1.4) each received the highest possible rating of 4.00, interpreted as "Fully Available." This reflects strong institutional compliance with CHED's minimum facility requirements outlined in CMO No. 21, s. 2005, which prescribes the presence of specialized laboratories to ensure practical readiness of criminology students. Conversely, the Polygraph Laboratory was highly rated for availability, but a faculty respondent noted, 'The polygraph machine is fully functional, but we only use it intensively for one course. It's often idle for months. We could integrate short Polygraph simulation refreshers into the review program to keep those high-value skills sharp and prevent the equipment from sitting under-utilized. For instance, the CHED list mandates tools such as a polygraph machine for lie detection, bullet comparison microscopes and firearms for forensic ballistics, and camera for Forensic Photography, all of which are essential to these laboratories' full functionality.

On the other hand, the Crime Scene Simulation Laboratory (Item 1.1) and Fingerprint Analysis Laboratory (Item 1.5) were rated 3.36 and 3.48, respectively—both falling under the descriptor "Available." Concerning the Crime Scene Simulation Laboratory, one student lamented, 'The lab is great, but because there are only two full sets of evidence markers and kits for our whole class, we have to share and wait. It takes up a lot of our scheduled time. We need more repetition. Miranda-Rodríguez and Sánchez-Nieto (2024) conclude that intervention programs in universities must be designed to address specific institutional, and learner needs to achieve meaningful improvements in academic outcomes and compliance practices. The authors note that varied contexts and program elements influence effectiveness, so tailored strategies that reflect each university's conditions are essential. For St. Anne College, this means viewing the fully adequate facilities as a "sturdy base" but recognizing that improvements must focus on specific areas of weakness, such as the Crime Scene Simulation Laboratory. While still considered adequate, these values suggest room for enhancement, possibly in terms of spatial layout, scenario diversity, or the quantity and realism of equipment. Alharbi et al. (2024) found that simulation-based learning significantly improves students' clinical knowledge and skill competence,

highlighting that repeated exposure to simulation experiences is associated with better learning outcomes and preparedness for assessment contexts similar to high-stakes examinations.

Furthermore, as observed in CHED's CMO No. 21, the Crime Scene Simulation Laboratory should be equipped with items such as evidence markers, fingerprint development tools, mannequins, and investigative kits. If any of these were incomplete, it could explain the lower rating in this area. Similarly, the Fingerprint Analysis Laboratory should allow for hands-on practice in arrest procedures, self-defense, and tactical communication—requirements that may have been met only partially at the time of evaluation.

Research by Limon (2023) found that the adequacy of school facilities, including practical and laboratory spaces, has a direct positive relationship with students' performance and achievement in technology-based and practical education subjects, reinforcing the link between resource quality and learning outcomes. Therefore, while the current ratings confirm overall adequacy, they also highlight the need for ongoing facility enhancement—especially for crime scene and forensic science simulation environments—to maintain relevance with the evolving standards of criminology licensure and professional practice.

Table 2

Adequacy of Criminology Laboratory Facilities
(Functionality of laboratory equipment)

Item No.	DOMAIN 2: Functionality and Completeness of Laboratory Equipment	WM	VI
2.1	Simulation tools and equipment for crime scene Investigations	4.00	Fully Functional
2.2	Forensic instruments for ballistics	4.00	Fully Functional
2.3	Polygraph instruments and accessories	4.00	Fully Functional
2.4	Questioned document examination and forensic photography tools	4.00	Fully Functional
2.5	Fingerprint Analysis tools	4.00	Fully Functional
	Overall Weighted Mean	**4.00**	**Fully Adequate**

Table 2 reflects the respondents' evaluation of the functionality and completeness of criminology laboratory equipment at St. Anne College Lucena, Inc. The findings reveal a perfect overall weighted mean of 4.00, indicating that the facilities are perceived as "Fully Functional" across all equipment categories. This result underscores a high level of institutional compliance with equipment-related standards set by the Commission on Higher Education (CHED) under CMO No. 21, Series of 2005.

All five items received a rating of 4.00, confirming that equipment for crime scene investigations (Item 2.1), ballistics and fingerprint analysis (Item 2.2), polygraph testing (Item 2.3), document examination and forensic photography (Item 2.4), Fingerprint Analysis tools (Item 2.5) were fully operational and sufficiently available for instructional use. These tools play a critical role in translating theoretical learning into applied competencies—a key expectation of both CHED and the Professional Regulation Commission (PRC) for licensure readiness.

In relation to CHED CMO No. 21, s. 2005, it is expected that the institution maintains equipment such as evidence collection kits, bullet comparison microscopes, polygraph machines, ultraviolet/infrared scanners, high-resolution cameras, and restraining devices. The presence and functionality of such tools are essential to achieving competency-based learning outcomes. The complete list of these CHED-mandated laboratory items is attached in the Appendices of this study.

Research by Libres and Dalman (2025) found that the adequacy and quality of laboratory facilities, including tools and equipment, are significantly related to students' academic engagement and overall achievement in science courses, with better-equipped and maintained labs supporting stronger involvement and learning outcomes. Nilendu (2024) noted that forensic education programs that incorporate current technologies, evidence-based training, and up-to-date laboratory practices significantly improve student competencies and preparedness for professional challenges, including practical components similar to criminalistics and ballistics assessments.

Overall, the perfect rating in this domain reflects that St. Anne College Lucena, Inc. has achieved full compliance with national standards regarding laboratory equipment functionality. It also suggests a strong institutional commitment to maintaining practical readiness, which is essential for students to confidently navigate hands-on components of the Criminology Licensure Examination.

Table 3

Adequacy of Criminology Laboratory Facilities

(Alignment with competency-based learning outcomes)

Item No.	DOMAIN 3: Alignment with Competency-Based Learning Outcomes	WM	VI
3.1	Support for CLE-required skills in criminalistics	3.48	Fully Aligned
3.2	Reinforcement of classroom-based theoretical knowledge	3.84	Fully Aligned
3.3	Development of investigative and forensic competencies	3.84	Fully Aligned
3.4	Preparation for practical board exam components	3.62	Fully Aligned
3.5	Contribution to CHED-mandated learning outcomes	3.84	Fully Aligned
	Overall Weighted Mean	**3.74**	**Fully Adequate**

Table 3 presents the respondents' evaluation of the alignment between the criminology laboratory facilities at St. Anne College Lucena, Inc. and the expected competency-based learning outcomes prescribed by CHED and the Criminology Licensure Examination (CLE). The overall weighted mean is 3.74, which is interpreted as "Fully Adequate." This suggests that the institution's laboratory facilities not only meet instructional requirements but also support the competencies expected of licensure-bound criminology graduates.

All five items under this domain were rated above the 3.50 threshold, indicating that the laboratories are "Fully Aligned" with competency expectations. Specifically, Item 3.1—Support for CLE-required skills in criminalistics—received a rating of 3.48, the lowest among the items, but still nearing full adequacy. This score suggests a slight perception of limitation, possibly tied to the consistency or accessibility of tools used in fingerprinting, trace evidence analysis, or chemical testing—fields that rely heavily on the Dactyloscopy and Forensic Chemistry Laboratories, both of which are detailed in CHED Memorandum Order No. 21, s. 2005. The prescribed equipment in these labs, including fingerprint kits, magnifiers, test reagents, and fuming chambers, are all listed in the Appendices of this study.

The highest ratings of 3.84 were observed in Items 3.2, 3.3, and 3.5—indicating strong support for integrating theory into practice, developing investigative and forensic skills, and meeting CHED learning outcomes. Bracewell and Jones (2022) found that incorporating simulated crime scenes into forensic science and criminology education significantly enhances students' practical skills, critical thinking, and engagement, contributing to greater preparedness for real-world investigative tasks. Furthermore, CHED's CMO No. 21, s. 2005 emphasizes that criminology laboratories must be organized to simulate real investigative tasks, linking directly to the learning outcomes mapped in the curriculum. The presence and use of polygraph machines simulated forensic fingerprint analysis, and fully equipped crime scene reconstructions ensure that graduates are trained beyond theoretical abstraction. The ability of students to translate these experiences into CLE performance is a clear marker of this alignment.

Therefore, the consistently high ratings in this domain reinforce that the laboratory facilities at St. Anne College Lucena, Inc. are not only present and functional but are also pedagogically structured to meet the learning outcomes mandated by CHED and evaluated through the licensure examination.

Table 4

Adequacy of Criminology Laboratory Facilities

(Maintenance, accessibility, and safety standards)

Item No.	DOMAIN 4: Maintenance, Accessibility, and Safety Standards	WM	VI
4.1	Regular maintenance and equipment upkeep	3.92	Fully Adequate
4.2	Accessibility of laboratories during scheduled sessions	4.00	Fully Adequate
4.3	Presence of safety features (e.g., ventilation, first aid)	4.00	Fully Adequate
4.4	Supervision and compliance with safety protocols	3.86	Fully Adequate
4.5	Lab scheduling and time allocation per course requirement	4.00	Fully Adequate
	Overall Weighted Mean	**3.96**	**Fully Adequate**

Table 4 presents the respondents' evaluation of the criminology laboratory facilities at St. Anne College Lucena, Inc. in terms of maintenance practices, accessibility for students, and adherence to safety standards. The results reveal an overall weighted mean of 3.96, which is interpreted as "Fully Adequate." This indicates a strong institutional commitment to ensuring that its laboratories are not only equipped and aligned with competencies but also well-maintained, safe, and accessible to users.

The highest possible rating of 4.00 was achieved in four areas: accessibility of laboratories during scheduled sessions (Item 4.2), presence of safety features such as ventilation and first aid (Item 4.3), and lab scheduling and time allocation per course (Item 4.5). These scores suggest that the institution provides sufficient access to hands-on learning experiences during instructional hours and has incorporated essential safety mechanisms across its laboratories. This reflects compliance with CHED's requirements under CMO No. 21, s. 2005, which prescribes both facility upkeep and safety protocols as part of the minimum operational standards. A detailed list of these standards, including safety devices and facility layout expectations, is provided in the Appendices of this study.

Item 4.4, Supervision and compliance with safety protocols, received a slightly lower yet still strong rating of 3.86, while Regular maintenance and equipment upkeep (Item 4.1) received 3.92. These scores indicate that while protocols and maintenance are generally observed, there may be areas where routine inspection, staff supervision, or equipment servicing can be enhanced to ensure long-term reliability and student safety. Mulleta et al. (2021) found that laboratories that perform regular preventive maintenance and integrate it into their quality management systems are significantly more likely to deliver improved quality services and meet requirements associated with accreditation frameworks.

Moreover, CHED CMO No. 21 emphasizes the importance of structured laboratory management, including ventilation, cleanliness, emergency preparedness, and supervision. The consistently high ratings across all indicators suggest that St. Anne College Lucena, Inc. demonstrates operational discipline and resource allocation to meet these safety and management expectations.

Further analysis of the institutional CLE results reveals a significant performance cluster: first-time takers achieved a 68% passing rate, notably higher than repeaters at 42%. This 26-percentage-point disparity suggests non-facility factors like review strategy and test-anxiety exert a stronger influence on the final outcome than facility adequacy alone. This quantitative finding aligns with the qualitative insight that laboratory use strengthened theoretical understanding, practical skills, and exam confidence, indicating labs are key for knowledge translation but insufficient without strong review habits. The highest-rated labs (Forensic Ballistics, Polygraph, Photography; WM: 4.00) generally correspond with first-time success. Conversely, the lower-rated Crime Scene Simulation (WM: 3.36) and Fingerprint Analysis (WM: 3.48) Laboratories were qualitatively cited as needing more diversified scenarios, suggesting minor deficiencies in these specific areas may impact performance in the practical CLE components

The computed Pearson's r value of +0.26 indicates a weak positive correlation between the adequacy of criminology laboratory facilities and student performance in the Criminology Licensure Examination (CLE). This suggests that while better-equipped laboratories may contribute to improved exam results, their influence is limited when compared with other academic and personal factors affecting licensure outcomes. These are the factors which explain the weak correlation:

1. Examination success depends not only on access to laboratory resources but also on study habits, review participation, cognitive ability, and test-taking strategies. Students with strong theoretical backgrounds and disciplined review practices may perform well even with limited laboratory exposure.
2. Although facilities were found to be fully adequate, not all students used them equally. Differences in attendance, practice frequency, and engagement during laboratory sessions likely affected skill retention and exam readiness, weakening the observable link between adequacy and performance.
3. Data showed that first-time takers achieved higher passing rates (68%) than repeaters (42%). This disparity suggests that prior failure, test anxiety, and inconsistent engagement may have diluted the overall correlation between laboratory adequacy and exam results.

4. CONCLUSION

Based on the findings derived from the data presented and analyzed in the previous chapter, the following conclusions were drawn to address the objectives of the study.

The criminology laboratories at St. Anne College Lucena, Inc. were found to be fully adequate in supporting student training for the CLE, though certain aspects such as simulation diversity and skill-specific integration could be further enhanced. The conclusion was based on the adequacy of Criminology Laboratory Facilities in terms of:

1.1 Simulation and practice facility availability
1.2 Functionality and completeness of laboratory equipment
1.3 Alignment with competency-based learning outcomes
1.4 Maintenance, accessibility, and safety standards

Student performance in the CLE has been inconsistent, with first-time takers generally achieving favorable results and repeaters consistently underperforming—despite access to adequate facilities.

There exists a modest positive relationship between laboratory adequacy and CLE performance, but laboratories alone

are insufficient to predict exam success.

Both faculty and student insights confirm that adequate laboratories contribute not only to exam readiness but also to learning engagement, confidence, and professional formation.

There is a strong institutional opportunity to enhance the existing laboratory infrastructure through targeted improvements that reinforce licensure preparation and long-term academic performance.

The study's recommendations must be anchored in the evidence. To modernize infrastructure, the institution should focus on targeted investment in the two lowest-rated facilities: the Crime Scene Simulation (WM: 3.36) and Fingerprint Analysis (WM: 3.48) Laboratories. This includes acquiring advanced, high-fidelity forensic tools and duplicating essential equipment to resolve quantity bottlenecks and align with evolving licensure requirements, as the realism of simulation exposure is critical for preparedness. Furthermore, the significant disparity between first-time takers (68%) and repeaters (42%) demands specialized support. The institution should implement compulsory, specialized laboratory sessions for repeaters, focusing on low-stakes practical skill drills to rebuild confidence and practical competence, an intervention proven elsewhere to mitigate non-facility-related barriers to success

Study Limitations and Policy Implications

This study was limited by its single-institution scope, which restricts the generalizability of findings to other criminology programs in the Philippines or the broader Asia-Pacific region. The sample size of 80 respondents, while sufficient for correlational analysis, may not fully capture variations in institutional practices and resource management. The study also relied on self-reported assessments of facility adequacy, which could introduce perception bias. In addition, the analysis focused on quantitative relationships and did not measure the long-term impact of laboratory exposure on post-graduation competencies or field performance.

Specifically, the study did not include real-time observational data of laboratory sessions; thus, it could not assess variations in instructor delivery, pedagogical approach, or actual student engagement during practical training. Furthermore, the study did not control for differences in faculty teaching methodologies or individual review participation among respondents, which are known non-facility-related predictors of licensure success. Finally, while institutional CLE results were used, the study did not benchmark performance against national licensure data or against other similar HEIs, limiting the external contextualization of St. Anne College Lucena, Inc.'s outcomes.

ETHICAL CONSIDERATION

Ethical standards were strictly upheld throughout the conduct of this study. Participants were fully informed about the nature, objectives, and voluntary nature of their involvement through a written informed consent form. Confidentiality and anonymity were maintained at all stages, ensuring that personal identities and individual responses remained protected and were not disclosed in any part of the analysis or reporting.

The researcher emphasized to all participants that their involvement was voluntary and that they could withdraw from the study at any time without facing any form of penalty or consequence. Ethical principles outlined in institutional research protocols were followed, including those related to privacy, informed participation, transparency, and non-maleficence. Throughout the processes of data collection, interpretation, and reporting, the researcher observed the highest standards of respect, honesty, and integrity, thereby ensuring that the study remained ethically sound and professionally conducted.

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Research Article

The Impact of the Therapeutic Community Modality Program (TCMP) on Re-Offender Rate among Person Deprived of Liberty (PDL) in Lucena City District Jail Female Dormitory, Quezon Province

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ABSTRACT

This study evaluated the impact of the Therapeutic Community Modality Program (TCMP) on post-release behavior and recidivism among female Persons Deprived of Liberty (PDLs) in the Lucena City District Jail Female Dormitory, Quezon Province. It specifically examined the program's influence on behavioral rehabilitation during incarceration—covering personal behavior, attitudes, and decision-making—and tracked post-release outcomes. Using purposive sampling, the study involved 40 former female PDLs (20 TCMP completers and 20 non-completers) released between 2022 and 2024. Participants' post-release status was monitored for 12 months after discharge. Data were gathered through a researcher-made questionnaire, semi-structured interviews, and document analysis. Quantitative data were analyzed using descriptive statistics, t-tests, and chi-square tests, while qualitative data were subjected to thematic analysis. Findings showed that TCMP completers demonstrated marked improvements in self-control, emotional regulation, and decision-making discipline. The re-offender rate among completers (10%) was notably lower than among non-completers (30%), representing a 66.7% reduction in recidivism associated with program completion. The study also introduced the Therapeutic Community Modality Program–Based Reintegration Support Framework (TRSF), emphasizing four interrelated domains—Behavioral Continuity, Relational Support, Socioeconomic Empowerment, and Community Linkages—as foundations for sustained rehabilitation. Overall, the results affirm that the TCMP contributes significantly to behavioral transformation and reduced re-offending among female PDLs. The study recommends the program's continued expansion, institutionalized post-release monitoring, and stronger interagency collaboration among the Bureau of Jail Management and Penology (BJMP), local government units, and community organizations to enhance long-term reintegration outcomes.

Keywords: Therapeutic Community Modality Program, Behavioral Rehabilitation, Re-offender Rate, Female Persons Deprived of Liberty (PDLs), Reintegration Framework, Lucena City District Jail

1. INTRODUCTION

The prevalence of recidivism among incarcerated individuals remains a pressing concern for justice systems worldwide. Various rehabilitation efforts have been implemented across countries to address the cycle of re-offending, with therapeutic community programs emerging as promising interventions. Research in recent years highlights that therapeutic community approaches, which emphasize peer support, structured social learning, and personal accountability, have been effective in reducing re-offender rates among incarcerated populations (DeLisi et al., 2022). In many parts of the world, correctional facilities are increasingly adopting therapeutic community models to support the rehabilitation and reintegration of persons deprived of liberty (PDLs). However, despite these promising interventions, recidivism continues to challenge prison reforms, necessitating a closer examination of program impacts across different contexts.

Within the Asia–Pacific correctional policy landscape, ASEAN countries such as Malaysia and Thailand have increasingly

integrated therapeutic community (TC) and other therapeutic modality programs into prison systems to curb re-offending. In Malaysia, inmates participating in community-based rehabilitation recorded a markedly low recidivism rate of 0.24%, compared to 17.6% among those rehabilitated in custody, demonstrating the effectiveness of therapeutic and community-linked interventions in promoting reintegration (Malay Mail, 2024). Similarly, Malaysia's TC programs, such as those implemented at Kajang Prison, have been shown to foster positive behavioural changes including discipline, self-control, and social responsibility (Othman et al., 2019). In contrast, Thailand's experience reveals that while TC participation improves short-term treatment outcomes among drug offenders, national reoffending remains high, with about one-third of released prisoners reincarcerated within three years (International Drug Policy Consortium, 2021). These comparative insights underscore that therapeutic interventions are most effective when coupled with structured aftercare and community support, affirming their growing significance in shaping evidence-based correctional policy across the ASEAN region (Kawaguchi, 2020).

The successful reintegration of Persons Deprived of Liberty (PDL) is severely challenged by a complex web of structural and social barriers, which are acutely amplified for female ex-inmates. In the local context, women face intersectional stigma rooted in both their criminal record and the violation of traditional gender roles that cast women as moral anchors and primary caregivers (Inside Stories, 2023). This dual layer of social rejection—often exceeding that experienced by men—makes familial reintegration particularly challenging, as women struggle with the guilt of ambiguous loss of their children and the potential social abandonment by their family units, the very support network critical for desistance (Arditti & Few, 2008; UN Women, 2022). Consequently, while the Therapeutic Community Modality Program (TCMP) is a primary rehabilitation tool, its effectiveness against recidivism must be critically examined in light of these gender-specific hurdles, which include limited access to gender-sensitive trauma care and lack of competitive, formal employment opportunities upon release (DIGNITY, 2017). Focusing exclusively on the experiences within the Lucena City District Jail Female Dormitory, this study offers a unique and localized contribution by empirically investigating whether participation in the TCMP significantly buffers the re-offender rate among female PDL, thereby providing the Bureau of Jail Management and Penology (BJMP) with gender-disaggregated, evidence-based data crucial for refining post-release support mechanisms in the CALABARZON region.

In the Philippines, the Bureau of Jail Management and Penology (BJMP) has recognized the importance of therapeutic interventions in its jail management strategies. The Therapeutic Community Modality Program (TCMP) has been introduced in various facilities as a rehabilitative tool designed to foster behavioral change, promote mental health recovery, and encourage pro-social behavior among PDLs (BJMP, 2023).

The Therapeutic Community Modality Program (TCMP), as implemented by the Bureau of Jail Management and Penology (BJMP), is a structured rehabilitation framework that integrates psycho-social interventions to foster personal transformation among Persons Deprived of Liberty (PDLs). The program typically includes five core components: (1) Morning Meeting, which sets the tone for the day through structured announcements, affirmations, and group reinforcement; (2) Encounter Groups, where participants engage in guided group discussions to confront behaviors, provide feedback, and promote emotional awareness; (3) Skills Training Sessions, focused on developing life skills such as anger management, communication, decision-making, and relapse prevention; (4) Work Therapy, which instills discipline and responsibility through assigned daily roles that simulate real-world work settings; and (5) Spiritual and Values Formation Activities, designed to encourage moral reflection, forgiveness, and self-acceptance as part of one's healing and reintegration journey. These components work synergistically to foster accountability, emotional regulation, and a renewed sense of identity among PDLs. By incorporating consistent routines, peer support, and therapeutic reflection, TCMP establishes a holistic environment conducive to meaningful behavioral change. Understanding the depth and function of these components will be vital in assessing TCMP's effectiveness, particularly in preparing female PDLs for life beyond incarceration and reducing their likelihood of re-offending. (Bureau of Jail Management and Penology [BJMP], 2023).

Despite the promising objectives of TCMP, research on its actual effectiveness, particularly its influence on the re-offender rate, remains limited. Most existing evaluations focus on anecdotal success stories, short-term behavioral improvements inside jail facilities, or program completion rates without tracking post-release outcomes (Aguilar et al., 2021). Moreover, there is a noticeable gap in studies targeting female PDLs, a subgroup that often faces distinct reintegration challenges related to stigma, family separation, and economic vulnerability (Guevara et al., 2023). In addition, localized studies specifically investigating TCMP's impact within provincial jails, such as the Lucena City District Jail Female Dormitory, are scarce. This lack of evidence makes it difficult to measure the true rehabilitative value of TCMP and to advocate for its sustained or expanded implementation.

The need for this study arises from the critical necessity to generate empirical data that can inform correctional policy and practice. Understanding whether TCMP effectively reduces the re-offender rate among female PDLs is vital for crafting responsive, gender-sensitive rehabilitation programs. Furthermore, it offers the potential to refine existing TCMP structures, ensuring that they meet the unique psychosocial needs of female detainees and truly contribute to their long-term reintegration. By focusing on the

Lucena City District Jail Female Dormitory, this study addresses both the gender-specific and location-specific gaps in the current body of knowledge, contributing not only to academic discourse but also to practical reforms in Philippine jail management. In doing so, it supports the broader goals of restorative justice, community safety, and sustainable rehabilitation outcomes for formerly incarcerated women.

2. MATERIALS AND METHODS

This study employs descriptive evaluative research design. Descriptive evaluation allows the researcher to systematically capture and analyze the outcomes associated with the Therapeutic Community Modality Program (TCMP) among female Persons Deprived of Liberty (PDLs) who had been released from the Lucena City District Jail Female Dormitory. Through this design, the study will describe the behavioral changes, track incidences of re-offending, and assess the post-release reintegration experiences of former PDLs. It will also evaluate the perceive effectiveness of TCMP based on the data that will be gathered from official jail records, interviews, and secondary documentation. This approach does not involve manipulation of variables but is focused on presenting the actual conditions and post-program outcomes of the respondents to provide an empirical basis for assessing TCMP's impact.

Research Locale and Participants

The study was conducted at the Lucena City District Jail Female Dormitory, located in Barangay Ibabang Dupay, Dalahican Road, Lucena City, Quezon Province, Philippines. The Lucena City District Jail is operated under the Bureau of Jail Management and Penology (BJMP) and primarily housed female Persons Deprived of Liberty (PDLs) undergoing trial or serving short- term sentences. The facility is among those that had implemented the Therapeutic Community Modality Program (TCMP) as part of its rehabilitation efforts. It offers a structured environment where daily routines, group therapy sessions, skills training, and peer support systems are integrated into the inmates' incarceration period. The choice of this locale is justified by its active Therapeutic Community Modality Program (TCMP) implementation, its manageable population size, and the availability of accessible post-release records needed for assessing re-offender rates.

The population of this study consisted of former female PDLs confined at the Lucena City District Jail Female Dormitory and who completed the TCMP between the years 2022 and 2024. To ensure the relevance and validity of the findings, only those who had been released for at least one year at the time of data collection will be considered, as this period allowed for the observation of potential re-offending behavior.

Instruments

The primary research instruments for this study included a researcher-developed questionnaire, a semi-structured interview guide, and a document analysis checklist. For Specific Question No. 1, which examines the behavioral rehabilitation of Persons Deprived of Liberty (PDLs) in terms of personal behavior, attitudes, and decision-making, a structured questionnaire was designed to quantitatively assess the influence of the Therapeutic Community Modality Program (TCMP) during incarceration. The questionnaire items were aligned with the three behavioral dimensions under study and utilized a four-point Likert scale for self-assessment of behavioral change. The instrument underwent expert validation by three specialists in psychology, penology, and research methodology to ensure content validity, clarity, and relevance, followed by a pilot test to establish reliability using Cronbach's alpha. The semi-structured interview guide, meanwhile, was validated by two qualitative research experts and used to elicit in-depth reflections from purposively selected former PDLs who completed the TCMP between 2022 and 2024. Inclusion criteria required participants to have completed the TCMP and been released for at least six months, while those with ongoing legal proceedings or unresolved behavioral therapy were excluded. Interview data were transcribed verbatim and coded through thematic analysis using both inductive and deductive approaches, with initial open coding followed by axial categorization to identify recurring patterns. Ethical approval for the study was granted by the Institutional Research Ethics Committee, and informed consent was obtained from all participants. To safeguard participant well-being, debriefing sessions were conducted after interviews, and psychological support referrals were made available to address any emotional distress arising from the recollection of incarceration experiences.

Data Collection

Prior to data collection, ethics clearance was obtained from the relevant institutional review board. Informed consent was secured from all respondents, and confidentiality was ensured. Participant well-being was monitored during and after data collection. The data gathered through the researcher-made questionnaire are analyzed using descriptive statistical techniques, primarily the Weighted Mean, to determine the extent of behavioral rehabilitation among former female Persons Deprived of Liberty (PDLs) who completed the Therapeutic Community Modality Program (TCMP). The Weighted Mean will be applied to assess respondents' self-reported changes in personal behavior, attitudes, and decision-making. A four-point Likert scale is used, with verbal interpretations corresponding to each mean range to determine the overall effectiveness of TCMP based on participant perception.

For the qualitative data obtained from semi-structured interviews, thematic analysis was conducted. Responses were transcribed, coded, and categorized into themes that reflected common experiences, challenges, and perceptions related to

behavioral change and post-release reintegration. This method allows the researcher to uncover meaningful patterns and insights that complemented the quantitative findings.

In addition, the data from the document analysis checklist was summarized through frequency counts and percentage distributions to compare the re-offender rates of former PDLs who completed the TCMP and those who did not. This comparative analysis provides empirical support for evaluating the program's impact on post-release outcomes.

The combination of quantitative and qualitative analyses ensured a comprehensive understanding of the TCMP's effectiveness in promoting rehabilitation and reducing recidivism among the study's target population.

Data Analysis

Data from the researcher-made questionnaire were coded, tabulated, and analyzed using both descriptive and inferential statistics. Descriptive measures such as frequency, percentage, weighted mean, and standard deviation were applied to summarize behavioral rehabilitation indicators among TCMP completers and non-completers. To determine whether there were significant differences in re-offender rates and behavioral outcomes between the two groups, inferential analyses—specifically the independent t-test and chi-square test—were employed. These tools provided statistical validation for claims of program effectiveness and measurable behavioral change.

Responses from the semi-structured interviews were transcribed, coded, and thematically analyzed to identify recurring patterns, themes, and insights reflecting participants' lived experiences, rehabilitation progress, and post-release reintegration. Data from the document analysis checklist were systematically reviewed and categorized to support or contrast the quantitative findings.

The integration of descriptive, inferential, and qualitative analyses allowed for triangulation of results, strengthening the reliability and depth of the study's conclusions regarding the impact of the Therapeutic Community Modality Program (TCMP) on re-offending and behavioral rehabilitation.

3. RESULTS AND DISCUSSION

Quantitative Findings and Interpretation

1. Participation in the Therapeutic Community Modality Program (TCMP) Affecting the Behavioral Rehabilitation of Persons Deprived of Liberty (PDL) During their Incarceration

   1.1 Personal Behavior

Table 1
Effect of Therapeutic Community Modality Program to Personal Behavior

Variable	Weighted Mean (WM)	Verbal Interpretation
1. TCMP affected how I managed my impulses and reactions.	3.12	Agree
2. My daily routines and self-discipline were positive influence by TCMP	3.52	Strongly Agree
3. TCMP helped me express my emotions and control negative behaviors.	3.52	Strongly Agree
4. I showed noticeable improvement in how I responded to conflict situations after joining TCMP	3.84	Strongly Agree
OVERALL WEIGHTED MEAN	3.50	Highly Effective

As shown in Table 1, the quantitative mean scores were consistent with coded qualitative responses describing improved self-discipline, impulse control, and emotional regulation. These emergent themes—'self-management,' 'patience,' and 'constructive coping'—supported the statistical interpretation that TCMP participation enhanced behavioral maturity.

The data indicated that the Therapeutic Community Modality Program (TCMP) had a highly effective impact on the

personal behavior of female Persons Deprived of Liberty (PDLs), with an overall weighted mean of 3.50. Respondents reported noticeable improvements in managing conflict, emotional control, and self-discipline during incarceration. The highest-rated item (mean = 3.84) reflected participants' enhanced ability to handle conflict situations, while strong ratings were also observed for emotional regulation and adherence to routines. Although impulse control scored slightly lower (mean = 3.12), it remained within the "highly effective" range. These results align with prior studies (Martin et al., 2022; Holtfreter & Wattanaporn, 2023) highlighting the role of therapeutic communities in promoting emotional regulation, discipline, and pro-social behavior. The findings also support Bandura's Social Learning Theory (1977), emphasizing learning through observation, reinforcement, and modeling. Overall, TCMP significantly contributed to the development of self-regulation and behavioral maturity among the participants.

1.2 Attitudes

Table 2

Effect of Therapeutic Community Modality Program to Attitudes

Variable	Weighted Mean (WM)	Verbal Interpretation
1. TCMP affected my attitude toward accepting rules and rehabilitation.	3.74	Strongly Agree
2. I became more open-minded and respectful as a result of my TCMP experience.	3.68	Strongly Agree
3. TCMP made me reflect more deeply on the consequences of my past actions.	3.92	Strongly Agree
4. The program influenced me to view life and rehabilitation more positively.	3.92	Strongly Agree
OVERALL WEIGHTED MEAN	3.82	Highly Effective

Table 2's results on openness and positive outlook were reinforced by coded narratives emphasizing 'acceptance of rehabilitation' and 'hopeful self-reflection.' These themes were derived from statements in which participants described viewing life and rehabilitation more positively, validating the numerical findings.

The data showed that the Therapeutic Community Modality Program (TCMP) had a highly effective influence on the attitudes of female Persons Deprived of Liberty (PDLs), with an overall weighted mean of 3.82. Respondents reported significant positive changes in outlook and mindset, particularly in reflecting on past actions and viewing rehabilitation more positively (mean = 3.92). The program also fostered greater openness, respect for authority, and acceptance of rehabilitation (means ranging from 3.68 to 3.74). These findings align with studies by Caravaca-Sánchez and García-Jarillo (2022) and García and Ortega (2022), which emphasize that attitude transformation occurs when emotional reflection and pro-social learning are integrated into rehabilitation. Consistent with Bandura's Social Learning Theory (1977), the results highlight how group-based modeling and reinforcement can reshape beliefs and behaviors. Overall, TCMP was highly effective in promoting attitudinal growth, self-awareness, and readiness for reintegration among female PDLs.

1.3 Decision-Making

Table 3

Effect of Therapeutic Community Modality Program to Decision- Making

Variable	Weighted Mean (WM)	Verbal Interpretation
1. TCMP affected how I thought through the consequences of my decisions.	3.64	Strongly Agree
2. I became more cautious and intentional in my actions during incarceration.	3.82	Strongly Agree
3. The program helped me develop a mindset focused on making better choices.	3.74	Strongly Agree
4. TCMP influenced me to make decisions that aligned with personal growth and responsibility.	3.56	Strongly Agree
OVERALL WEIGHTED MEAN	3.69	Highly Effective

In Table 3, the high weighted means on intentional and responsible choices aligned with qualitative codes such as 'careful planning,'awareness of consequences,' and 'goal setting.' This coding confirmed that decision-making improvement observed quantitatively was also reflected in participants' personal accounts.

The data indicated that the Therapeutic Community Modality Program (TCMP) had a highly effective impact on the decision-making abilities of female Persons Deprived of Liberty (PDLs), with an overall weighted mean of 3.69. Participants reported becoming more cautious, intentional, and reflective in their actions, demonstrating improved judgment and critical thinking. The highest-rated item (mean = 3.82) showed heightened awareness and control over personal choices, while other indicators reflected greater alignment between decisions, personal growth, and responsibility. These findings support the conclusions of Shukla and Mansoor (2023) and Matos and Marques (2024), who emphasized that therapeutic interventions and cognitive training enhance inmates' reasoning and self-regulation. Consistent with Bandura's (1977) Social Learning Theory, the results suggest that TCMP fosters internalized learning through modeled behavior. Overall, the program was found to be highly effective in strengthening decision-making—an essential component of rehabilitation and long-term desistance from crime.

2. Comparative Re-Offender Rate Between PDLs Who Completed the TCMP And Those Who Did Not At The Lucena City District Jail Female Dormitory

Table 4

Comparative Re-Offender Rate Between PDLs Who Completed the TCMP and Those Who Did Not

Group	Total Released	Re- Offended	Re-Offender Rate (%)
Completed TCMP	20	2	10%
Did Not Complete/Join TCMP	20	6	30%

The comparative data in Table 4 corresponded with emergent themes like 'readiness for reintegration' and 'commitment to change,' illustrating how behavioral and attitudinal gains from TCMP translated into lower re-offending

outcomes.

The comparative analysis of re-offender rates between two groups of female Persons Deprived of Liberty (PDLs) released from the Lucena City District Jail Female Dormitory over a two-year span (2022–2024) revealed a marked difference in post-release outcomes. As shown in the data, among the 20 former PDLs who completed the Therapeutic Community Modality Program (TCMP), only 2 re-offended, resulting in a re-offender rate of 10%. In contrast, 6 out of 20 individuals who did not complete or participate in TCMP re-offended, reflecting a re-offender rate of 30%.

These findings suggested that participation in TCMP may have significantly contributed to reducing the likelihood of re-offending. This aligns with the results presented in Question No. 1, where participants reported that TCMP had a highly effective impact on their personal behavior (WM = 3.50), attitudes (WM = 3.82), and decision-making (WM = 3.69). Respondents indicated that TCMP helped them manage conflict, develop a positive outlook, make responsible decisions, and reflect more deeply on the consequences of their actions—all of which are protective factors against recidivism.

The results echo the findings of Duwe and Kim (2022) and Pratt and Turanovic (2023), who emphasized the importance of structured, evidence-based rehabilitation programs in reducing recidivism. The therapeutic community structure of TCMP, which includes daily group engagement, peer support, and cognitive-emotional processing, provides a social learning environment consistent with Bandura's Social Learning Theory (1977)—where behavior change is acquired through observation, modeling, and reinforcement. In conclusion, the lower re-offender rate among TCMP completers offered empirical support for the effectiveness of the program in promoting behavioral transformation and post-release success, reinforcing the value of therapeutic community approaches in female correctional rehabilitation.

3. Based on the findings, what evidence-based reintegration framework was developed to strengthen post-release support mechanisms for former PDLs who completed the TCMP?

Based on the study's findings, an evidence-based TCMP-Based Reintegration Support Framework (TRSF) was developed to address the behavioral and systemic needs of former female Persons Deprived of Liberty (PDLs) who completed the Therapeutic Community Modality Program (TCMP). Results showed that TCMP had a highly effective impact on personal behavior (WM = 3.50), attitudes (WM = 3.82), and decision-making (WM = 3.69), forming a strong foundation for successful reintegration. Comparative data further revealed that TCMP completers had a lower re-offender rate (10%) than non-participants (30%), demonstrating the program's effectiveness in reducing recidivism. However, findings also underscored the need for continuous post-release support in decision-making, employment, psychological stability, and community acceptance. To sustain these gains, the TRSF was designed around four core domains—Behavioral Continuity, Relational Support, Socioeconomic Empowerment, and Community Linkages—to ensure continuity of care beyond incarceration. The framework serves as both a policy recommendation and practical model that the Bureau of Jail Management and Penology (BJMP) and local government units can adopt to institutionalize structured, gender-responsive post-release rehabilitation systems.

These findings resonate with global rehabilitation standards such as the United Nations Standard Minimum Rules for the Treatment of Prisoners (Nelson Mandela Rules) and the United Nations Rules for the Treatment of Women Prisoners and Non-custodial Measures for Women Offenders (Bangkok Rules), both of which emphasize individualized rehabilitation, social reintegration, and gender-responsive programming. The TCMP's emphasis on peer support, behavioral therapy, and structured daily engagement reflects these international frameworks by promoting accountability and humane correctional practices.

Nonetheless, this study is subject to certain limitations. The sample size of 40 participants restricts generalizability, and the one-year observation period limits conclusions about long-term behavioral stability. Moreover, self-report data from former PDLs may involve recall or social desirability bias. Future research should include longitudinal follow-up and larger, multi-site samples to strengthen the evidence base and validate the TCMP's long-term effects.

4. CONCLUSION

The study concluded that the Therapeutic Community Modality Program (TCMP) exerts a significant positive impact on behavioral rehabilitation and recidivism reduction among female Persons Deprived of Liberty (PDLs) in the Lucena City District Jail Female Dormitory. Participants demonstrated marked improvements in self-control, emotional regulation, discipline, and decision-making, reflecting deeper openness to rehabilitation and a more constructive life outlook. The notably lower re-offender rate among TCMP completers (10%) compared to non-completers (30%) within the 2022–2024 cohort reinforces the program's effectiveness in promoting lasting behavioral change.

Building on these findings, the TCMP-Based Reintegration Support Framework (TRSF) is proposed as an actionable policy tool to extend the program's transformative potential beyond confinement. The TRSF is anchored on four interrelated domains: behavioral continuity, relational support, socioeconomic empowerment, and community linkages. Each domain is supported by clear, implementable mechanisms designed to ensure sustained rehabilitation—through continuous counseling,

family engagement, livelihood training, and coordinated partnerships with community and government institutions. Collectively, these elements promote holistic reintegration by addressing both internal transformation and external support systems.

However, the study acknowledges certain limitations, such as its focus on a single correctional facility and the limited longitudinal follow-up on post-release outcomes. These constraints suggest caution in generalizing findings to other settings.

Future research should examine the long-term impacts of TCMP participation across varied correctional contexts, incorporate male and juvenile PDL populations, and explore the adaptability of the TRSF framework in different institutional and cultural environments. Further inquiry into stakeholder implementation challenges and cross-agency collaboration models will also enhance the framework's practical applicability.

In summary, the TCMP demonstrates strong potential not only as a rehabilitative intervention but also as a foundation for sustainable reintegration policy. The TRSF provides a structured pathway to institutionalize rehabilitation gains, while future research can deepen understanding of how therapeutic communities can evolve into comprehensive reintegration ecosystems.

Table 5

Proposed Evidence-Based Framework: TCMP-Based Reintegration Support Framework (TRSF)

	Domain	Evidence-Based Support Mechanism
1.	Behavioral Continuity	Regular peer-led check-ins, cognitive-behavioral sessions, and access to post-release counseling services to sustain behavioral gains.
2.	Relational Support	Family reintegration counseling, parenting support, and conflict-resolution mechanisms to rebuild trust and social bonds.
3.	Socioeconomic Empowerment	Skills certification, job placement partnerships, and financial literacy training for sustainable reintegration.
4.	Community Linkages	Collaboration with LGUs, NGOs, and faith-based organizations to provide housing, mentoring, and social support systems.

ETHICAL CONSIDERATION

This study strictly observe ethical standards in the conduct of research involving human participants. Prior to data collection, the researcher secured a formal approval from the Bureau of Jail Management and Penology (BJMP) and the administration of the Lucena City District Jail Female Dormitory. The study protocol, including its objectives, instruments, and participant rights, was also be reviewed and cleared by an accredited Ethics Review Committee to ensure compliance with ethical research guidelines.

All participants are informed of the study's purpose, scope, and procedures before data collection commences. They are assured of the voluntary nature of their participation and are provided with an informed consent form only those who give written consent were allowed to participate in the questionnaire and interview phases of the study. Participants were also informed of their right to withdraw from the study at any point without penalty or consequence.

Confidentiality and anonymity were strictly upheld. Personal identifiers were excluded from the data collection tools, and responses were encoded using assigned participant codes. All data—including completed questionnaires, interview transcripts, and jail documents—were securely stored and accessed only by the researcher. The findings were reported in aggregate form to prevent the identification of individual respondents.

The study ensured compliance with the Data Privacy Act of 2012 (Republic Act No. 10173), and no psychological, legal, or emotional harm was inflicted upon the participants. Sensitivity to the vulnerable status of former PDLs was observed throughout the research process. All ethical measures were implemented to ensure that the dignity, rights, and welfare of all respondents were protected.

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Research Article

The Filipino family in transition: DINKS and the family paradigm shift in Northern Mindanao, Philippines

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ABSTRACT

This study examined the lives of Filipino Double Income No Kids (DINK) couples in Northern Mindanao who challenge dominant cultural expectations in a society where familialism and childbearing are strongly linked to moral worth, legacy, and social identity. Utilizing a mixed methods approach, comprising a regional online survey and in-depth interviews for cross-case analysis with select DINK couples, the research investigates public awareness, motivations, social pressures, and envisioned futures of those who consciously choose a child-free marital life. Quantitative findings reveal that 58.5% of the 215 respondents express a willingness to embrace the DINK lifestyle, suggesting a potential shift in reproductive intentions among younger Filipino cohorts. However, this emerging openness coexists with a prevailing cultural stigma. Qualitative data further uncover three major themes: (1) the negotiation of identity and autonomy under social and familial pressure; (2) strategies of disengagement or confrontation toward unsolicited comments on childlessness; and (3) long-term planning for aging, including the formation of alternative support systems outside traditional family structures. Anchored in Anthony Giddens' Theory of Structuration, the study frames these couples' decisions as forms of reflexive agency, challenging and reshaping normative family scripts. This study foregrounds how kinship, reproduction, and social belonging are reimagined within the Philippine context. It situates DINK couples in the broader cultural negotiations of familial expectations, intergenerational obligations, and the moral economy of family life.

Keywords: DINK, Child-free, Couples, Reproductive Choice, Filipino Family

1. INTRODUCTION

In the heart of every Filipino household lies an expectation, an unspoken but powerful rhythm of life that associates marriage with childbearing, of homes echoing with children's laughter, and of dreams anchored in future generations. For decades, this rhythm has been the foundation of Filipino family identity, sustained by tradition, religion, and the deeply rooted belief that children are not only blessings but also bearers of legacy. But what happens when couples choose to move to a different beat?

Across bustling cities and quiet provinces alike, an emerging group of Filipino couples are rewriting what it means to be a family. These are the Double Income No Kids (DINK) couples, couples who, despite societal pressures, opt to prioritize career growth, financial stability, personal freedom, and at times, the weight of practical realities over the traditional path of parenthood. Their stories and experiences are powerful acts of resistance in a society where familial expectations run deep. The Filipino family, anchored in collectivist values and shaped by a strong sense of intergenerational responsibility, has always been resilient in the face of change. Yet as urbanization intensifies, the cost-of-living surges, and individual aspirations become more pronounced, new family patterns are surfacing, patterns that no longer revolve around children, but around choice.

Globally, the DINK (dual-income, no kids) lifestyle has gained traction in Western societies such as Germany, the U.S., and Japan, where individual autonomy and self-realization are more culturally embedded (Lamanna et al., 2018). In the Asia-Pacific region, however, similar trends are emerging, albeit with distinct socio-cultural contours. For example, in Singapore, married couples without children are becoming increasingly visible: one recent study reported that 15% of resident ever-married women aged 40-49 have no children, and many cited lifestyle preferences and work-life balance as key influences (Tan, 2025). Meanwhile,

in South Korea, roughly one in three workers in their 20s and 30s stated they had no intention of having children, attributing this decision to economic burdens and desires for personal autonomy (Kim, 2020). Turning to the Philippines, where Catholicism and communal identity remain central (Medina, 2015), the decision by couples to remain child-free may still feel like a radical departure. Such couples are not simply economic units; they are actively challenging the notion that family is incomplete without offspring. While financial considerations often play a role, the decision to embrace the DINK lifestyle also signals how modern Filipino couples negotiate the tension between respect for tradition and the pursuit of self-determination. Here, DINK couples are more than just economic units; they are challenging the long-held belief that family is incomplete without offspring. Their decision is not simply a matter of economics, though financial considerations often play a role. This lifestyle is a reflection of how modern Filipino couples are negotiating the space between honoring tradition and honoring themselves.

This study centers the voices of these couples, their motivations, their struggles, their aspirations. It is about the intimate decisions made behind closed doors and the social negotiations that follow. Why do some Filipino couples choose to live without children? How do they navigate the persistent tug of cultural and familial expectations? And how does their lifestyle challenge or coexist with the values deeply entrenched in Filipino society? By exploring these questions, this research does not seek to prescribe a new ideal. Instead, it aims to humanize a choice that, for many, in the Philippine context, remains misunderstood or quietly judged. In giving space to the narratives of DINK couples, we make room for a broader conversation, one that embraces the complexity of love, partnership, and the ever-evolving idea of what it means to build a life together.

While the Double Income No Kids (DINK) lifestyle is widely accepted in Western societies, where autonomy is a celebrated value, its emergence in the Philippines carries a different weight. In the Philippines, to remain child-free is not simply to resist societal norms, but to redefine them. There remains a deep gap in the understanding of this lifestyle within collectivist cultures. Despite the growing visibility of child-free couples in urban spaces, public discourse continues to frame marriage as a journey toward procreation, and children as the natural fulfillment of that journey.

When Filipino couples decide otherwise, the questions they face aren't merely logistical —they are existential. "Why don't you want children?" "Don't you worry about who will take care of you when you grow old?" "What will your family think?" These questions reflect more than curiosity; they mirror the cultural weight that defines parenthood as both a duty and a form of belonging. In choosing the DINK lifestyle, Filipino couples often confront these expectations, navigating complex terrains of guilt, defiance, and self-determination. This study asks: What lies beneath this choice? What values, pressures, aspirations, and fears animate it? And more importantly, how does this lifestyle unfold in a society still defined by its deep reverence for family continuity?

This study aims to explore the socio-cultural, economic, and personal motivations behind the adoption of the Double Income No Kids (DINK) lifestyle among Filipino couples. By examining this phenomenon, the study seeks to provide insights into the evolving definitions of family and individual aspirations within a predominantly collectivist and religious society. Specifically, this study aims to: (1) Examine public awareness, perceptions, attitudes, and the future trends of the Double Income No Kids lifestyle. (2) Identify the factors driving Filipino couples to embrace the DINK lifestyle. (3) Describe the challenges and experiences of Filipino DINK couples as they pursue a child-free lifestyle within a predominantly collectivist society. (4) Examine how Filipino DINK couples navigate social expectations, family pressures, and cultural norms that traditionally emphasize parenthood and familial continuity. And lastly, (5) Explore the long-term aspirations of Filipino DINK couples, particularly their perspectives on aging and envisioned future life chances.

To understand the choice to live without children in a society where children are considered indispensable, this study draws on Anthony Giddens' Theory of Structuration, a framework that acknowledges the tension between social structures and personal agency. Giddens' theory proposes that individuals are not merely passive products of their culture. Rather, they are capable of interpreting, negotiating, and even reshaping the very norms that once shaped them. For Filipino DINK couples, this means that while traditional expectations may guide their lives, they are also capable of pushing against these boundaries, asserting new family ideals that prioritize well-being, autonomy, and mutual growth.

The duality of structure, the idea that structures both constrain and enable action, is evident in how these couples live. Social norms may whisper that a family must have children, but modernity whispers back with different possibilities. Couples are not only listening, they are choosing. This framework also introduces the concept of reflexivity, where individuals constantly examine and adjust their lives in response to societal shifts. Filipino DINK couples, exposed to global ideas and modern pressures, engage in ongoing self-evaluation. They consider their choices in light of religious teachings, familial expectations, financial realities, and their own aspirations, often reinterpreting these frameworks in the process.

2. MATERIALS AND METHODS

This chapter presents the methodological framework for exploring the experiences of Double Income No Kids (DINK) couples residing in Northern Mindanao. It outlines the proposed research design, sampling procedure, data collection methods, and ethical considerations that will be observed during the study. Each section in this chapter provides a detailed description of the methods used to ensure a rigorous and ethically sound approach to gathering and analyzing the data for inquiry.

Exploring the lifestyle experiences of double-income couples without kids (DINKs) necessitates a descriptive research design and a qualitative approach. This study employed a qualitative research design, specifically utilizing a cross-case analysis approach, while incorporating triangulation to ensure the robustness and validity of the findings.

Triangulation is achieved through the integration of multiple data sources and methods, including survey questionnaires administered via Google Forms and in-depth interviews. The survey served as a foundational step, collecting demographic profiles,

lifestyle motivations, and challenges, which guides the subsequent qualitative phases. Cross-case analysis was systematically compared and contrast the experiences of multiple participants to identify patterns, variations, and recurring themes, offering deeper insights into the complexities of the DINK lifestyle. By having this research design, this study provides a comprehensive understanding of the DINK phenomenon, particularly in the Philippine context, making it a significant contribution to this emerging area of research.

Specifically, in drawing a comprehensive picture of the experiences of DINK couples in the Philippines, the researcher conducted a profiling activity using Google Form. This form was opened for responses from DINK couples across the Mindanao. The profiling aimed to gather preliminary information such as demographic details, years of cohabitation, professional backgrounds, and the motivations, benefits, and challenges associated with adopting the DINK lifestyle. This step is crucial for refining the research data and ensuring diverse social representation and narratives, given that this study is exploratory and among the first of its kind in the Philippine context.

Following the profiling, in-depth interviews were conducted to uncover participants' motivations, lifestyle choices, benefits, and the challenges or adjustments they face as DINK couples. This method provides rich and detailed accounts of their lived experiences. The qualitative design emphasizes open-ended, conversational communication, allowing for thorough probing and follow-up questioning based on participants' responses. The cross-case analysis enabled the researcher to examine similarities and differences among participants' experiences, offering a comprehensive understanding of the DINK lifestyle. By analyzing the data across multiple cases, the study aimed to discover broader themes and insights that highlight how DINK couples navigate and rationalize their lifestyle choices.

Research Locale and Participants

The study was conducted in select cities in Northern Mindanao, namely: Cagayan de Oro City, Iligan City, Malaybalay City, and Valencia City. Northern Mindanao, located in the southern Philippines, is a vibrant and diverse region ideal for conducting sociological research on the lifestyles of double-income couples without children (DINKs). Comprising five provinces—Bukidnon, Camiguin, Lanao del Norte, Misamis Occidental, and Misamis Oriental—Northern Mindanao also includes nine cities, each offering unique cultural and socio-economic landscapes. These cities are Cagayan de Oro, Iligan, Malaybalay, Valencia, Gingoog, El Salvador, Ozamiz, Tangub, and Oroquieta.

Northern Mindanao is strategically located, with easy access to both Mindanao's central areas and coastal regions, making it a hub of cultural, economic, and social activity. The region is known for its blend of urban growth and natural beauty. Cities like Cagayan de Oro and Iligan are bustling centers of commerce and industry, while cities like Malaybalay and Valencia provide a more serene, mountainous backdrop (Department of Tourism, 2018). This mix of urban and rural settings offers a well-rounded view of how DINK couples in various environments experience and adapt to this lifestyle.

With that, the nature of Northern Mindanao is a blend of modernity and tradition. Cities like Cagayan de Oro, the regional center, are known for their progressive infrastructure and vibrant nightlife, making them comparable to more urbanized areas in the Philippines. On the other hand, cities like Valencia and Malaybalay are surrounded by scenic landscapes, with agricultural and eco-tourism industries playing vital roles in their economies. The diversity of these locales makes Northern Mindanao an ideal area to study how the DINK lifestyle is shaped by varying socio-economic and environmental contexts.

Northern Mindanao's unique combination of bustling cities and natural landscapes offers an enriching perspective on modern Filipino life. The region's cities represent a cross-section of both modernized and traditional Filipino values, potentially influencing how DINK couples approach their lifestyle, values, and personal goals. With its urban centers and close-knit communities, Northern Mindanao provides a compelling backdrop for understanding how the DINK lifestyle fits within Philippine society today.

To address the first research objective, the study employed an online survey distributed through widely used social media platforms such as Facebook, X (formerly Twitter), and Instagram. The questionnaire remained accessible to individuals aged 18 and above residing across Mindanao. A total of *215 respondents* participated in the survey, providing insights relevant to the study's initial objective. For the subsequent objectives (2 to 5), 10 couples, as shown in table 1, were selected using a referral-based sampling method, where early respondents suggested others who fit the criteria. This strategy, often called snowball sampling (Biernacki & Waldorf, 1981), is particularly useful in engaging individuals from specific or less-visible groups.

Key informant interviews were conducted with ten DINK (Double Income No Kids) couples, identified through recommendations by the initial participants. Both partners in each couple were interviewed—sometimes together, and other times separately, depending on their availability. These interviews offered deeper insights into their shared lifestyle choices and personal perspectives.

Key informants were selected based on the following criteria:
1.   They identify themselves as DINK (Double Income, No Kids) couples.
2.   They have been living together as a couple for at least five (5) years.
3.   They are residents of Northern Mindanao.

Table 1
Summary of Informants' Demographic Profile

Informants	Professions	Years of	Income Range	Address

	Marriage			
Couple 1	Government Employees	6 years	70,000 – 100,000	Valencia City, Bukidnon
Couple 2	Government Employees	15 years	80,000 – 120,000	Malaybalay City, Bukidnon
Couple 3	University Professors	6 years	100,000 – 160,000	Valencia City, Bukidnon
Couple 4	Government Employee; Entrepreneur	18 years	80,000 –120,000	Cagayan de Oro City, Misamis Oriental
Couple 5	Administrative Officer; Chef	12 years	80,000 – 150,000	Iligan City, Lanao del Norte and Valencia City, Bukidnon
Couple 6	University Instructors	5 years	60,000 – 80,000	Malaybalay City, Bukidnon
Couple 7	Government Employee; Anglican Priest	8 years	70,000 – 100,000	Iligan City, Lanao del Norte
Couple 8	Entrepreneurs	7 years	150,000 – 200,000	Cagayan de Oro City, Misamis Oriental
Couple 9	University Professors	9 years	150, 000 – 200,000	Malaybalay City, Bukidnon
Couple 10	IT Specialist; Virtual Assistant	5 years	150, 000 – 200,000	Cagayan de Oro City, Misamis Oriental

Through this method, the study aimed to gain in-depth insights into the DINK lifestyle in Northern Mindanao, with the referrals enabling the researcher to identify more individuals who shared the specific characteristics under investigation.

Instruments

An interview guide, a profiling questionnaire, and a google form survey questionnaire for the public's perception of the DINK lifestyle were employed in this study, with all these instruments structured to align closely with the research objectives. The interview guide is a carefully designed list of high-level topics and specific questions aimed at exploring the experiences and perspectives of DINK (Double Income No Kids) couples in Northern Mindanao. Each question within the guide is formulated to elicit detailed responses that address the study's key themes, such as lifestyle choices, challenges, and motivations of DINK couples. This structured yet flexible approach allows the interviewer to maintain consistency across interviews while enabling informants to freely share their insights and experiences in depth.

Data Collection

A profiling questionnaire was utilized as an initial step to gather key demographic and background information from potential participants, the profiling questionnaire seeks to capture data on age, gender, location, years of cohabitation, professional backgrounds, and reasons for choosing the DINK lifestyle. The questionnaire also ensures diverse representation and will serve as a tool to refine the participant selection process, ensuring the research achieves saturation and represents various perspectives. Together, these instruments enabled the study to capture both broad demographic trends and qualitative insights into the lives of DINK couples.

Additionally, a Google Form survey questionnaire was utilized to assess the public's perception of the Double Income No Kids (DINK) lifestyle. The survey aimed to capture a diverse range of perspectives by reaching respondents across various demographics and geographical regions. The questionnaire consists of closed-ended questions, primarily in a "Yes" or "No" format, focusing on areas such as awareness, family and social dynamics, and societal impact of the DINK lifestyle. Questions are structured to elicit responses that reflect the general public's level of understanding, attitudes, and beliefs regarding DINK couples and their lifestyle choices.

The use of Google Forms ensures accessibility and efficiency in data collection, allowing respondents to participate at their convenience. Data were analyzed statistically to identify trends and common perceptions. These insights were triangulated with the qualitative data gathered from in-depth interviews with DINK couples, ensuring a comprehensive understanding of the topic.

By integrating the results of the Google Form survey with the qualitative findings, this study contributed meaningful insights into the evolving family structures in the Philippines and their implications on societal norms and public policies.

Data Analysis

In analyzing the data collected, a thematic analysis through Axial coding was conducted using computer-aided qualitative data analysis software (CAQDAS). The researcher first transcribed the recorded audio captures from the interviews to ensure all responses were accurately documented. These transcriptions provided a rich dataset for analysis.

Thematic analysis, a method widely used in qualitative research, was applied to identify patterns within the interview data (Braun, V., & Clarke, V., 2006). This approach allowed the researcher to delve into the experiences and perspectives of DINK (Double Income No Kids) couples in Northern Mindanao. Through careful examination, common themes—topics, ideas, and patterns of meaning— that emerged from the responses, offers insight into the unique lifestyle choices, motivations, challenges, and societal perceptions of DINK couples.

For this study, the researcher closely reviewed the data to identify recurring themes. Each theme was analyzed to uncover how Filipino DINK couples perceive and navigate their lifestyle in the context of Northern Mindanao, providing a comprehensive understanding of their experiences and aspirations. To ensure that the data collected reached a point of saturation, the researcher carefully monitored the recurrence and consistency of themes emerging from the interviews. Although the study initially identified ten (10) couples as respondents for the qualitative phase, an additional five (5) couples were interviewed to confirm that no new significant insights, themes, or variations were surfacing in the narratives. These additional interviews served as data saturation subjects, validating that the information gathered from the initial respondents was already comprehensive and representative of the experiences being explored. This methodological step strengthened the reliability and trustworthiness of the findings, as it confirmed that the data had reached thematic sufficiency before finalizing the analysis.

3. RESULTS AND DISCUSSION

In recent years, the DINK (Double Income No Kids) lifestyle has moved from the peripheries of public discourse into the mainstream consciousness, especially among younger, urban-dwelling Filipinos. This study, drawing from the responses of 212 individuals—predominantly young, single, female, and based in Mindanao—uncovers how Filipino society understands, accepts, and reacts to this emerging family configuration. The overwhelming majority of respondents were between 18 and 24 years old (76.4%), female (72.6%), single (89.2%), and child-free (92.5%), providing a generational lens through which the DINK lifestyle is viewed. Their economic standing largely placed them in lower income brackets, consistent with early-career or student populations. Geographically, 97.2% were from Northern Mindanao.

To establish a contextual foundation for the study, a regional survey was first conducted to generate a baseline of public awareness, perceptions, and attitudes toward the Double Income No Kids (DINK) lifestyle, as well as to gauge possible future trends in its acceptance within the region. The survey data provided a broad picture of how this emerging lifestyle is understood and socially positioned among different sectors, directly addressing the study's first objective. Building on these findings, the subsequent objectives focused on exploring the lived narratives of DINK couples themselves. Through in-depth qualitative interviews, the study sought to capture how personal experiences, values, and social contexts shape and are shaped by this lifestyle choice. At times, the discussion cross-references the survey data to emphasize points of convergence or contrast, thereby grounding the qualitative insights within the broader social patterns revealed in the regional survey. This integrated approach not only validates the findings but also highlights that the transitions and transformations in the Filipino family structure are already perceptible within the regional context where the study was conducted.

Public awareness, perceptions, attitudes, and the future trends of the Double Income No Kids Lifestyle

Public awareness of the DINK lifestyle appears to be high. As shown in table 2, More than 84% of respondents recognized the term, and an even greater number understood that childlessness can be an intentional, values-based choice. Many associated this decision with economic pragmatism, career aspirations, and personal freedom. Respondents also widely acknowledged that child-rearing is not a universal life goal, an idea once considered unconventional in Filipino society. Yet, awareness alone does not equate to acceptance.

Table 2
Public Awareness on the DINK Lifestyle (N = 215)

Survey Item	Yes	No	Unsure
Awareness of what the DINK lifestyle entails	84.4%	7.5%	8.0%
Awareness that some couples intentionally choose to remain child-free	85.8%	6.6%	7.5%
Belief that DINK couples enjoy economic benefits	80.2%	10.8%	8.9%
Awareness that DINK couples often prioritize career advancement	83.0%	9.0%	8.0%
Recognition that financial concerns influence the decision not to have children	83.0%	9.0%	8.0%
Awareness that medical conditions (e.g., infertility) can cause childlessness	68.4%	17.5%	14.2%
Belief that DINK reflects a shift from traditional family structures	80.7%	11.3%	8.0%
Awareness that DINK couples have more personal freedom and lifestyle autonomy	89.6%	4.7%	5.7%
Belief that DINK trend may contribute to declining population growth	83.0%	8.5%	8.5%
Perception that the DINK lifestyle affects work-life balance	84.9%	7.1%	8.0%

Personal familiarity with child-free couples	59.4%	33.0%	7.5%
Familiarity with reasons behind the decision to remain child-free	82.5%	7.5%	9.9%

Shown in table 3, 90% believed DINK couples enjoy more freedom and less financial strain, only around half felt that Filipino society is truly accepting of the lifestyle. Social pressure remains a defining factor: 93% of respondents believed DINK couples face familial expectations to have children, while over 76% noted that these couples often face criticism and judgment.

Table 3
Public Knowledge on the Family and Social Dynamics of the DINK Lifestyle (N = 215)

Survey Item	Agree	Disagree	Unsure
DINK couples are more likely to prioritize their careers	81.7%	10.8%	7.5%
DINK couples have fewer responsibilities compared to those with children	64.3%	28.3%	7.5%
DINK couples face pressure from family to have children	93.0%	3.0%	4%
DINK couples experience less family-related stress	54.0%	30.0%	6.0%
Filipino society is generally accepting of the DINK lifestyle	23.5%	51.2%	25.4%
DINK couples are more likely to provide financial support to extended family	64.8%	11.7%	23.5%
DINK couples face more criticism from family members than couples with children	76.1%	10.9%	13.0%
Remaining child-free can strengthen a couple's relationship	44.5%	21.1%	34.3%
DINK couples should take greater responsibility for aging family members	28.6%	53.1%	18.3%

The responses shown in table 4 illuminates a growing tension between emerging values and long-standing norms. A strong majority of respondents affirmed that DINK couples challenge traditional Filipino family structures. Public opinion also reveals an understanding of how DINK couples contribute to society. Many respondents believed that child-free couples offer unique societal inputs, whether through economic activity, professional excellence, or community engagement. However, only a slight majority believed their contributions are recognized as equal or legitimate within traditional frameworks of Filipino values.

As shown in table 4, the study also found that 60.1% of respondents supported government recognition of DINK families through inclusive programs or policies. Most notably, 79.3% recognized the long-term societal implications of growing DINK trends—such as declining birth rates and changing demands on infrastructure and economic planning. The survey findings narrate a cultural shift. Respondents reflected mixed emotions about remaining child-free: 58.5% said they would consider it, while a sizeable minority (25%) remained reluctant. Their views represent a balancing act between societal belonging and personal authenticity.

Table 4
Public Attitudes on the DINK Lifestyle (N = 215)

Survey Item	Yes	No	Undecided/Unsure
Willingness to personally consider the DINK lifestyle	58.5%	25.0%	16.5%
Support for government policies or programs for child-free couples	60.1%	18.3%	21.6%
Belief that the DINK lifestyle has long-term societal and economic implications	79.3%	8.9%	11.7%

Table 5 shows that despite lingering cultural resistance, attitudes are clearly shifting. Nearly 82% of participants believed that the number of DINK couples in the Philippines would increase in the future, and a strong 87.3% linked this rise to improved gender equality and career opportunities. There was also overwhelming consensus (85%) that society should adapt to evolving family configurations. As DINK couples redefine partnership and legacy, they also face emotional complexities. While 44.5% believed childlessness could strengthen a relationship, many were unsure—suggesting that love without children still struggles for cultural affirmation. Similarly, while DINK couples may support aging family members financially, they are often judged more harshly for their lifestyle choices.

Table 5
Public Perceptions on the Future Trends of the DINK Lifestyle (N = 215).

Survey Item	Agree	Disagree	Unsure
Belief that the number of DINK couples in the Philippines will increase in the future	81.7%	5.2%	13.1%
Agreement that gender equality and career opportunities contribute to the rise of DINK lifestyle	87.3%	4.7%	8.0%
Belief that society should adapt to accommodate changing family structures	85.0%	4.2%	10.8%

Factors Driving the Filipino Double Income No Kids Lifestyle

In a culture where children are often seen as the heart of the home, a quiet evolution is unfolding. Across Northern Mindanao, more Filipino couples are choosing to live as Double Income, No Kids (DINK) households. Not as an escape from responsibility, but as a way to live with intention. Their stories tell us that this choice is less about avoiding parenthood and more about navigating the pressures and priorities of adult life today.

For many couples, raising a child in today's economy is overwhelming with reports that inflation in the Philippines has been continuously rising (Asian Development Bank, 2022)—essential needs such as food, childcare, education, and housing continue to stretch the average household budget. Among the couples interviewed, most shared one common fear: bringing a child into the world without the means to support them fully. Couple 4, from Cagayan de Oro reflected on their childhood experiences growing up in poverty:

"When I was young, I lived in a squatter area. Every morning, I saw many children with nothing to eat or wear. I told myself I would never raise a child in that kind of life. I really believe that becoming parents would feel more like a risk than a gift."

For them, having a child without financial security would feel like repeating a cycle they worked hard to escape. The couple shared how even basic items like diapers and milk formula, along with the cost of hiring a help, would make a huge dent in their budget. For some couples, the DINK lifestyle is not a deliberate choice but one shaped by health complications or personal family histories. In a few cases, infertility brought them face-to-face with grief and disappointment. Others decided not to pursue parenthood because of concerns over hereditary conditions or the long-term effects of past vices. Couple 5, who had experienced two miscarriages spoke candidly about the pain of losing a pregnancy—once before she even realized she was expecting.

"It became too much, to the point that we lose hope." They shared. "We prayed to God that if this is not meant for us, we will accept it."

Couple 2, once eager to conceive, found peace in being child-free and focused their attention on caring for rescue animals. They shared:

"Although we do not have any children, we find joy in taking care of our rescued pets. Maybe this is our purpose. Since then, it has been a fulfilling thing to do."

Couple 6, still wrestling with guilt over past substance abuse, shared:

"We were drug addicts before marrying each other. Because of that, we really fear the possibility of having a special child. What if our child is born with a defect because of the life we used to live? We do not want to bring someone into this world if we cannot guarantee their well-being."

These stories show that for some, choosing not to have children is not about freedom, it is about facing limitations with honesty. Oftentimes, in the Philippines, being part of a family often means continuing to care for one's parents and siblings, even after marriage (Medina, 2015). For many DINK couples, choosing to delay or not have children comes from their strong responsibility to their own families. The emotional and financial weight of these obligations leaves little room for raising children of their own. Couple 1 shared how they still send money home every month to help their parents, who have no stable income.

"Our family of origin was used to receiving money from us the end of the month. Before we got married, we talked about how we could build a family while still supporting our own, but when you see your parents aging and struggling, how can you say no?"

Couple 3 became unexpected guardians when a sister and her husband died in an accident. Overnight, they were caring for two children.

"It was never part of our plan, but we could not turn our backs. These children needed someone, and we were there. We do not want them to be orphaned by someone else."

For these couples, family remains the highest priority even if it means setting aside dreams of raising children themselves. The decision to live as a DINK couple in the Philippines is shaped by more than just personal choice. It is informed by deep-rooted values, harsh economic realities, health concerns, and family obligations.

Negotiating Childlessness

Filipino couples who choose not to have children often find themselves on the receiving end of doubt, pressure, and even quiet exclusion. Double Income No Kids (DINK) couples in the Philippines navigate a social terrain where their decisions are not only questioned but sometimes punished emotionally and materially. Their stories tell us much about how family, faith, and tradition shape what it means to belong. Filipino DINK couples often feel pressured by others' expectations in the form of repeated questions, backhanded remarks, and unsolicited prayers. What may begin as a casual inquiry, "When are you having children?" can turn into a heavy judgment about their character, values, or future. Couple 6 remembered how a seemingly light conversation took a sharp turn. The husband was told:

"You should have a child already. You are getting older. It would be unfair if you end up relying on others when you are old."

Though still in their early thirties, they were made to feel like burdens, no longer independent, simply because they chose not to have children. Couple 7 recounted how family gatherings became spaces of emotional discomfort.

"Sometimes, our relatives tell us we are lacking in faith, that maybe we have no children because we do not go to church.

Even when we explain that we are not ready, they would not listen. They say we are already married, so we should just go ahead and have a child."

Even well-meaning neighbors cross boundaries can sometimes cross the line of giving unwanted advice. Couple 8 was urged to join fertility massages with no invitation:

"I did not want to go, but I said yes because for them, they were just trying to help. They made me think of my mother— she has no grandchildren, and I am her only child. That thought makes me feel guilty. So, I was compelled to join."

For many, it is not just about resisting the expectation to have a child, it is about withstanding the emotional toll of disappointing loved ones. Choosing to stay child-free becomes both an act of love for their partner and an act of resistance in the face of cultural obligation. For DINK couples, not having children often becomes an excuse for unfair treatment—whether in family decisions, inheritance, or caregiving roles. Couple 1 shared a particularly painful experience:

"During a family meeting, I was told I would receive a smaller share of the inheritance. They said, 'You do not have children anyway, better to give it to those who do.' That moment stung. It felt like I was being punished for my choice."

Couple 4 was asked to look after their aunt's grandchildren, at first as a favor, then gradually as a long-term arrangement.

"She texted us and asked if we could enroll them in school. We have a business to run. We felt abused. Just because we do not have children does not mean we have more financially. Even if we do, it is not our responsibility. However, we did enroll them as we are being pressured by our relatives."

Some couples even experience moral judgment from close friends. Couple 2 recalled how a priest friend questioned their lack of a child by asking,

"What sin have you committed that you are not blessed? That question lingered. It made us question our faith. What if he was right?" the couple shared.

These stories reveal a pattern: DINK couples are often expected to give more, sacrifice more, and expect less. Their worth, in the eyes of family, seems to shrink with every year they remain childless. Their contributions are overlooked, and their needs dismissed, all because they chose a path that diverges from the norm. Perhaps the most subtle and damaging challenge DINK couples face is the assumption that they live easy, selfish lives. Many are perceived as having no problems—stable with money, relaxed, and always ready to help others. Couple 3 spoke openly about this:

"They say we are lucky because we have money and no stress. But they do not see the pressure at work, the mental load, the responsibilities we carry. They ask us to babysit or help with expenses because they think we have no one else to care for."

Couple 4 expressed frustration at being labeled "selfish" shared:

"They told us that we are selfish as we are not sharing our life with anyone because we have no children. But they do not know what we have been through. We chose peace over pressure. It was not an easy decision."

The belief that they have extra time, money, and energy, becomes a license for others to assign them roles they never agreed to. Couple 10 described how they were always asked for help, yet excluded when it came to family decisions:

"We were expected to contribute, but when the family's land was being divided, they told us we would receive less, because we have no children. That broke me. I felt like I did not belong, even in my own family."

In a society where value is often measured by how much you give to the next generation, DINK couples struggle to prove that their lives are equally meaningful. Their pain does not lie in regret, but in the effort of always having to justify their existence outside the traditional mold.

Navigating Social and Cultural Judgment

In the Philippines family is both structure and symbol, choosing not to have children can feel like walking against the current. Filipino DINK couples do more than defy a cultural script; they must continuously explain, defend, and affirm a choice that challenges deep-seated norms of marriage, adulthood, and social duty. The choice to remain child-free is often viewed as unnatural or even immoral within a context that sees reproduction not merely as a private matter, but as a collective obligation. As scholars like Medina (2015) and Pertierra (2005) assert, the Filipino family is grounded in collectivist ideals and intergenerational expectations. Parenthood is seen as both legacy and virtue. In this environment, DINK couples are not simply opting out of parenthood, they are quietly resisting a dominant narrative that equates children with purpose, sacrifice, and belonging.

One of the most common strategies among the informants was disengagement—choosing silence over conflict, and distance over constant explanation. For many, ignoring unsolicited opinions became an emotional necessity. Couple 9 explained:

"It is really hard to make people understand that we do not want children. No matter how much we explain, they still think we are wrong. So, we stay quiet. If we give in just to please others, we will still be the ones who suffer in the end."

Their silence is not passive. It is an act of resistance grounded in self-awareness. Couple 10 shared:

"Even our own family says we are making a mistake. But we are the ones who must live with this choice, not them. We just do not respond anymore. It is exhausting."

Couple 7 also recalled a painful moment during a family reunion:

"Our parents approached us in front of our relatives and asked, 'When will you have children? You are getting older. Who would take care of you when you get old? Are you not afraid of growing old alone?' We just looked at each other and chuckled, trying to dismiss it. But deep inside, it really hurts."

Humor becomes a temporary shield, but it does not erase the sting of being constantly questioned. In the words of couple

6:

"Sometimes we respond through humor, but it is not easy living in a world that sees your decision as wrong. Every night, we remind each other—it is better not to have a child than to raise one we might regret, or fail to give a good life. We just let them talk. It is our life to live."

These narratives show that silence is not avoidance, it is a form of survival. Their refusal to conform is grounded not in defiance but in deep reflection and personal integrity. While some couples retreat, others choose to confront. Many of the informants described moments when they directly responded to unsolicited remarks, sometimes with humor, at other times with emotional honesty. Couple 2 playfully remarked:

"It is okay that we do not have kids yet—better than those who have many, but all of them are unattractive and ugly."

Though said in jest, the statement exposes the absurdity of the belief that all parenthood is noble by default. More often, however, confrontations stem from quiet frustration. Couple 3 shared:

"Every time we go home, someone asks, 'When will you have a child?' It builds up. Sometimes I just say, 'If we do, it will be when we are emotionally and financially ready. Not just to prove something to you.'"

Another narrative from Couple 4 highlights, a painful comment from an aunt who said,

"What a waste of your womanhood, you do not have a child." The response was clear and brave: "Maybe it would be a greater waste if I had a child and could not give them a decent life, like what you did to your children."

Even the fear of aging alone is weaponized against them. As Couple 5 recalled:

"They say, 'Are you not afraid of having no one to care for you when you grow old?' And I say, 'I am more afraid of raising a child without love, just to satisfy other people's standards.'"

These confrontations are not acts of aggression but of emotional truth-telling. They mark the boundaries of self-respect and responsibility. These couples do not owe anyone an explanation, yet they offer one, out of hope that they might be seen, heard, and understood on their own terms.

Aging and Autonomy

In the Philippines, family remains a central pillar of identity and belonging, choosing not to have children is often regarded with unease, if not outright concern. For Filipino couples who identify with the Double Income, No Kids (DINK) lifestyle, this choice is rarely about ease or selfishness—it is, instead, a quiet and deliberate act of living life on one's own terms. National trends reveal that more Filipinos are rethinking the traditional path of marriage and parenthood. The country's fertility rate has dropped below replacement level, and half of married women report no desire for additional children (PSA, 2023; Santos, 2020). Supporting this, a survey conducted for this study found that 58.5 percent of 215 survey respondents are considering a DINK lifestyle. Yet despite this growing shift, many DINK couples still find themselves the subject of pity or criticism, particularly when conversations turn to aging.

In a culture where elders often rely on children for physical, emotional, and financial support, the absence of offspring in later life raises complicated questions. Who will care for them? Who will sit at their bedside in sickness or old age? Who will remember them?

What does it mean to age without children in a society that expects them? For many Filipino DINK couples, the answer lies in reimagining aging not as a descent into loneliness, but as a journey shaped by mutual care, financial foresight, and emotional resilience. Rather than fear the absence of children, they focus on nurturing the presence of each other. Couple 10 reflected on this quiet understanding:

"We do not have children to accompany us to the hospital or join us at check-ups. But as long as we are both alive, we will be there for each other. We are not afraid of growing old—only the thought of losing one another. We are getting ready for old age spending so much for our life insurances."

Her partner continued,

"I do not think of aging in terms of who will take care of us. I think about how we can continue living with dignity, even as the world starts to slow down for us. And I hope that people who once we made connection with, will still remain in communication with us."

Couple 9 brought to light the social invisibility that can come with childlessness in old age. They shared:

"Most of the time, when you grow old without children, it feels like you no longer have an identity in society's eyes. During family gatherings, we are the ones asked, 'Still no children?' as though we have contributed nothing. But we know that our love, our teamwork, and our efforts still matter, even if we grow old with just each other. So long as we love each other in our lifetime, we can survive."

Couple 8 expressed a reflection that felt like a whisper of hope:

"If the time comes when we begin to forget things, I hope what we will remember is the love we shared. That alone would make everything worth it."

Their stories reveal not fear of being alone, but a powerful desire to grow old with meaning. To age, for them, is not to decline but to continue choosing one another, every day, with tenderness, love, and care. Without the built-in assurance of filial care, Filipino DINK couples often look ahead with both realism and resolve. Their imagined futures are not passive outcomes, rather they are deliberate constructions shaped by planning, saving, and dreaming differently. Couple 7 shared with pride,

"We do not have children to look after us, but that does not mean we do not have a plan. We are building our retirement fund, investing wisely, and securing healthcare. Others might think we are pitiful, but we are just trying not to become a

burden to anyone."

Their pragmatism is encapsulated by a deep sense of accountability, not only to each other but to their future selves. Other reflections carried heavier emotional undertones, as Couple 6 admitted,

"Sometimes I cry, not because I regret not having children, but because I fear we will have no one with us when we grow old. But we take care of each other. That is what it means to be true partners, to stay until the very end."

This sense of permanence, of mutual promise, offers an emotional foundation in the absence of traditional family structures. For many, future planning also involves advocating for systems that include people like them. As Couple 1 spoke candidly:

"Most elderly services in the Philippines are built around the idea that older adults have families. But we do not. That is why we are preparing everything—insurance, emergency funds. Still, we hope that someday there will be policies that include people like us."

This yearning goes beyond personal survival, it reflects a call for structural change. Couple 2 envisioned new possibilities: "If we grow old and get sick, where do we go? You cannot always depend on relatives. That is why we are thinking of moving to a private assisted-living community, or maybe build one with our friends who are also DINKs. We will help each other. Like a cooperative for child-free aging."

One of the most moving testimonies came from a couple, who shared a quiet fear and an even louder hope:

"Whenever I see an elderly person in a poorly managed care home, I cannot help but wonder, what if that becomes us? That is why we dream of helping build something better. A place where childless elders are respected and cared for. Aging should not be a punishment for not reproducing."

These stories reveal something powerful: Filipino DINK couples are not living lightly or thoughtlessly. They are preparing for futures that may look different from the norm, but are no less full of meaning. These narratives make it clear that Filipino DINK couples are not living recklessly or selfishly, as they are often perceived. On the contrary, they are engaging in a form of anticipatory care—investing time, resources, and emotion into preparing for a future where they can grow old with agency, not abandonment. In Giddens' terms, their choices reflect *structured agency*: the capacity to act intentionally within the bounds of societal norms, while also subtly reshaping them. Through reflexive planning, such as securing health insurance, building support networks, or imagining aging, they stretch their decisions across time and space, embodying Giddens' concept of *time–space distanciation*. Their futures are not confined to the here and now, but actively woven across imagined tomorrows. In doing so, they call not only for personal readiness, but for a cultural and institutional reimagining of what it truly means to age with dignity in the Philippines.

4. CONCLUSION

The Filipino family, long held as the bedrock of moral, economic, and emotional life, is undergoing a subtle but profound transformation. This study has foregrounded the voices of Double Income, No Kids (DINK) couples, individuals whose life choices challenge prevailing cultural scripts, but do so not with the goal of dismantling tradition, but with the intention of constructing an alternative form of kinship that is comfortable within the prevailing social realities. Their stories reveal that the decision not to have children, far from being an act of selfishness or individualism, can be an informed, responsible, and affective response to contemporary social, economic, and relational realities.

In many ways, DINK couples embody what Anthony Giddens (1984) conceptualized as "structured agency." They live within the boundaries of cultural expectations—those that define parenthood as a moral duty and marriage as a means to reproduction—while simultaneously reshaping these structures through their lived practices. They demonstrate the "duality of structure," where social systems both constrain and are reconstituted through human action. In their conscious decision to forgo childbearing, they are not merely passive recipients of social change; they are agents of transformation whose micro-level decisions ripple across the broader terrain of Filipino kinship. Survey data from this study, corroborated by national trends, paints a compelling picture of the changing family landscape. The Philippine Statistics Authority (2023) reported a decline in the national fertility rate to 1.9, the lowest in the country's history falling below the replacement level of 2.1. Likewise, 58.5% of the 215 respondents in this study expressed an openness or preference toward a child-free lifestyle in the future. These figures are not anomalies, they are social facts indicative of evolving preferences around intimacy, responsibility, and life planning.

The implications of these findings reach far beyond the boundaries of private choice—they speak to the shifting architecture of family and citizenship in the Philippines. At the policy level, the study underscores the urgency of rethinking state frameworks that still hinge on reproduction as a prerequisite for social worth. There is a clear need to decouple state benefits and protections from reproductive status so that aging Filipinos without children are not left on the margins of healthcare planning, pension systems, and social welfare programs. Recognizing childfree couples as legitimate family units invites policymakers to design support systems grounded in inclusion rather than conformity.

At the cultural level, the research opens space for dialogue within institutions that shape Filipino values—schools, churches, and communities—to broaden their definitions of family. When the idea of family expands to include couples who live purposefully without children, it becomes possible to embrace the diversity of modern Filipino life without moral judgment or stigma. Doing so enriches collective understanding of care, companionship, and fulfillment beyond traditional kinship roles.

From an academic standpoint, this study fills a long-standing gap in Philippine sociology. The DINK lifestyle, while visible in global sociological debates, has remained largely absent from local research. By documenting how Filipino couples navigate economic, social, and emotional landscapes outside parenthood, this work contributes to an evolving portrait of the

Filipino family—one that reflects mobility, choice, and changing gender roles. Its findings can inform CHED's sociology curricula by encouraging the integration of emerging family forms into modules on gender, social institutions, and population studies. Including discussions on DINK households can help students critically examine how power, culture, and agency intersect in the making of modern families. In the context of regional development planning, insights from this research can guide local governments in designing programs that reflect real household structures—supporting inclusive housing, livelihood, and eldercare systems that accommodate both childfree and childrearing populations.

In conclusion, the experiences of Filipino DINK couples illustrate a society in flux. Their lives are emblematic of a broader negotiation between tradition and modernity, structure and agency, norm and deviation. They remind us that family is not a static institution, but a living system, one that must evolve if it is to remain relevant and just. These couples may not raise children, but they raise important questions about autonomy, meaning, and kinship in the twenty-first century. And in those questions lies the possibility of a more expansive, empathic, and plural or diverse understanding of what it means to be family in the Philippines. This research contributes to a richer, more grounded discourse on what it means to build a family and a nation. By giving visibility to couples who choose a different path, it calls attention to the evolving realities of love, responsibility, and social belonging in the Philippines. In doing so, it not only expands the vocabulary of Philippine sociology but also strengthens the moral and intellectual groundwork for a more inclusive and empathetic society.

ETHICAL CONSIDERATION

The researcher observed strict ethical standards in conducting this study. Permission to conduct the research was obtained from the Dean of the College of Arts and Social Sciences at Mindanao State University - Iligan Institute of Technology (MSU-IIT). Before any data collection took place, ethics clearance was secured from the Research Integrity and Compliance Office (RICO) of Mindanao State University – Iligan Institute of Technology (Ethics Clearance Code UERB-2025-00034).

The nature and purpose of the study were clearly explained to all informants, ensuring that they fully understood its scope. Confidentiality and anonymity were guaranteed to protect the identity and personal information of each participant. Informants were invited to participate through an informed consent process, where they acknowledged their rights and the voluntary nature of their involvement. Participants were informed of their right to refuse to answer any questions they found intrusive or uncomfortable and were assured that they could withdraw from the study at any point without any negative consequences.

For the online survey component, informed consent was presented in a separate section of the Google Form before the questionnaire itself. Respondents were given the option to proceed with the survey only after indicating their consent. If a respondent chose not to participate, the form would terminate without recording any information. This ensured that participation was entirely voluntary and that no data was collected without explicit consent.

ACKNOWLEDGMENT

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Research Article

Exploring the Role of Mothers as Breadwinners in Bukidnon, Philippines

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ABSTRACT

Traditionally, Philippine households relied on men as family providers, as reinforced by the 1950 Civil Code. The 1988 Family Code, however, recognized equal roles for husbands and wives. With more women entering the workforce, many have become breadwinners. This study focuses on mothers in Bukidnon, Philippines who have taken on this role. This study employed qualitative methods through in-depth interviews with 13 mothers from different areas in Bukidnon, focusing on their role perceptions, their journey into becoming breadwinners, how they share responsibilities with their husbands, and the challenges they encounter. This study is analyzed through thematic analysis where the interviews are transcribed then organized into categories to identify common themes. Proper ethics procedures were followed and an ethics clearance was also secured. Findings of the study reveal that while the informants possess traditional views on household roles, they view breadwinning in a progressive light — seeing themselves as equally capable of providing for their families. However, family decisions still largely rest with their husbands; and despite their work and exhaustion, these women continue to fulfill their roles as wives, mothers, and even daughters. The study affirms the persistence of stereotypes in which women, even as primary providers, remain bound to traditional wife–mother responsibilities.

Keywords: Breadwinning Mothers, Family Dynamics, Multiple Roles, Women

1. INTRODUCTION

In recent years, significant changes occurred in the dynamics of families and gender roles, challenging traditional gendered responsibilities within households. One outstanding shift is the emergence of breadwinning mothers who actively contribute to the family income and often assume the role of primary or sole financial providers. From a traditional gender-role perspective, women are held as the household caretakers while men are the providers (Harth & Mitte, 2020). In the Philippines, ethnographic accounts reveal a more egalitarian arrangement among pre-colonial Filipinos where there was no strict adherence to gender roles nor the presence of rigid gender division of labor. But with Western colonization came the restructuring of the Philippine household which has resulted a sustained impact in gender relations within the Filipino household. Although the Philippine household is not organized strictly within these patriarchal systems, the husband is still the publicly acknowledged head of household and as such is expected to be the economic provider of the family. Conversely, the wife is credited primarily for her ability to have children; hence, socially assigned to take good care of the family (Alcantara, 1994). However, according to Medina (1991, as cited in Alcantara, 1994), Filipino women have always been engaging in economic activities and have been actively looking for ways to augment the husband's income. Although women are increasingly assuming the role of primary earner in households (Vitali & Arpino, 2016), women still continue to show up for household chores and childcare. Today, women are contributing an ever-greater share of married couples' economic resources. But despite its increasing prevalence, this topic remains underexplored.

Meisenbach (2010), emphasized that the rise of female breadwinner is an increasingly important concern; however, little research has been done about the topic.

The Philippine context on female breadwinning does not go far from its neighboring countries in the Asia Pacific region. In Indonesia, for instance, women are compelled to perform breadwinning duties because of three reasons: their husband's income does not meet the family's needs, the need for women to fill roles beyond just being a wife and a mother, and the women's need for power and achievements that may not have accomplished inside a family structure (Sumarlin, 2019, as cited in Usmany et al., 2025). This shows how becoming breadwinners is not only a personal choice but is more driven by economic circumstances. Vietnam, as similar in the Philippines, even when women take up paid work, the division of labor within households has remained. Wives are still primarily responsible for housework, especially that cultural norms do not promote gender equality (Marcen & Morales, 2022 as cited in Vo & Truong, 2023). Working mothers in Thailand also experience the same where many of them experience "double burden" particularly when balancing additional roles such as schooling or migrant work plus motherhood (Thinnam, 2013). In Malaysian context, women, especially low-income or single mothers, can be the main or sole earners. However, their roles as breadwinners often go unacknowledged in both policy and societal discourse (Baharuddin & Burhan, 2025). Across these countries in the Asia Pacific region, including the Philippines, many women face almost the same situation — increased household economic contribution but remained to be perceived as primary caregivers.

Female breadwinning, defined as situations where women earn and contribute the majority or all of the household income (Meisenbach, 2010), has emerged as a topic of growing significance in contemporary society. This phenomenon challenges traditional gender roles and family dynamics, making it more relevant to be explored extensively. Studies suggest that the rise of female breadwinner households can be attributed to the poor economic outcomes of low-skilled men, male unemployment rate, influence of urbanization on family social systems, and having more women getting education (Vitali & Arpino, 2016; Akanle, Adesina, & Nwaobiala, 2018). When men experience job loss or face economic challenges, women are often compelled to assume the role of sole provider. Reports reveal that women's role to become the primary providers in the family is not only increasing in developed countries but also in the third world countries (Glynn, 2012).

While female breadwinning, as a population, has been of increasing importance, there has been a lack of literature that defines the key concepts of breadwinning as there is no universal conceptualization of the term (Sparham, 2019). Many studies have argued that breadwinning is a complex term with varying definitions which makes it difficult to be single-handedly defined. Hence, various studies have each of their own definitions of breadwinning. Some studies use breadwinning as categorizations to describe the polarization of financial arrangements as either 'breadwinner' or 'dependent' (Pahl, 1989, as cited in Sparham, 2019), or to distinguish them as the 'major earners (Drago et al., 2005). The literature has shown how studies on female breadwinning mostly revolved around its technical and economic aspects, but less on the depth of the women's experiences. Warren (2007), points that evidences concerning the reasons behind their breadwinning roles and the choices they make are seldom investigated. According to Sparham (2019), breadwinning is often associated with economic concepts which undermines all the other issues around the breadwinning role, such as women's lifestyle and challenges. While there are varying definitions, the concept of breadwinning is acknowledged to be problematic due to the lack of literature that specifically defines its key concepts (Warren, 2007).

This study seeks to shed light on the roles and challenges of the breadwinning mothers, specifically in Bukidnon, Philippines. By examining these challenges, this study aims to understand the ways in which these women negotiate their roles and the strategies they employ to reconcile societal expectations with their personal aspirations. The shifting dynamics within the household due to the changing roles of women may lead to renegotiations of traditional gender roles, potentially challenging established power structures and affecting family dynamics. Through the investigation of the experiences of breadwinning mothers, this research aims to contribute to filling a gap in the geographical, methodological, and knowledge gaps on female breadwinning. Geographically, while previous studies directly exploring on breadwinning mothers mostly focused on Europe and South Africa, studies in the Philippine context remain limited, particularly in Mindanao. By focusing on breadwinning mothers in Bukidnon, this study offers a perspective that is currently underrepresented in the literature. Methodologically, there has been limited research about breadwinning, as previous studies have tended to be based on quantitative data (Vitali & Arpino, 2016). This study employs a qualitative approach to capture the lived realities of breadwinning mothers beyond the numbers. In this paper, we contribute to filling a gap by studying the challenges and issues of breadwinning mothers — exploring their struggles and coping strategies. Due to the term 'breadwinning' being contested, this study will define female breadwinning as the act done by a woman which includes majorly or solely supporting the family's financial needs. This research explores on their perception of their roles, their progression into becoming breadwinners, the ways they share responsibilities with their husbands, and the challenges arising from it.

With its increasing relevance, this study on breadwinning mothers gathers meaningful sentiments and real-life experiences to what it really means to be a breadwinner. By embracing the diversity of family structures and addressing gender inequalities, societies can create an inclusive environment that values and supports the contributions of both men and women in shaping family dynamics and social progress. This study could contribute to the discussions on the shifts and career trajectories that have transpired in women's experiences over time. In the academe, this research can also push boundaries and create new dialogues within academic literature. This study can contribute to the growing body of research in gender studies, with a specific focus on women's multiple burden emphasizing on their breadwinning roles. As this study challenges that traditional gender roles, it will open up new conversations that can pave the way for more inclusive and progressive take on women's struggles. This research will help provide insights that can inform policies and improve the well-being of breadwinning mothers. Addressing such issues can help them be given access to advancement opportunities.

2. MATERIALS AND METHODS

The study employed a descriptive and qualitative approach. This method was used to describe the challenges that breadwinning mothers face as they perform their roles. The researchers used in-depth interviews. After all the data were collected, thematic analysis was performed. This approach allowed deep understanding of the grounded real-life situations of the informants.

Research Locale and Participants

The study was conducted in Bukidnon, Philippines. The researchers purposefully selected and interviewed 13 breadwinning mothers from Bukidnon. This study defines breadwinning mothers as women who are financially supporting the household primarily or solely. This research used this term to refer specifically to mothers in their early to middle adulthood stage, aged 25-50 years, with or without a working husband, and at least one child present in their household. This operational definition served as the basis for participant recruitment. Only mothers who met this criterion were included in the study. The participants came from diverse backgrounds as professionals, farm and labor workers, and self-employed individuals. Given the qualitative and descriptive nature of the study, a smaller sample was sufficient to capture in-depth perspectives of the participants to which data saturation was reached. This sample size is also consistent with many qualitative studies on family dynamics and gender roles which commonly include 10-20 participants.

Instruments

The researchers used a two-part instrument to get the appropriate data needed from the informants. The first part included a socio-demographic profile that determined their age, educational attainment, household size, and their monthly income. The second part used an interview instrument as a guide in asking questions and probed the informants when necessary. The interviews were recorded and were transcribed for coding.

Data Collection

The study obtained qualitative data. After finding the target informants, the researchers then set the schedule of interview. Prior to the interview, the researchers explained the study before the informants were asked to sign the consent form. 30 minutes to 1 hour of their time were used to conduct the interview proper. The interviews were audio-recorded and transcribed by the researchers. Data collection continued until data saturation was reached, at which point no new themes emerged.

Data Analysis

This research utilized thematic analysis in analyzing the qualitative data. The audio-recorded interviews were transcribed and translated prior to analysis. Interviews were thoroughly read and initial impressions were noted along the process. The informants' answers were categorized according to the study's research questions, specifically focusing on their perception of their roles, their progression into becoming breadwinners, the ways they share responsibilities with their husbands, and the challenges arising from it. For each research question, a matrix table was created which the columns represented the main interview questions and the rows represented the informants. After arranging the matrices, the researcher noted and highlighted interesting points or potential patterns. These highlighted points were then assigned codes that reflected the research questions. Related codes were grouped together to create preliminary themes. Themes that were overlapping each other were merged, themes that seemed repetitive were removed, and themes that were too broad were subdivided into specific concepts. The preliminary themes were refined to make them specific, clear, and meaningful. Narratives were crafted around each theme and provided quotes as evidences. The themes were also explained in relation to the research questions and to the existing literature. While the manuscript has two authors, all data processing and coding were performed by the corresponding author and was further reviewed by the second author to ensure coding consistency and validity.

3. RESULTS AND DISCUSSION

Table 1
Demographic Profile of Informants

	Age	Career	Educational Attainment	Estimated Monthly Household Income	Household Size
1. Gina	42	Insurance Agent	Vocational		3
2. Lucy	43	Teacher	Bachelor's Degree	30,000	7
3. Gemma	50	Self-employed	College level	did not disclose	8
4. Minda	44	Farm Supervisor	High School	did not disclose	5

5. Susan	46	Food Storage Worker	Bachelor's Degree	60,000	7
6. Nancy	44	Direct Seller	Bachelor's Degree	25,000	6
7. Carol	31	Pharmacist	Bachelor's Degree	60,000	4
8. Janet	49	Medical Technologist	Bachelor's Degree	50,000	5
9. Judith	36	Virtual Assistant	High School	65,000	4
10. Sandra	43	Self-employed	Bachelor's Degree	20,000	
11. Josie	32	Accountant	Bachelor's Degree	140,000	5
12. Julia	49	School Nurse	Bachelor's Degree	50,000	4
13. Sanya	50	Farm laborer	Elementary	10,000	3

The informants included 13 breadwinning mothers aged 31 to 50, with household size ranging from 3 to 7. There is a variety of job and professions and can be categorized into white-collar jobs (professionals), blue-collar jobs (farm and labor workers), and self-employed (direct seller and virtual assistant). Most of the participants are bachelor's degree holders (8 out of 13), a few completed vocational school or high school (3 out of 13), college level (1 out of 13) and elementary graduate (1 out of 13). Their income ranges from ₱10,000 to ₱140,000 with some participants opted not to disclose their income. It is observable that while 8 out of 13 are degree holders and 4 are professionals, they remain to be in lower middle class (₱21,194 to ₱43,828) and middle class (₱43,828 to ₱76,669) based on the classification of Philippine Institute of Development Studies (PIDS).

Persistence of Traditional Views on Household Roles Despite Changing Economic Landscape
While efforts on mainstreaming gender and eradicating stereotypes has seen progress in the past years (Martin, 2025), the informants remain to hold traditional views on the roles of men and women in the household. They believe that men should be the provider of the family as they also believe that women are better caretakers of the children. The breadwinning mothers label the men as the "*haligi ng tahanan*" or the pillar of the home — someone who supports the needs of the household and keeps the family stable. They believe that fathers should be the providers because of their physical capabilities and are better decision-makers for the family. On the other hand, they also believe that women are considered to be the "*ilaw ng tahanan*" or the light of the home who should be managing the overall state of their children as they believe that there are certain tasks that are better done by women than men; especially in terms of taking care of the children. As women, they believe that they are more capable in raising their children because they can guide them better to become individuals who will uphold upright values. More importantly, women feel more at ease when they take care of their children and when their husband is the one working. Although they think that their husband can also guide the children, it is not in the same way that they can. As what one informant expressed,

"Lahi gyud kita mama. Lahi gyud ang boys. So, kana bitaw'ng ideal family nga ang husband gyud ang mu-trabaho, kay lahi ra gyud ilang mahatag na responsibility."
(It's just different when it's the mom [taking care of the children]. It's also different with men. That's why, the ideal family setup is if father is the one working because the kind of responsibility that they can give is really different.)

In a similar thought, another informant also expressed how she thinks that the father should be the family's provider. When asked about what she thinks her husband should do, she answered,

"Syempre, ma'am, mag-provide, mag-asikaso, mag-tabang sa balay kay syempre duha ra baya mi, ma'am. Okay ra gyud ug naa ra gyud ko sa balay 'no niya igo ra bata akong atimanon, niya ga-trabaho baya ko. Mura'g sa akoa, ma'am, okay gyud kaayo ug naa kay ka-timbang. Dili lang katimbang sa financial, katimbang pud sa mga trabahuon sa balay.'
(Of course, ma'am, he should provide, take care of us, and help me in our household chores because it is only the two of us. I really don't mind doing the chores as long as I'm at home only and I am just taking care of our child but, I am also working. For me, it is really a good thing to have someone to share the burden with. Not just in terms of finances, but also in handling all the household chores.)

As much as she wants to have a partner as a provider of the family, she also wants to have a partner in doing the household chores. However, most of the time, she does all these alone because her partner does not come home every day due to work.

The results reflect how women maintain gendered traditional beliefs on household tasks. Even as breadwinners, they remain to have cultural ideas that mothers are naturally better caretakers. Women have also exercised their agency in negotiating their reproductive roles that while they accept their husband to not be present sometimes, they still assert their desire for a partner whom they can share the burden with.

The related literature has shown how traditionally, women took care of the household and children whereas men took the role of the provider (Harth & Mitte, 2020). Bearing the financial burden of the family, breadwinning mothers are often branded as strong. While they take the responsibility of providing the majority of the needs of their family, they continue to fulfill the maternal roles expected of them. These result from the gender role socialization where individuals learn gender-related roles,

norms, and expectations through interaction with others. For breadwinning mothers, they feel obligated to fulfill maternal and household roles because of how it was reinforced in the society. This shows how gender roles have become deeply embedded and permeated to social institutions that even women themselves internalize such traditional ideas; hence, very difficult to change. Although breadwinning mothers now contribute the majority of the household income, caregiving responsibilities remained firm. This shows how their role as breadwinners do not always automatically mean an eradication or reduction of their caretaking roles, but more of an added role. These are continuously reinforced by institutions which makes it more difficult for women to fully renegotiate their roles.

Reframing Female Breadwinning as Empowerment and Pride

The breadwinning mothers hold traditional views on household roles but have a progressive view on their breadwinning roles. They believe that women are already capable in providing for the family, especially their financial needs. They feel a sense of pride in the breadwinning roles that they hold, considering that they are able to attend to the needs of their family and other relatives, especially their children. They see themselves as someone who is financially independent which makes them feel empowered about themselves. Informant Lucy (43) expressed,

"I'm proud nga provider ko ug kaning thankful sad ko nga maka-find ko ug ways ba to provide pud sa family."
(I feel proud that I can provide for the family and I am thankful that I am able to look for ways to provide for their needs.)

Most informants, despite expressing their want to have a provider husband, have shown positive views towards female breadwinning. They expressed joy about being able to provide and juggle work and caretaking roles. They feel a sense of fulfillment and they feel blessed despite the challenges and see no problem about being the provider. They expressed a positive take on female breadwinning especially because they have agreed it with their husband. They only make sure that every financial decision one makes, the other one should be made aware of. The informants also rarely receive negative remarks from other people on them being the breadwinners. They think that it is already common for a woman to provide knowing that it is also needed for a family to survive. Although there are times when they would get asked about it, it does not really weigh that much on them. For them, breadwinning is not a matter of gender, but more of a response to the call of the times. For informant Janet (49), it is not a big deal anymore, what matters for her is that they understand each other. In this way, her beliefs challenge the traditional gender norms, rejecting the idea that breadwinning is a man's role. More so, she believes that the father should still be equally involved in guiding the children and should share the responsibility at home. She expressed,

"Before, ang role sa father, ang first gyud is financial. Ambot lang ha sa karun, dili naman nako na gina-question. Dili na big deal gyud. Basta ang importante, magkasinabot gyud."
(Before, the role of the father is to provide financially. I cannot really say anything now, because I don't really question it. It's not a big deal for me. What's important is that we understand each other.)

Judith (36) also believes that people should adapt to the changes of today's time and not just rely on the husband for financial provision. She expressed,

"Dili na gyud pareha sauna nga kinahanglan ang husband gyud ang mag-provide, sila gyud need mag-trabaho. Karon kay equal naman gyud ta. Karon praktikalan na gyud. Kung kinsa tong tan-aw nimo nga mas dako ug income, didto nalang gyud ta musunod kay unsaon. Lisod pud kaayo nato sundon tong sauna."
(Today is really different compared to the situation from the past where it is the husband who works and provides. Now, we're considered equal. We should be practical. Whoever has a higher income should take the lead because it does not anymore work if we keep on relying on the past.)

She affirms gender equality in economic roles by seeing men and women as equal and as well as critiques the strict adherence to traditional roles. This shows how the family dynamics has definitely changed over time. Traditionally, men have been seen as the supposed providers of the family. Now, women are taking up that role and are even owning up to it. Women today, as shown by breadwinning mothers, are breaking gender norms and are now exercising their freedom of choice. However, some informants have also expressed that if only their circumstance permits, they would rather have their husband become the provider so they could fully take care and raise their children. This is consistent with women's traditional views on household roles. Because they believe that women are naturally nurturing, it is better to have the mother as the caretaker compared to the fathers.

Redefining Gender Roles through Women's Increased Productive Roles

Productive role comprises of work done by both women and men for payment in cash or kind (Moser, 1993). Men are typically expected to earn money for the family while women are expected to undertake domestic tasks (Eagly, 1987). However, the breadwinning mothers exemplified in this study went beyond the traditional expectations. As someone who earns higher income than their husbands, not only do they provide majority of the family's needs but they also perform other activities related to the productive role such as budgeting and making big decisions for the family.

When the informants entered marriage and were faced with situations when their husband's income no longer suffice their needs, they needed to step up. As someone with more stable income than their partner, they pay most of their bills — including but not limited to — rent, electricity, water, internet, food, insurance, children's tuition, and loans. As their children grew up, their needs were also increasing. They looked for other ways to increase the family income. They took it into their hands to look for job to sustain their increasing needs. Because of the call of the times, they needed to help earn as one source of income would not be enough to support a growing family. This is why some of the informants did not just stop with having one source of income but others also looked for sideline jobs.

This study revealed that whoever earns more has automatically been assigned to handle almost all responsibilities — makes big decisions, strategizes, and finds way to make their circumstances better. While some informants were able to completely handle all their expenses and can afford to make their husband stop work to take care of their children, not everyone has the privilege to do so. In turn, they work extra hours to fulfill both of their reproductive and productive roles.

As breadwinners, they take the responsibility of making sure that every member of the family is afforded with their needs. They keep track of the bills and makes sure that there is money saved for emergencies. When things go out of track, they go out of their comfort to find ways to earn. Some would even work on multiple jobs and expand their skillset for added credentials. Since family is their priority, they oftentimes neglect their personal needs and prioritize their children first. They will only settle or attend to themselves once their family is already settled. As the primary decision-maker in the family, some informants would avoid getting inputs from their husbands because of their play-safe personality and the incapacity to take risks. Some informants would even say that they have a heavier job than their husband as they are the ones strategizing for the family's overall well-being.

While the informants' productive roles have increased, it did not diminish their continuing involvement in reproductive roles. Many of them still carry the double burden and second shift expected of them — proving financially and caring for the family all at the same time. This is what Hochschild (1989) refers to as the "second shift" where it exemplifies how breadwinning mothers carry not only the financial burden but also the emotional labor that comes along with their unpaid caring roles such as taking care of their children, preparing for their food, and maintaining an organized household. The emotional labor is often expected more of women, reflecting societal norms about caregiving. Despite juggling deadlines, schedules, and appointments, breadwinning mothers are expected to attend to their children's needs, care for them when they are sick, and fulfill all the household needs. This shows how reproductive roles go beyond the usual food preparation but extends to the responsibility of attending to the family's overall emotional load. Additionally, earning more meant having to make decisions for the family. This shows how the decision-making power in the family is heavily tied to economic contribution. The more a member financially contributes to the family, the more say they have in making decisions. With this, not only does gender play a role but is also intersecting with economic factors. And since they are also breadwinners, this emotional load intersects with financial labor where women worry about bills, manage their finances, and the first to attend to their family's problems.

Husbands' Increased Reproductive Role as Compensation for their Weak Economic Power

Most of the informants' husbands have been actively working as partners to their wives — filling in roles when their partners are too busy to do it. The reproductive role comprises the child-rearing responsibilities and domestic tasks required to guarantee the maintenance and reproduction of the labor force (Moser, 1993). Some of the informants have expressed that their husbands are now the ones who have been performing such roles. Due to their busy schedules with their respective jobs, they cannot attend to all the needs of their children. With that, their husband takes over doing the laundry, washes the dishes, and cooks food when they are too tired to do so. Their husband would help their children prepare for school and sometimes attend to their emotional needs while they are busy fulfilling their financial needs.

Some informants would say that they have switched roles with their husbands — them doing more of the productive roles while their husband is more on caretaking and household work. When they gave birth, the husbands of some informants became the full-time house-husband who takes care of their children while they are working. Some informants are not that involved with the household chores and in taking care of their children because it is their husband who does more of it. Although they take turns on some tasks, some informants would also say that they can already count on their partners when taking care of their children. One pattern observed is that, when the husband earns lesser, either he contributes more by doing the household chores or does not even try to anything to alleviate their situation. For informant Janet (49), she does not have to monitor everything because her husband does it for her. She said,

"Actually ako, dili man gyud pud ko ingon ng hands on kay ang akong husband ang hands on."
(Actually, I wouldn't say I'm really hands on because it's my husband who is more involved.)

This role reversal continues to challenge the traditional gendered divisions of labor in the Philippines where women have long carried the heavy load of both paid work and caring roles. A similar pattern can be observed in neighboring Asian societies such as Vietnam. In their study on gendered division of household labor in Vietnam, Teerawichitchainan et al., (2010), showed that while traditional gender-role attitudes persist among young married couples, Vietnamese husbands are now involved in budget management and childcare compared to earlier marriages. However, the increased involvement of the husband, particularly in Northern Vietnam, does not appear to be accompanied by any significant decline in the wife's contribution. In terms of chores, wives reportedly perform a larger percentage of the work despite economic changes and government efforts to redefine gender relations. The structural changes that occurred in Vietnam pushed changes that challenge traditional attitudes toward gender roles. In this study, while some informants were able to rely on their husbands, some struggle to juggle both their reproductive and productive tasks as their husband tend to underperform. Despite the shifts in physical tasks, informants remain to carry the emotional load and the overall coordination of household tasks and childcare responsibilities. Even when their husbands increasingly contribute more to practical tasks, women continue to bear the responsibility of caring roles. This is heavily shaped by the deeply embedded gender and cultural norms that Filipinos hold. At times, there is even a sense of extended family pressure when women are unable to fulfill the societal expectations of maternal duties. In this study and as seen in other studies in Asian context, men's increased reproductive role only happens when the wife earns more — suggesting that household shared work is conditional and only happens when men are unable to financially provide, rather than a progressive shift towards an egalitarian

relationship. This shows that men's increased performance in reproductive roles is their way of compensating what they could not fulfill in terms of productive responsibilities.

Women Negotiating Power to Make Space for Men's Masculinity

Being a breadwinner for these mothers meant looking for all possible ways for their children to live a comfortable life. Such values did not resonate with some of the informants' husbands. Their husbands would rather settle for less as long as the basic needs have already been provided. But for these mothers, they think that the provision of basic needs is not enough to sustain the family as they also want the best for their children. In this way, breadwinning has become a source of stress for some because aside from having to work and provide, they still have to constantly look for ways to fill in what's lacking.

Despite these challenges, some informants continue to adjust how they feel about their situation for the sake of their husbands. Women became wary of their husband's emasculation because they now hold the role of main financial providers. They get worried that their husbands might feel like they are overstepping on their roles as the pillar of the home. To resolve this, they lessen their strong personalities to make space for their husband's masculinity. One informant who holds multiple positions and responsibilities, a decision-maker herself, still relies on her husband as her adviser. Trying to avoid conflict, she would adjust so she does not make her husband feel like she is doing everything. She stated,

> "Bisan baliktad ming duha, dili nako ginapakita sa iyaha nga akoa tanan. Sometimes, ang mga burden, sometimes bug-at na ba so nga akoa tanan."
>
> *(Even if our roles are kind of reversed, I don't make him feel like I'm doing everything because sometimes, it gets heavy doing it all.)*

Another informant expressed being supportive and submissive to her husband and believes that she should be a suitable partner for her partner. Despite being the main provider, she still supports the leadership of her husband and believes that a family should only have one head and that should be the father. She respects the decisions of her husband, gives further support, and makes sure she can serve him. She said,

> "So mas mo shine siya kung the more nga gaka supportahan siya, gaka acknowledge pud siya sa iyang asawa."
>
> *(The husband shines the more he gets supported and gets acknowledged by his wife.)*

Men are oftentimes labeled as the "pillar of the home" because they are seen as the primary providers and protectors, reflecting traditional gender role expectations in many societies. However, this reason is not consistent in families where the breadwinner is the mother. Because even though these men are not the main providers of the family, they are still often referred to as the "pillar" by their wives simply because they are the men in the family. This happens because the reproductive roles which is often done by women are seen as unimportant, hence, unpaid (Power, 2020); therefore, not as important as performing productive roles. Since men are associated with being the provider, having nothing to provide may affect men's masculinity and could ripple to their families. In turn, their wives help them create spaces to allow them to continue asserting dominance. This reveals how gender roles are deeply embedded in our culture. This continues to shape how the informants view their roles and even adjusts in order to follow what they think as culturally appropriate. Even when women already shoulder the economic burden, many still feel the need to preserve the image of their husbands. This is among the consequences of the strong influence of hegemonic masculinity, where people constantly create spaces for men to maintain their position. This shows how men's dominance is made possible not only through income but also with women's accommodations. Breadwinning mothers, in a way, amplifies the persistence of hegemonic masculinity, allowing their husbands to create their own spaces of power without having to exert financial dominance. In this manner, women's advantageous economic positions as breadwinners does not automatically dismantle symbolic hierarchies nor create equal power in households.

Extended and Lifelong Breadwinning Shaping Women's Family and Community Roles

The breadwinning role is not new for some of the informants for they have been doing it way before they got married. Growing up in a family with lesser financial support from parents, some of these breadwinning mothers had to take matters into their hands and look for other sources of income in order to support their own needs and even their family's needs. At a younger age, they already learned how to earn on their own. Handling most of the family's expenses is not new to them. Most informants are the eldest daughters of their family who grew up bearing the responsibility of supporting their parents and siblings. Now that they already have their own families, they still continue to extend such help. Some informants were working students during their early years. Because of financial limitations, they needed to help earn to support their studies. The informants who were the eldest in their family felt that it is their responsibility to uplift their family's financial situation. They learned to hustle on their own and supported themselves during their school years. Doing it for their own family this time brings a sense of pride knowing that they now have more to give to them.

Being able to look for ways to provide for their family brings out a sense of agency wherein they are actively taking actions for their family's well-being. This shows how breadwinning is not only economic but there is an emotional meaning attached to the act of provision. In this way, breadwinning is seen as a source of pride and gratitude.

While women's empathetic and kind characteristics are seen as stereotypes, researches often prove these to be true. According to Alvarado (2022), women are more likely than men to report feelings of empathy for those suffering and may be carrying a heavier emotional burden than men. The informants' ability to see other's struggles as their own shaped how they view themselves and act on it over the years. This goes to say how their breadwinning role is not simply rooted out of necessity, but is also driven by long-standing existence of values and empathy. Their early exposure on financial challenges has brought them a strong sense of independence and resilience.

In Filipino culture, children often take on the role of family "breadwinner," providing financial support and sharing family responsibilities. This is often shaped by parental expectations and influenced by the child's understanding of the family's needs (Quindoza et al., 2025). In this case, the economic nature of breadwinning intersects with social and cultural norms where the eldest children in a Filipino family is expected to carry the family's burden. They carry this expectation for so long that despite having a family of their own, they still have to respond to the needs of their parents and siblings. However, what sets apart from these two different breadwinning roles is the shift in their motivation. Previously, as children, the informants' breadwinning tendencies are often influenced by their family's lack of financial resources. Today, as parents, although driven by necessity, breadwinning is mostly expressed as a fulfillment and pride.

While women's breadwinning roles can be traced back to their younger years, now that they are married, it further outstretches to their parents, extended family members and even their neighbors. According to Gayoba (2023), Filipinos are deeply relational — supporting their parents, including family members outside of their household, despite already having a family of their own. Whenever there are immediate needs asked by siblings, parents, or other relatives, these breadwinning mothers are quick to extend their helping hand. When asked if they also give financial support to other family members, one informant responded,

"Yes, naa gyud ma'am. Dili gyud malikayan. Kaduha man gud ko naminyo. Second husband naman nako ni sya kay na-widow naman ko atong first. So naa gyu'y mga instances nga akong mga sister-in-law nako didto sa pikas, mangayo'g tabang sa akoa. Kung naa ko'y akoa, dili gyud malikayan nga muhatag pud. Syempre kay imo man pung ma-feel nga kung ikaw sa imong kaugalingon ug sila'y nanginahanglan, unya ikaw to, di ka tagaan, malain pud biya ka nga nakita nga naa man ko'y akoa unya dili ka hatagan."

(Yes, I can't stay away from it. I already married twice; this is already my second husband because I got widowed from the first. So, there are really instances where my [previous] sister-in-laws, would ask help from me. If I also have [money], I would also extend it to them. Of course, because I know the feeling of not being helped. It's also not a good feeling knowing that I have resources but I don't extend it.)

Additionally, informants continue to help their parents, especially those who are the eldest in the family. Even if they have their own family to support, they still continue to give allowances to their younger siblings, oftentimes giving money for their parents' groceries. If they do not do so, they feel guilty about it; especially if their parents are already senior citizens. Some would also extend help to their own relatives or to the relatives of their husbands. Knowing how it feels to be in need, they willingly extend it to others as long as they have something to offer. Some of them constantly provides financial support to their nieces/nephews for their tuition or extra allowance.

Sometimes, even with tight budget, these women continue to help other people to the point of borrowing money just so they could give. Even if sometimes their immediate family members complain about their generous acts, these women still continue to do so. They do this because they feel guilty when they cannot help even with the small things. This gesture manifests that women's kindness goes beyond the corners of their home and even spreads throughout the community.

Supporting their parents and siblings financially can be fulfilling but sometimes it would also weigh on them. As the eldest, some informants are already bearing so much responsibility in their work and motherhood roles that having to extend more help to others exhaust them at some point. Aside from the breadwinning duties, some of these women also have responsibilities outside of their reproductive and productive roles. Some of them perform leadership roles in their community, participate in volunteering activities, attends weekly gathering sessions in their churches, and other activities. In the related literature, Moser (1993) referred to this as the Community Managing Role which comprises activities undertaken by women at the community level. It is voluntary unpaid work, undertaken in their free time.

The study shows that the informants remain to hold traditional perspectives on their roles but hold progressive views on their roles as breadwinners — recognizing their capacity to provide and to stand for their family. Their breadwinning role did not come instantaneously, but was shaped by years of stepping up as providers in their respective families as siblings and daughters even before they were married; while some had to step up when their husband's income did not suffice their family's needs.

In collectivist cultures commonly observed in Asian countries, adult children are expected to contribute to the household economy, support aging parents, and extend help to other family members. They often assume the responsibility of providing financial, emotional, and instrumental support towards them. Especially where formal welfare and long-term care systems are weak, adult children continue to provide for their aging parents (OECD, 2025). According to Albertini & Mantovani (2021), in the Philippines, older people have historically been dependent on children. *Utang na loob* (debt of gratitude) is a Filipino cultural trait where children are expected to provide care and assistance to their parents in old age (Reyes, 2015, as cited in Albertini & Mantovani, 2021). For the informants of this study, breadwinning does not only mean providing for their nuclear family but extends outside their household. This cultural obligations and extended kin expectations sees breadwinning as not only an economic activity but also a relational one.

4. CONCLUSION

This study investigated the roles of breadwinning mothers — their role perceptions, their progression into becoming breadwinners, the ways they share responsibilities with their husband, and the challenges that come along with it. This research contributes to the literature on breadwinning mothers in various ways. It provides evidence from Mindanao, Philippines, a setting largely absent in existing research that is mainly dominated by Western and urban-centered studies. By grounding in the lived experiences of breadwinning mothers, this study also contributed qualitative results to a quantitatively-dominated research topic.

The study revealed that the breadwinning role of women does not necessarily put her in a more powerful position. Breadwinning does not guarantee dominance in decision-making or to an automatic shift in the traditional roles. Instead, it became an added burden to women, which has left a space for the traditional image of male leadership. The study has also found that gender stereotypes are deeply rooted in the society that even a progressive, economically dominant role held by women could not change their traditional gender roles; even so, it adds an additional burden to some rather than a role replacement. In this sense, breadwinning mothers are actively redefining family roles through their financial contributions and active rejection of traditional and gendered division of labor, negotiating their responsibilities in paid work and caretaking roles, yet they remain constrained by entrenched cultural expectations. This pattern also reflects in other Asia Pacific settings such as Vietnam, Indonesia, Thailand, and Malaysia where women assume primary or sole breadwinning while still bearing caregiving responsibilities and expectations (Teerawichitchainan et al., 2010; Thinnam, 2013; Baharuddin & Burhan, 2025). Across these contexts, women's financial contribution often coexist with persistent traditional gender norms, showing that economic empowerment does not automatically put them in a more powerful position. Therefore, while the presence of breadwinning mothers presents progress, it also shows limitations in terms of a more flexible and inclusive arrangements. On the other hand, the increased involvement of men in reproductive roles only happens when the wife earns more, suggesting that their involvement is conditionally driven rather than a sign of equal status. Even with this, women continue to create spaces for their husband's masculinity in fear of overstepping their entrenched traditional role — an underexplored dimension of breadwinning in Asia Pacific contexts.

The government should adopt measures to help women manage their work and caring responsibilities. These measures should be immediate and grounded in research and must ensure that women are well-represented in the response planning. Informants also struggled with traditional expectations shaping their overall workload. Thus, this study highlights that policies should take into account the changes in the family dynamics where breadwinning mothers can reshape their experiences through research-based awareness programs that address societal gender norms. Gender role socialization also emphasizes the influence of church as an agent of socialization influencing gender norms. With this, the Catholic church, for example, may incorporate topics on shared work and changing family dynamics during Pre-Cana seminars for couples who are about to get married. Moreover, because the informants consistently described difficulty managing both paid work and childcare responsibilities, it is recommended that workplaces establish family-friendly spaces or daycare facilities to help address women's struggles at work while having to attend to their children. Additionally, the government can create policies on flexible working conditions such as remote work options, staggered shifts, or compressed work weeks.

Further studies may use various methods especially quantitative with more participants involved. They may also explore more on the psychological and emotional dimension of female breadwinning as related to the socio-political factors. In this way, addressing the gaps in this new family dynamics become more efficient as it can pave way for more inclusive arrangements.

ETHICAL CONSIDERATION

The study observed research ethics consideration to protect the identity of the research informants and provided a transparent process that accurately described their experiences. A permit from the Research Integrity and Compliance Office of Mindanao State University – Iligan Institute Technology (MSU-IIT) was secured with a UERB Code: UERB-2025-00070.

The researchers explained the informed consent using their local language to each of the informant, explaining their rights to remain anonymous or their choice to not answer uncomfortable questions. They were also informed of their right to stop their participation at any time without consequences. To minimize the risks, the researcher explained the nature of sensitive questions and ensured a safe, confidential, and supportive environment to the informants. Sensitive topics were handled with care and the researchers made sure not to cross any bounds of the research process and have always put the informants' welfare as a priority.

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Research Article

Digital Competence of Teachers and the Academic Performance of Students in Tertiary Education

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ABSTRACT

This study is quantitative research that employed a descriptive-correlational design to determine the digital competence of teachers and the academic performance of selected tertiary-level students of a local university in Manila City, Philippines. The study revealed that most respondents were 20 to 21 years old. Teachers were perceived to possess high levels of digital competence, particularly in pedagogical integration and adaptability to new technologies. Students generally demonstrated satisfactory academic performance, with most achieving a general weighted average between 85 and 89. Findings showed no significant difference in academic performance when grouped by age ($p = 0.34$) and gender ($p = 0.28$). However, a moderate, positive, and significant correlation was found between digital competence of teachers and academic performance of students ($r = 0.51$, $p = 0.048$), indicating that teachers' digital skills positively influence students' learning outcomes and academic success. The study recommends strengthening teachers' digital competence through continuous professional development focused on meaningful technology integration and adaptable instructional strategies. Higher education institutions should invest in robust digital infrastructure, provide structured training based on established frameworks such as TPACK and DigCompEdu, and promote collaborative innovation to ensure inclusive and equitable technology use. Policymakers are urged to support sustained digital transformation by allocating resources for training and access, establishing national standards, and aligning initiatives with workforce demands. Future research should further examine the long-term impacts of digital competence and the role of emerging technologies in enhancing learning outcomes.

Keywords: Digital Competence, Technological Skills, Pedagogical Integration, Academic Performance

1. INTRODUCTION

In today's rapidly advancing technological age, digitalization plays a major role in the landscape of the educational environment. The integration of digital resources and tools has revolutionized conventional teaching techniques, making digital competence an essential skill for educators at all levels. Teachers who possess digital competency can effectively design, deliver, and assess learning using technology-based strategies that improve student understanding and involvement.

The European Framework for the DigCompEdu (Digital Competence of Educators), which offers a holistic structure for evaluating the digital competence of teachers. The framework recognizes six areas of digital competence, ranging from professional engagement to facilitating learners' digital competence, highlighting the fundamental skills educators require to integrate digital tools into their teaching effectively. This framework is particularly relevant to tertiary education, as it highlights how digitally competent teachers can enhance teaching strategies, foster student engagement, and improve learning outcomes (Redecker, 2017). Moreover, the ICT CFT, or Information and Communication Technology Competency Framework for Teachers, emphasizes the pivotal role of teachers in leveraging technology to upgrade the quality of instruction. This framework outlines stages of ICT integration in pedagogy, from basic technology literacy to knowledge creation, illustrating how teachers can progressively develop and apply digital skills to enrich student-learning experiences. By aligning teaching practices with ICT competencies, the framework establishes a strong connection between teacher digital proficiency and student academic

performance, particularly in technology-driven educational environments such as higher education (UNESCO, 2018). Likewise, the well-known TPACK (Technological Pedagogical Content Knowledge) framework (Mishra & Koehler, 2006) conceptualizes the synergy between content knowledge, pedagogy, and technology in effective teaching. According to this model, digital competence involves not just technical ability but also knowing how to choose and use digital tools that align with pedagogical goals and subject matter.

Recent studies further reinforce and expand these frameworks within the tertiary education context. A comprehensive analysis reported low to medium-low levels of digital competence among many university instructors, particularly in areas involving the evaluation of educational practices, despite the growing body of research on digital competencies in higher education (Basilotta Gomez Pablos et al., 2022). This study highlights the need for more personalized and hands-on professional development for faculty.

Recent Asia-Pacific research reinforces the centrality of teachers' digital skills to educational outcomes. A systematic review of studies in China found that disparities in the digital environment, the availability of ICT resources, and the quality of teacher training strongly shape teachers' digital competence, and that improving school-level infrastructure and targeted professional development are key strategies for strengthening teachers' ability to use technology effectively in teaching (Yang et al., 2023).

From these perspectives and findings, this study was aimed at investigating the relationship between teachers' digital competence and the academic performance of students in tertiary education. Specifically, it sought to determine (1) how teachers' proficiency in using digital technologies such as interactive media, digital communication tools, and online learning platforms affects students' motivation, participation, and learning outcomes; (2) whether a higher level of digital competence among teachers contributes to more effective instruction and improved academic achievement among tertiary learners; and (3) the significance of empowering teachers with adequate digital skills to meet the demands of modern education. Ultimately, the study highlighted how digital competence not only enhances quality of teaching but also plays a significant role in fostering academic success in today's technology-driven learning environments.

2. MATERIALS AND METHODS

This study is quantitative research that employed a descriptive-correlational design to determine the digital competence of teachers and the academic performance of selected tertiary-level students.

Research Locale and Participants

The study was conducted in a local university in Manila City, Philippines, from September to November 2025, involving 162 tertiary-level students enrolled in the science degree program of the College of Education. The sample size was determined using Slovin's formula based on the total population of enrolled science education students for the academic year 2025-2026. After computing the required minimum sample, respondents were selected through simple random sampling. A complete list of students across all year levels served as the sampling frame. To ensure proportionate representation, the number of students drawn from each year level was determined relative to its population size. Only officially enrolled students were included, while those on leave or with incomplete enrollment status were excluded. This procedure ensured that all eligible students had an equal chance of being selected and strengthened the methodological transparency of the study.

Instruments

Data were gathered using a researcher-made survey questionnaire composed of items to determine the following: the demographic profile of the respondents in terms of age and gender; the digital competence of teachers as perceived by the respondents in terms of technological proficiency, pedagogical integration, and adaptability to new technology; and the respondents' academic performance in terms of their GWA (general weighted average) that was answered using the Likert's 5-point scale.

The initial pool of items was generated through an extensive review of existing frameworks on digital competence, such as the European Framework for the DigCompEdu, and empirical studies on technology integration in higher education. Draft items were then evaluated by three experts in the fields of educational technology, research methodology, and higher education instruction. These experts assessed the clarity, relevance, and alignment of each item with the intended constructs. Revisions were made based on expert suggestions before pilot testing.

A pilot test was conducted with a small group of respondents not included in the final sample. Reliability analysis using Cronbach's alpha yielded a coefficient of 0.91, demonstrating high internal consistency.

Data Collection

Printed questionnaires were distributed to the respondents for the collection of data. The collected data from the

respondents was systematically organized, tallied, and tabulated to facilitate more effective interpretation and analysis.

Data Analysis

Data were analyzed statistically using frequency and percentage distributions, weighted mean, ANOVA, and Pearson's *r*.

3. RESULTS AND DISCUSSION

Demographic Profile of the Respondents

Out of the total respondents, 12% belonged to the age range 18 to 19 years old, 79% belonged to the age range 20 to 21 years old, 7% belonged to the age range 22 to 23 years old, and 2% were 24 years old and above, as shown in Figure 1. The result shows that the majority of the respondents were aged 20 to 21 years old, representing the typical age range of tertiary-level students. This suggests that most respondents were in the expected stage of young adulthood, a developmental period characterized by independence, goal orientation, and academic motivation. The gender distribution revealed that males made up the largest group (48%), followed by females (43%), and a smaller percentage (9%) identifying as LGBTQIA+, as shown in Figure 2. This diversity indicates that the sample was inclusive and represented varying gender identities, which may contribute to different perspectives and experiences in digital learning environments.

Tertiary students between the ages of 18 and 22 typically demonstrate strong academic outcomes and self-directed learning behaviors, particularly when engaged in technology-enhanced learning environments. As digital natives, young adults in this age range generally adapt easily to digital platforms and online academic activities. Higher-education learners frequently engage in self-directed learning through digital tools, with self-regulation and technological facilitation emerging as significant predictors of actual technology use (Lai et al., 2022). This aligns with the current findings, where most respondents were 20 to 21 years old, and the integration of digital competence at this developmental stage can contribute positively to learning performance and academic success.

Research has shown that university students' readiness for digital learning environments and their positive attitudes toward these environments are significant predictors of their academic motivation (Abildina et al., 2023). This further supports the notion that students in the young-adult tertiary stage, who are comfortable with technology, are well-positioned to leverage digital learning for better academic outcomes.
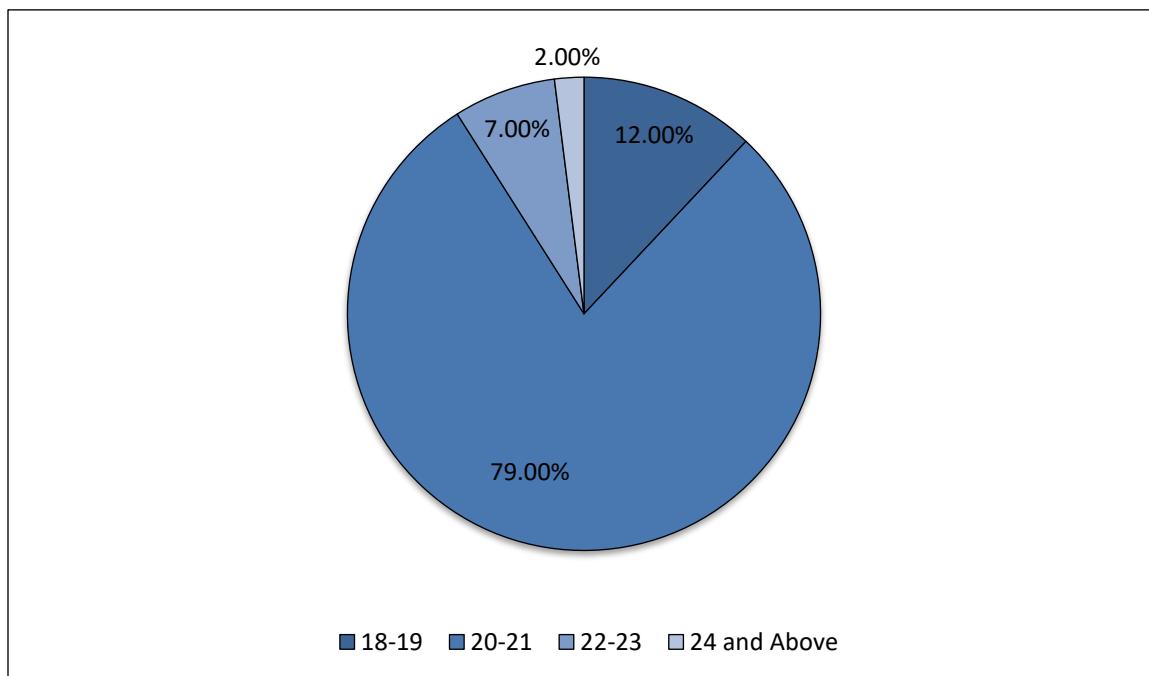
Figure 1. *Percentage distribution of respondents' demographic profile by age*
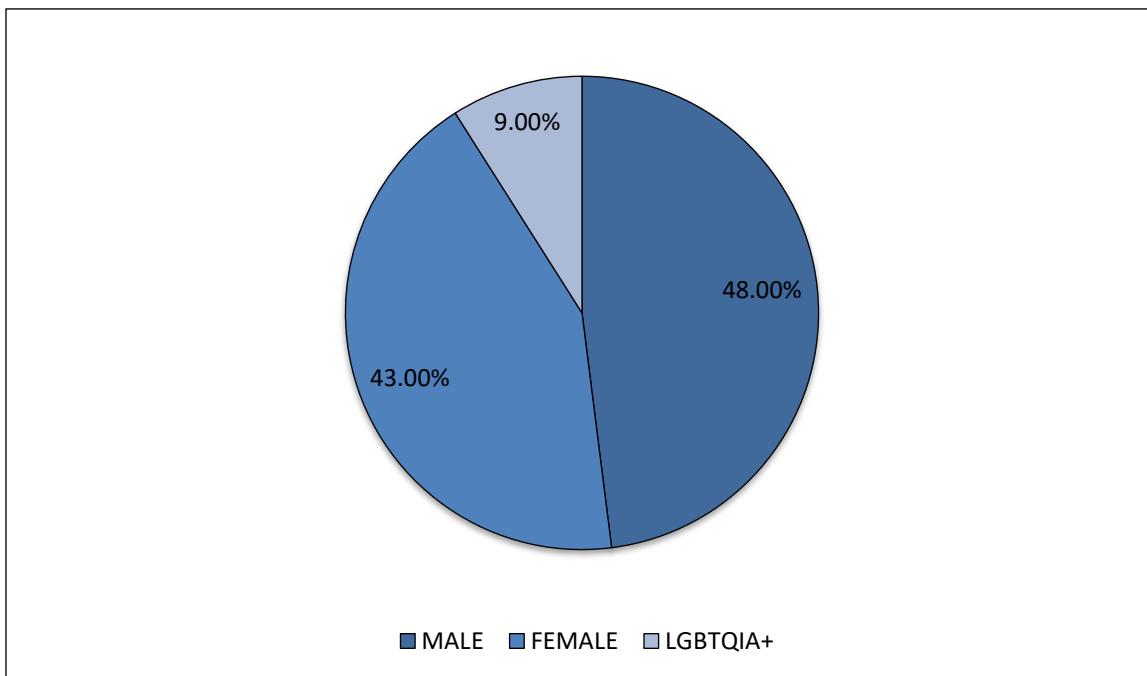
Figure 2. *Percentage distribution of respondents' demographic profile by gender*

Digital Competence of Teachers

The digital competence of teachers, as perceived by the respondents, in terms of technological proficiency was highly demonstrated; for pedagogical integration, it was very highly demonstrated; and for adaptability to new technology, it was very highly demonstrated, as presented in Table 1. The findings indicate that, from the students' viewpoint, teachers exhibited a very high level of digital competence, specifically in the areas of pedagogical integration and adaptability to new technology. The high demonstration of technical proficiency suggests that teachers possess the necessary skills to effectively operate digital tools and platforms for instructional purposes. Moreover, the very high level of pedagogical integration implies that teachers are not only capable of using technology but also able to incorporate it meaningfully into teaching and learning processes, enhancing student engagement and understanding. Likewise, the very high adaptability to new technology highlights teachers' openness and responsiveness to innovations in digital education, an essential trait in the constantly evolving landscape of tertiary education. These results reflect a positive trend in teacher readiness toward digital transformation in higher education, where technology is integral to curriculum delivery, student assessment, and academic communication.

Table 1
Digital competence of teachers

Digital competence	Weighted mean	Interpretation
Technological proficiency	4.19	Highly demonstrated
Pedagogical integration	4.29	Very highly demonstrated
Adaptability to new technology	4.29	Very highly demonstrated

Digitally competent educators are those who can effectively combine technical skills with pedagogical strategies and a willingness to adapt to emerging technologies. In the European Framework for the DigCompEdu, digital competence is described as a multidimensional construct that includes not only the ability to use technology but also the capacity to integrate it pedagogically to enhance learning outcomes (Redecker, 2017). This supports the present study's findings, where teachers' high levels of technological proficiency, pedagogical integration, and adaptability reflect the key competencies outlined in the DigCompEdu framework. Such competence ensures that educators can respond effectively to the diverse and changing demands of digital teaching environments in tertiary education.

Research using the DigCompEdu framework with 207 elementary teachers in the Azores found that, although teachers generally feel capable of using digital tools, they still need stronger skills to adapt and create digital resources for learning, highlighting that digital competence is multidimensional and relies on targeted professional development

(Loureiro et al., 2024). Similarly, an analysis of tertiary education faculty showed that, while teachers demonstrate solid proficiency in communication and collaboration through digital media, structured training is still necessary to improve creative and evaluative uses of technology (Cabero-Almenara & Palacios-Rodriguez, 2023). These findings highlight that ongoing professional development remains crucial for sustaining high levels of digital adaptability and pedagogical innovation in modern classrooms.

Academic Performance of Tertiary-Level Students

As shown in Table 2, 8 (5%) had a general weighted average of below 75, 41 (25%) had a general weighted average between 75 and 79, 29 (18%) had a general weighted average between 80 and 84, 77 (48%) had a general weighted average between 85 and 89, 5 (3%) had a general weighted average between 90 and 94, and 2 (2%) had a general weighted average between 95 and 100. The distribution of general weighted averages (GWAs) among respondents shows that a large portion achieved a GWA between 85 and 89, which is likely in the "very good" or "above-average" academic performance range in many tertiary institutions. This suggests that most students are performing well academically. These results imply that students are capable of achieving solid academic results.

While the distribution of general weighted averages indicates that a substantial proportion of respondents attained GWAs within the 85 to 89 range, suggestive of generally strong academic performance, it is important to interpret these findings cautiously. The study design is primarily descriptive and correlational; therefore, the data do not permit conclusions about causation. Although the study identified a positive correlation between teachers' digital competence and students' academic performance, this relationship does not confirm that digital competence directly caused higher achievement.

Higher use of digital tools within an active learning framework was found to be significantly associated with better final grades and greater success in continuous evaluation activities among university students (Mosquera-Gende, 2023). Similarly, learners taught by educators with high levels of digital teaching competence demonstrated improved academic engagement and achievement, highlighting that effective integration of technology in tertiary education enhances both motivation and performance (Garcia-Peñalvo et al., 2021). This supports the idea that strong teacher digital competence (especially in pedagogical integration and adaptability) can foster environments where students achieve above-average academic outcomes, similar to what the data show.

Table 2

Frequency and percentage distribution of tertiary-level students' academic performance

General weighted average	Frequency	Percentage
Below 75	8	5%
75 – 79	41	25%
80 – 84	29	18%
85 – 89	77	48%
90 – 94	5	3%
95 – 100	2	1%

Significant Difference of the Respondents' Academic Performance when grouped according to Demographic Profile

The results reveal that the *p*-values for age (0.34) and gender (0.28) are both greater than the significance level of 0.05, as shown in Table 3, indicating no significant difference in the respondents' academic performance when grouped according to these variables. This implies that neither age nor gender had a measurable effect on students' academic outcomes. In other words, students, regardless of being younger or older, male, female, or LGBTQIA+, performed similarly in their academic work. This finding suggests that factors other than age and gender, such as learning environment, teaching strategies, and digital competence of teachers, may play a more substantial role in influencing academic performance. It also reflects a trend toward equity in tertiary education, where access to technology and digital learning tools may have minimized performance disparities among different demographic groups.

Although the results indicate no significant difference in academic performance when respondents were grouped according to age and gender, this finding should be interpreted within the limitations of the demographic data. The age range of participants is relatively narrow, meaning it does not capture diverse developmental stages that could otherwise produce more meaningful distinctions in academic outcomes. Likewise, gender-based performance differences in technology-supported learning environments are often minimal, especially in contemporary tertiary settings where digital tools, online platforms, and standardized learning requirements help reduce performance disparities. Because these demographic variables offer limited variability, they are not expected to produce strong differentiating effects. Thus, the

absence of significant differences may be due less to true equivalence and more to the limited discriminatory power of the variables measured. This underscores the need to consider a broader set of factors, such as digital access, learning conditions, pedagogy, and socioeconomic influences, to better explain variations in academic performance.

Greater institutional resources and support mechanisms, such as access to digital infrastructure and academic assistance, have been shown to predict academic performance more strongly than demographic variables like age or gender among undergraduates in Taiwan and Vietnam. This emphasizes that contextual factors, learning environments, and resource availability exert a greater influence on academic outcomes than demographic differences (Martens & Pham, 2025). This supports the current study's findings that age and gender are not significant determinants of academic achievement, emphasizing instead the importance of digital competence and active learning strategies in influencing student outcomes.

Table 3
Significant difference of the respondents' academic performance when grouped according to demographic profile

Demographic profile	P-value	Interpretation
Age	0.34	No significant difference
Gender	0.28	No significant difference

Correlation between the Teachers' Digital Competence and the Students' Academic Performance

A Pearson correlation analysis revealed a moderate, positive, and significant correlation between digital competence of teachers and academic performance of students ($r = 0.51$, $p = .048$), as shown in Table 4. This suggests that higher levels of digital competence among teachers are associated with better academic performance among tertiary students. The result highlights the critical role of digitally skilled teachers in promoting effective learning experiences. Teachers who can integrate digital tools meaningfully into instruction can enhance student engagement, support diverse learning styles, and provide more interactive and accessible learning opportunities. In tertiary education, where technology is deeply embedded in instructional delivery, the teachers' digital competence is positively associated with students' ability to learn efficiently and achieve higher academic outcomes.

A significant positive relationship has been found between teachers' digital competence and students' learning outcomes in tertiary education, with educators who demonstrate higher digital competence better able to design innovative learning environments, use technological resources effectively, and foster student motivation and achievement (Cabero-Almenara & Palacios-Rodriguez, 2021). This supports the present study's finding that teachers' digital competence contributes positively to students' academic performance, confirming that technology-enhanced pedagogy is a vital component of success in modern tertiary education.

Table 4
Correlation between the teachers' digital competence and the students' academic performance

Pearson's r	Correlation	P-value	Significance
0.51	Moderate positive	0.048	Significant

4. CONCLUSION

The findings of the study highlight the vital role of teachers' digital competence in shaping successful learning outcomes in higher education. The moderate, positive, and significant correlation between digital teaching proficiency and students' academic performance reinforces the relevance of established digital pedagogy frameworks such as TPACK and DigCompEdu, which emphasize the integration of technological skills with strong pedagogical practices.

When educators are able to strategically incorporate digital tools into instruction, beyond basic operational use, learners are more likely to participate deeply with learning and demonstrate improved academic achievement. These results highlight the necessity for continuous professional development that strengthens teachers' capacity to design technology-enhanced learning experiences, particularly in rapidly evolving digital environments. Fostering a digitally competent teaching workforce is essential in ensuring that tertiary education remains responsive, inclusive, and aligned with the demands of 21st-century learning.

To ensure that higher education remains adaptive and effective in an increasingly digital landscape, several key recommendations are proposed. For teachers, prioritizing continuous professional development in digital pedagogy is essential. Educators should be encouraged to deepen not only their technical skills but also their capacity to integrate digital tools meaningfully into instruction, fostering learner engagement and improved academic performance. Training programs should

emphasize instructional design for technology-enhanced learning, adaptable strategies for diverse learning contexts, and reflective practices that support on-going improvement.

For higher education institutions, investing in robust technological infrastructure and providing accessible support systems must be regarded as a critical priority. Institutions should establish structured professional development programs aligned with recognized digital competence frameworks such as TPACK and DigCompEdu. Additionally, there is a need to cultivate a collaborative culture where educators share best practices, explore innovative digital approaches, and receive incentives for advancing pedagogical innovation. Institutional policies should also ensure that technology integration supports inclusivity and equitable access for all learners.

For policymakers, strong advocacy and funding support are required to sustain long-term digital transformation in education. This includes allocating resources for continuous teacher training, guaranteeing reliable digital access across various learning environments, and developing national standards that promote high-quality digital teaching. They should also collaborate with academic institutions to monitor the impact of digital competence initiatives and ensure alignment with future workforce demands.

Finally, future researchers should explore the long-term effects of digital competence development on student outcomes and examine how emerging technologies can further enhance learning experiences. Continuous inquiry will help build resilient and evidence-based educational systems capable of thriving in a rapidly evolving digital world.

ETHICAL CONSIDERATION

The study was conducted following established ethical research standards. Approval to conduct the research was obtained from the office of the University Research. Informed consent was secured from all respondents after they were provided with adequate information regarding the procedures, purpose of the study, and their rights as respondents. Respondents were made aware that their participation in the study was completely voluntary and that they can withdraw at any time without facing any consequences. The anonymity of respondents and confidentiality of information were strictly maintained, and all data collected was used exclusively for research purposes. The researcher ensured that no harm, risk, or discomfort was posed to any participant throughout the study.

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Research Article

Level of Implementation in the Deployment of Pre-Service Teachers on Experiential Learning Courses in the National Capital Region: Basis for Enhanced Proposed Policy Implementation

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ABSTRACT

Pre-service teacher training is a critical stage in teacher education that enables pre-service teachers to immerse themselves in an authentic school setting by integrating theoretical knowledge with actual classroom practice. This study examined the perceptions of 82 college supervisors from Teacher Education Institutions and 403 cooperating teachers from the Department of Education in the National Capital Region regarding the implementation of Experiential Learning Courses (ELCs). Using a quantitative design with proportionate and multi-stage sampling, data were collected using two validated and reliability-tested questionnaires. Descriptive statistics were used to assess how well the ELCs were implemented, while nonparametric tests such as the Mann-Whitney U test and the Kruskal-Wallis H test were used to determine significant differences in perceptions among respondent groups. Findings revealed that the roles of college supervisors, cooperating teachers, and school principals in the deployment of pre-service teachers were generally rated as highly implemented. Significant differences were noted in the supervisors' assessments of the roles of deans, and in cooperating teachers' evaluations of school principals and their respective roles. The primary challenges identified by the respondents during deployment included the late deployment of pre-service teachers and limited school visits by supervisors. These findings recommend the need for stronger coordination between institutions and schools to optimize experiential learning opportunities. Furthermore, the Teacher Education Institutions should develop deployment schedules aligned with the DepEd school calendar and consider providing logistical support for college supervisors to enhance ELC monitoring.

Keywords: Assessment, Implementation, Deployment, Pre-Service Teachers, Experiential Learning Courses

1. INTRODUCTION

Preparation of pre-service teachers is critically shaped by high-quality experiential learning that effectively integrates pedagogical theories with actual classroom practice. According to Borabo (2018), teaching internship is crucial to the success of professional teachers as it provides numerous roles and functions needed by pre-service teachers to perform effectively in different situations. Additionally, Tuli and File (2010) describe practice teaching as the most essential aspect of every teacher education program. Pre-service teacher training emphasizes that the important domains of teacher preparation programs, such as content mastery, professional knowledge, and essential pedagogical skills, ensure that future educators are well-prepared for the demands of classroom instruction. In line with this, the study of Ambag (2015) supports the understanding that teacher training should start in the pre-service period of the teacher, which signals the beginning of experiential learning for teacher education students.

The United Nations underscores the need to produce more qualified teachers through strengthened international collaboration in teacher education that is essential to achieving Sustainable Development Goal 4, which calls for inclusive, equitable, and quality education for all by 2030. Regarding pre-service teacher preparation, UNESCO emphasizes that the structured coursework and field experiences of pre-service programs are crucial to developing teacher training programs as they greatly

contribute to preparation processes.

Across the Asia-Pacific region, both the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Organisation for Economic Cooperation and Development (OECD) stress that high-quality teacher education is essential for improving education systems and reaching global goals for fair and inclusive learning. The UNESCO highlights the need for well-structured coursework, experiential learning, and strong partnerships between universities and schools to balance theory and practice. These are seen as regional priorities for preparing teachers. Additionally, the OECD notes that that countries like Singapore, Japan, and South Korea have set up strict practicum systems, mentoring structures, and strong professional development pathways that always lead to competent teachers. However, despite these regional patterns, many Southeast Asian nations continue to face significant challenges in scaling such practice. These reports from the UNESCO and OECD show the global dedication to improving the quality of teachers and the ability to find and train the best candidates for the teaching profession.

In the Philippines, CHED Memorandum Order (CMO) No. 30, s. 2004, commonly referred to as "Revised Policies and Standards for the Undergraduate Teacher Education Curriculum" highlights the inclusion of a series of Experiential Learning Courses (ELCs) which intention is to feed pre-service teachers with an array of authentic learning experiences in school which involve observation, verification, reflection of various processes in teaching and learning. This includes the field study and practice teaching courses designed to progressively immerse pre-service teachers in authentic school environments. By all accounts, involving pre-service teachers in an actual learning environment ahead of time ensures better preparation of the teachers-to-be, as well as their appreciation of the teaching craft.

In support of the New Teacher Curriculum, the Department of Education issued DepEd Order No. 3, s. 2007 otherwise known as "Guidelines in the Deployment of Pre-Service Teachers on Experiential Learning: Field Study and Practice Teaching." It clearly defines the roles of both the TEIs and the cooperating schools in implementing pre-service teacher training from the start-up to the end of field study and practice teaching Training of pre-service teachers to be more adept, competitive, and fully prepared for the demands of the teaching profession entails strong partnership between the Teacher Education Institutions (TEIs) and the Basic Education Schools (BES). Implementation of pre-service teacher training is always a joint effort among teacher supervisors from colleges and universities, cooperating teachers/mentors from basic education schools, and the pre-service teachers. Studies conducted about pre-service teacher training focus on the effectiveness of implementation, contribution, and challenges.

Pre-service teaching is referred to as the period when teacher education students are introduced to the real teaching duties and responsibilities as carefully guided and supervised by a mentor or cooperating teacher. Russell (2006) and Latifah (2014) recognized the importance of practicum experiences for pre-service teachers as it is considered as the most vital component of pre- service teacher training with the primary objective to prepare pre-service teachers for actual teaching practice in a chosen school. It is also intended to strengthen and develop teacher learning and encourage them to a greater degree of self-confidence. Furthermore, Eyers (2004) and Ulla (2016) describe practicum as culmination of theory to practice which links knowledge to experience through the actual classroom settings. Indeed, pre-service teacher training is the ultimate preparation of teacher aspirants for the real challenges in the teaching world.

The study of Meneses, et al. (2017) found out that pre-service teachers performed very well in experiential learning courses and the academic performance of pre-service teachers in their Field Study Courses has a significant positive correlation with their academic performance in their Practice Teaching Courses. However, challenges remain significant in the deployment process. Bilbao, Torno, & Lucido (2010) identified gaps in orientation and training during the pilot implementation of ELCs. Moreover, subsequent studies (Calicdan, 2017; Flores, 2016; Mangila, 2018; Patan, 2010; Yacap, 2022) highlighted the need for curriculum review, policy refinement, and continuous orientation for both cooperating teachers and pre-service teachers. Additionally, Castro & Tayao (2011) emphasized the importance of adapting resource materials such as the Experiential Learning Handbook to strengthen implementation.

It is worth pointing out that the country's education system significantly needs quality and competent teacher workforce in the basic education level in this period of 21st century. As the successful implementation of pre-service teacher training greatly depends on the collaboration and strong affiliation between the Teacher Education Institutions and the DepEd cooperating schools, it is truly vital to assess how the deployment of pre-service teachers for Experiential Learning Courses is implemented.

Therefore, this study seeks to assess the level of implementation in the deployment of pre-service teachers in experiential learning courses based on the roles of Teacher Education Institutions (TEIs) and DepEd Cooperating Schools.

2. MATERIALS AND METHODS

The quantitative research method is employed in the study. This research method involves typical collection of data in numerical forms to quantify information and apply statistical treatment for data analysis. A descriptive research design was specifically utilized to capture and examine existing conditions on the level of implementation of Experiential Learning Courses (ELCs) in the National Capital Region.

Research Locale and Participants

This study utilized two (2) groups of respondents from the National Capital Region. The first group involves 82 college supervisors/coordinators of public Teacher Education Institutions (TEIs) who handle field study and practice teaching courses. The second group consists of 403 cooperating teachers from randomly selected basic education schools where pre-service teachers

undergo field study and practice teaching. The sample size of the selected schools was determined using Cochran's formula, while the number of respondents per TEI and cooperating school was identified using proportionate sampling. The study passed the evaluation of the research ethics board and informed consent was obtained from the respondents.

Instruments

Two sets of researcher-developed questionnaires were utilized as research instruments. The first was a 20 item Likert scale designed to assess the roles of Teacher Education Institutions (TEIs) in the deployment of pre-service teachers for Experiential Learning Courses (ELCs). The second was a 33 item Likert scale focusing on the roles of cooperating schools in the same deployment process. Both instruments were anchored on the guidelines for pre-service teacher deployment outlined in Department of Education Order No. 3, s. 2007.

The instruments were validated by selected experts in the field: one from DepEd-NCR, one from CHED-NCR, and another one from a state university outside the National Capital Region. After the revisions were made, the instruments underwent pilot testing. The results of Cronbach's Alpha test of reliability resulted to coefficients of 0.821 for the first instrument and 0.943 for the second instrument which indicates high internal consistency and suitability for use in the study.

To assess the perception of the respondents on the level of implementation in the deployment of pre-service teachers in Experiential Learning Courses, a five-point Likert scale ranging from not implemented to highly implemented was used.

Data Collection

The researcher secured permission from the Teacher Education Institutions (TEIs) and DepEd Cooperating Schools to collect data from the respondents. The survey questionnaires were distributed to the identified TEIs and cooperating schools. Upon retrieval of the completed instruments, responses were systematically tabulated and subjected to appropriate statistical treatments.

Data Analysis

The study employed a range of statistical tools to analyze the data. Descriptive statistics, including frequency, percentage, and median, were used to summarize the level of implementation of Experiential Learning Courses (ELCs). To determine significant differences in the assessments across respondent groups, non-parametric inferential tests were applied, specifically the Kruskal-Wallis H test and the Mann-Whitney U test. These tests were considered suitable because the data failed to satisfy the criteria of normality and consisted of ordinal-level responses, rendering non-parametric methods the most robust and dependable option for group comparisons. Thorough analysis and interpretation of the gathered data were made and recommendations to enhance the implementation of Experiential Learning Courses were proposed.

3. RESULTS AND DISCUSSION

The following results summarize the major outcomes derived from the analyses conducted in this study. The results are interpreted in the context of existing literature to highlight their significance and relevance.

Table 1

Frequency and percentage distribution of the College Supervisors by Type of Teacher Education Institutions

Type of TEI	Frequency (f)	Percentage (%)
Local Colleges and Universities (LUCs)	60	73.17
State Universities and Colleges (SUCs)	22	26.83
Total	**82**	**100.00**

Table 1 shows the frequency and percentage distribution of college supervisors in terms of type of Teacher Education Institution. Of the initially identified 88 respondents from the TEIs in the National Capital Region, only 82 respondents answered questionnaire. One of the SUCs opted not to participate in the study since they do not deploy pre-service teachers in DepEd schools because they have their own laboratory high school or integrated school.

As reflected in this table, 60 or 73.17% of the respondents belong to the Local Colleges and Universities (LUCs), while 22 or 26.85% of them were from the State Universities and Colleges (SUCs). Thus, most of the college supervisor respondents were from the Local Universities and Colleges.

Table 2

Frequency and percentage distribution of the College Supervisors by number of years in teaching

Number of Years in Teaching	Frequency (f)	Percentage (%)
10 years and below	39	47.56
11-20 years	27	32.93
21-40 years	16	19.51
Total	**82**	**100.00**

Table 2 reveals the frequency and percentage distribution of college supervisors in terms of number of years in teaching. As reflected, 39 or 47.56% of the college supervisors have been teaching for 10 years and below which got the highest frequency. This was followed by 27 or 32.93% for 11 to 20 years and 15 or 18.29% for 21 to 30 years. It could be noted from the presentation that only one (1) of the respondents has been teaching for 31 to 40 years with frequency of 1.22%. Therefore, most of the college supervisors from the TEIs have been teaching for ten years or less.

Table 3

Frequency and percentage distribution of the college supervisors by number of years in handling ELCs

Number of Years in Teaching	Frequency (f)	Percentage (%)
5 years and below	53	64.63
6- 10 years	26	31.71
11-20 years	3	3.66
Total	**82**	**100.00**

Table 3 presents the frequency and percentage distribution of college supervisors in terms of number of years in handling Experiential Learning Courses. As shown, five (5) years and below got the highest frequency or percentage value of 53 or 64.63% which comprised more than half of the respondents. This is followed by 6 to 10 years with frequency of 26 or 31.71%, 11 to 15 years with frequency of 2 or 2.44%, and 16 to 20 years with frequency of 1 or 1.22%, respectively. Hence, it is notable that majority of the college supervisors have been handing field study and practice teaching courses for five years or less.

Table 4

Frequency and percentage distribution of the cooperating teachers by DepEd Division

DEPED Division	Frequency(f)	Percentage (%)
QUEZON CITY	81	20.10
MANILA	70	17.37
CALOOCAN	53	13.15
VALENZUELA	38	9.43
TAGUIG-PATEROS	30	7.44
PASIG	27	6.70
MALABON	22	5.46
MAKATI	19	4.71
PASAY	18	4.47
MARIKINA	16	3.97
NAVOTAS	15	3.72
MUNTINLUPA	14	3.47
Total	**403**	**100.00**

Table 4 illustrates the frequency and percentage distribution of cooperating teachers in terms of DepEd Division. The researcher identified a total of 404 population samples for the DepEd cooperating teachers. However, one respondent from the Division of Marikina incompletely answered the questionnaire, marking it as invalid. Therefore, the total number of respondents who answered the questionnaire completely is 403. Based on the results, the two biggest DepEd divisions of all the twelve (12) identified divisions are DepEd Quezon City with frequency of 81 or 20.10% and DepEd Manila with frequency of 81 or 20.10 percent and 70 or 17.37%. These are followed by DepEd Caloocan City with 53 or 13.15%, DepEd Valenzuela City with 38 or 9.43%, DepEd Taguig-Pateros with 30 or 7.44%, DepEd Pasig City with 27 or 6.70%, DepEd City of Malabon with 22 or 5.46%, DepEd Makati City with 19 or 4.71%, DepEd Pasay City with 18 or 4.47%, and DepEd Marikina City with 16 or 3.97%. On the other hand, the two smallest DepEd divisions are DepEd Navotas City with 15 or 3.72%, DepEd Muntinlupa City with 14 or 3.47%. Thus, the bulk of the respondents were from the DepEd Division of Quezon City.

Table 5

Frequency and percentage distribution of the Cooperating Teachers by number of years in teaching

Number of years in Teaching	Frequency (f)	Percentage (%)
10 years and below	165	40.94
11-20 years	122	30.27
21-30years	91	22.58
31-40 years	23	5.71
41 years and above	2	0.50
Total	**403**	**100.00**

Table 5 displays the frequency and percentage distribution of cooperating teachers in terms of number of years in teaching. As presented, out of the 403 respondents, the period of 10 years and below got the highest frequency of 165 or 40.94%. This is followed by 11 to 20 years with frequency of 122 or 30.27%, 21 to 30 years with 91 or 22.58%, and 31 to 40 years with 23 or 5.71%. Last of all, when it comes to number of years in teaching, 41 years and above got a frequency of 2 or 0.50%. Consequently, most of the cooperating teachers have been teaching for ten years or less.

Table 6

Frequency and percentage distribution of the Cooperating Teachers by number of years in handling Pre-Service Teachers

Number of years in handling pre-service teachers	Frequency (f)	Percentage (%)
5 years and below	267	66.25
6- 10 years	80	19.85
11-15 years	42	10.42
16-20 years	9	2.23
21 years and above	5	1.24
Total	**403**	**100.00**

Illustrated in Table 6 is the frequency and percentage distribution of cooperating teachers in terms of number of years in handling pre-service teachers. Five (5) years and below got the highest frequency of 267 or 66.25%, followed by 6 to 10 years with frequency of 80 or 19.85%. Next, the period of 11 to 15 years got frequency of 42 or 10.42%, 16 to 20 years got frequency of 9 or 2.23% and 21 years above got frequency of 5 or 1.24%. Summing up the abovementioned interpretation, majority of the cooperating teachers have been handling pre-service teachers for five years or less.

Table 7

Assessment of College Supervisors on the roles of TEI Deans in Pre-Service Teacher Deployment

Roles of the TEI Dean	Median	Verbal Interpretation
Initiates conferences with the regional Director, Schools Division Superintendents, and School Principals in selecting cooperating schools	4.00	Moderately Implemented

Prepares a Memorandum of Agreement (MOA) between the TEI and the Division Office to be signed by the College/University President and the Schools Division Superintendents	5.00	Highly Implemented
Coordinates with the Schools Division Superintendents in the selection of cooperating schools	5.00	Highly Implemented
Prepares a formal communication to the school principal relative to the deployment of Student Teachers	5.00	Highly Implemented
Ensures that the college supervisor deploys pre-service teachers to schools as arranged with the Schools Division Superintendents	5.00	Highly Implemented
Provides a flexible incentive system to personnel (cooperating teachers, school principal, department heads and supervisors) involved in student teaching as stipulated in the Memorandum of Agreement	5.00	Highly Implemented
Provides functional space or area for Experiential Learning Courses	4.00	Moderately Implemented
Shares with the public school system the technology, human and material resources available in the institution	5.00	Highly Implemented
Overall Median	**5.00**	**Highly Implemented**

Table 7 indicates the assessment of the college supervisors on the roles of TEI Deans in practice teaching and field study. It can be observed that almost all the indicators under the roles of the TEI Dean are "highly implemented" with a median of 5.00. However, the other two indicators: "The TEI Dean initiates conferences with the regional Director, Schools Division Superintendents and School Principals in selecting cooperating schools" and "The TEI Dean provides functional space or area for Experiential Learning Courses" both got a median of 4.00 which were identified as "moderately implemented." It can be gleaned that the implementation of the roles of TEI Dean on deploying pre-service teachers for field study and practice teaching is "highly implemented" with an overall median of 5.00.

Relatively, the study of Calicdan (2017) on the implementation of Practice Teaching Program in a state university recommended conducting comprehensive orientation meetings and conferences of the TEIs with the cooperating school heads to clarify the provisions of the memorandum of agreement between the university and the DepEd schools.

Table 8
Assessment of College Supervisors on their roles in Pre-Service Teacher Deployment

Roles of the TEI College Supervisor	Median	Verbal Interpretation
Submits a list of qualified student teachers to the cooperating school a week before the practice teaching commences	5.00	Highly Implemented
Explains the rationale and procedures of the experiential learning courses to the pre-service teachers	5.00	Highly Implemented
Conducts orientation meetings in order that expectations of both parties (the TEI and cooperating school) are made clear to all concerned	5.00	Highly Implemented
Determines the readiness and ability of the pre-service teachers to undergo practice teaching	5.00	Highly Implemented
Coordinates with the cooperating school head regarding the activities and practice teaching needs of the student teachers through coordinating with the Cooperating School Head	5.00	Highly Implemented
Orients the student teachers for their off campus-work	5.00	Highly Implemented
Conducts regular observation and evaluation of the practice teaching performance of the student teachers	5.00	Highly Implemented
Coordinates regularly with the cooperating school principal/head teacher, and cooperating teacher regarding performance of the student teachers	5.00	Highly Implemented

Submits written reports to the College Dean, copy furnished the school principal and the Schools Division Superintendents, at least twice a month regarding the progress/performance of student teachers	4.00	Moderately Implemented
Submits written reports to the College Dean, copy furnished the school principal and the Schools Division Superintendents, at least twice a month regarding the problems/difficulties met by the student teachers	4.00	Moderately Implemented
Submits written reports to the College Dean, copy furnished the school principal and the Schools Division Superintendents, at least twice a month regarding the solutions/actions taken to solve the problems	4.00	Moderately Implemented
Conducts debriefing sessions, interview/case studies of student teachers	5.00	Highly Implemented
Overall Median	**5.00**	**Highly Implemented**

Table 8 demonstrates the perceived assessment of the college supervisors on their roles in the deployment of pre-service teachers for practice teaching and field study. Nine (9) out of twelve (12) roles were assessed as "highly implemented" having a median of 5.00. On the contrary, the three (3) indicators were assessed as "moderately implemented" with a median of 4.00. Nevertheless, it can be asserted that the roles of the TEI College Supervisors on deploying pre-service teachers for experiential learning courses, in general, are "highly implemented"

In relation to this, the study of Castro and Tayao (2011) which assessed the implementation of the Field Study courses in collaboration with the Department of Education-Cooperating Schools suggested that the execution of the Field Study Courses could be improved by enhancing the implementation procedure which could be done by continuously using the resource materials from the Teacher Education Council, Department of Education and the Commission on Higher Education- Experiential Learning Handbook. Materials such the ELC handbook is a helpful reference for college supervisors handling Experiential Learning Courses, and even for cooperating teachers who are mentoring pre-service teachers.

Table 9
Assessment of Cooperating Teachers on the roles of Principals in Field Study

Roles of the Cooperating School Principal for Field Study	Median	Verbal Interpretation
Accepts the Field Study Students (FSS) and see to it that they are assigned to observe any teacher	5.00	Highly Implemented
Coordinates with Teacher Education Institution (TEI) college supervisors concerning field study assignments and problems	5.00	Highly Implemented
Ensures the orientation of the Field Study Students on policies, regulations, and environment of the school	5.00	Highly Implemented
Ensures the orientation of the Field Study Students on policies, regulations, and environment of the school	5.00	Highly Implemented
Ensures the orientation of the Field Study Students on assignment of classes and responsibilities	5.00	Highly Implemented
Participates in a debriefing session with the resource teacher, the Field Study Students, and the college practicum supervisor	4.00	Moderately Implemented
Overall Median	**5.00**	**Highly Implemented**

Table 9 portrays the assessment of the cooperating teachers from DepEd schools in terms of the roles of cooperating school principal in field study. There are five identified roles of principals in field study. Four (4) of them were assessed as highly implemented with a median of 5.00. Conversely, only the item got a median of 4.00 which is verbally interpreted as "moderately implemented." It would be interesting to note that there is less participation of the principals in the debriefing session, and it is always the cooperating teacher and head of department who participate in the discussion with practicum supervisors and pre-service teachers. Still, the roles of the school principals in the deployment of pre-service teachers for field study are "highly implemented" with an overall mean of 5.00.

In the study of Melesse (2014) on the overall effectiveness of the implementation of the practicum programs, some of

the problems identified were lack of close follow up, dialogues, and support system in the practicum program which may affect the accomplishment of the roles and responsibilities in pre-service teacher training.

Table 10

Assessment of the Cooperating Teachers on the roles of Principals in Practice Teaching

Roles of the Cooperating School Principal in Practice Teaching	Median	Verbal Interpretation
Assigns a student teacher to a qualified cooperating teacher (with at least 3 years of teaching experience) in coordination with the school department head/chairman and with the University/College Student Teaching Supervisor/Director	5.00	Highly Implemented
Provides necessary compliments to secure the safety of student teachers during their stay in the basic education school	5.00	Highly Implemented
Allows the faculty coordinators of the Teacher Education Institutions access to information regarding the school and community for research purposes	5.00	Highly Implemented
Allows the practice teachers the access to information regarding the school and community	5.00	Highly Implemented
Conducts regular conference with the cooperating teachers as regards to the performance of the student teachers.	4.00	Moderately Implemented
Coordinates with the college supervisor of the student teacher	4.00	Moderately Implemented
Ensures that student teachers are not allowed to substitute for teachers who are on leave.	5.00	Highly Implemented
Prepares required reports to the Division Schools Superintendents.	4.00	Moderately Implemented
Overall Median	5.00	Highly Implemented

Table 10 depicts the assessment on the roles of school principals in practice teaching. There are eight roles of school principals identified for practice teaching wherein five of these roles are assessed as "highly implemented" with a median of 5.00. In contrast, three roles of the principal are identified by the cooperating teachers as "moderately implemented" with a median of 4.00. Overall, the roles of the principals in practice teachers were assessed by the respondents as "highly implemented" with an overall mean of 5.00. The result is relevant to the study of Damar (2010) which describes the importance of conducting regular meetings during pre-service teacher training to discuss the development of the trainees from time to time.

Table 11

Assessment of the Cooperating Teachers on their Roles in Field Study

Roles of the Cooperating Teachers in Field Study	Median	Verbal Interpretation
Ensures that the Field Study Students' role is limited to the requirements and activities of the particular field study course	5.00	Highly Implemented
Accommodates Field Study Students in their actual classroom teaching to observe instructional practices and is not duty bound to mentor/coach	5.00	Highly Implemented
Certifies the attendance of the Field Study Students	5.00	Highly Implemented
Overall Median	**5.00**	**Highly Implemented**

Table 11 captures the insights of the cooperating teachers in the implementation of their roles in field study. Based on the results, all of the three identified roles of cooperating teachers in field study got a median of 5.00 with a verbal interpretation

of "highly implemented". In line with this, the qualitative study of Payant and Murphy (2012) on the roles of cooperating teachers presents that all the cooperating teacher informants showed every sign of prioritizing their roles and responsibilities in the practicum program.

Table 12

Assessment of the Cooperating Teachers on their roles in Practice Teaching

Roles of the Cooperating Teachers in Practice Teaching	Median	Verbal Interpretation
Observes mentor-mentee relationship	5.00	Highly Implemented
Assists the student teachers in honing their skills through conducting regular class observation and post conference	5.00	Highly Implemented
Assists the student teachers in honing their skills through teaching them in lesson planning	5.00	Highly Implemented
Assists the student teachers in honing their skills through use of varied strategies/ approaches/techniques	5.00	Highly Implemented
Assists the student teachers in honing their skills through classroom management	5.00	Highly Implemented
Assists the student teachers in honing their skills through assessment of learning outcomes	5.00	Highly Implemented
Assists the student teachers in honing their skills through questioning techniques	5.00	Highly Implemented
Assists the student teachers in honing their skills through preparation of instructional materials	5.00	Highly Implemented
Assists the student teachers in honing their skills through preparation of examinations/various assessment modes	5.00	Highly Implemented
Assists the student teachers in honing their skills through accomplishment of different forms and related work	5.00	Highly Implemented
Observes coaches/mentors and evaluates the performance of the student teacher	5.00	Highly Implemented
Keeps a record of observations and post conferences made with the student teacher.	5.00	Highly Implemented
Models effective teaching and management techniques	5.00	Highly Implemented
Provides the student teacher the opportunity to teach independently and collaboratively	5.00	Highly Implemented
Allows the student teacher to participate in co-curricular and school/community activities	5.00	Highly Implemented
Completes a set of summative evaluation reports for each student teacher	5.00	Highly Implemented
Recommends "PASS" or "FAIL" standing for the student teacher for the practicum	5.00	Highly Implemented
Overall Median	**5.00**	**Highly Implemented**

Table 12 on the next page provides data on the assessment of the cooperating of their roles in the deployment of pre-service teachers in practice teaching. The researcher determined seventeen (17) roles of cooperating teachers in practice teaching. Using median, all of these were perceived by the respondents as "highly implemented" with overall median of 5.00. It is evidently seen that comparable with field study, the cooperating teachers are very much aware of their roles and responsibilities as mentors in the conduct of practice teaching. Correspondingly, the study of Araya (2013) among teacher mentors about policy and activities of practicum program determined that majority of the school mentors demonstrated clear understanding of the policy and activities of the practicum program.

Table 13

Mann-Whitney U Test: comparison of the assessment made by the College Supervisors by type of TEI

Indicators	Type of TEI	Mean Rank	*U-statistic*	*p-value*	Decision	Remarks
Roles of the TEI Dean	Local Colleges and Universities (LUCs)	46.525	358.500	0.001	Reject Ho	Significant
	State Universities and Colleges (SUCs)	27.795				
Roles of the TEI College Supervisor	Local Colleges and Universities (LUCs)	43.842	519.500	0.139	Failed to Reject Ho	Not Significant
	State Universities and Colleges (SUCs)	35.114				

Table 13 exposes the Mann-Whitney U test for comparison on the assessment of college supervisors when grouped according to type of TEI. If the p-value is less than or equal to the assigned level of significance which is 0.05, the null hypothesis is rejected. Otherwise, obtaining a p-value that is greater than 0.05 implies failure to reject the null hypothesis.

As depicted on the findings, the indicator "Roles of TEI Dean" yields a Mean Rank of 46.525 for local Colleges and Universities (LUCs), while a Mean Rank of 27.795 for State Universities and Colleges (SUCs), with a computed p-value of 0.001. Since this is less than the assigned level of significance, hence, the result rejects the null hypothesis. This concludes that there is a significant difference in the assessment of college supervisors on the Roles of the TEI Dean when grouped according to type of TEI. On the contrary, the "Roles of TEI College Supervisor" led to a Mean Rank of 43.842 and 35.144 for local Colleges and Universities (LUCs) and State Universities and Colleges (SUCs) respectively. Furthermore, the computed p-value for the Roles of the TEI College Supervisor is 0.139, thus, it fails to reject the null hypothesis and infers that there is no significant difference in the assessment of the roles of TEI College Supervisors when grouped according to the type of TEI.

The findings indicate that college supervisors have differing perceptions regarding the responsibilities and influence of the TEI Dean whether the institution is classified as a Local College/University (LUC) or a State University/College (SUC). This could be attributed to having different organizational structures, priorities, or levels of support from the Dean. In the study of Aspden (2017), it was mentioned that practicum differs across programs and institutions, in terms of length, structure and place in the overall program, which may be aligned with course work in different ways. Therefore, each TEI may have specific best practices in pre-service teacher training that they consider as their own, aside from their compliance with the existing guidelines or policies.

Table 14

Kruskal Wallis Test: comparison of the assessment made by the College Supervisors by number of years in teaching

Indicators	No. of years in Teaching	Mean Rank	*K-statistic*	*p-value*	Decision	Remarks
Roles of the TEI Dean	10 years and below	39.090	2.548	0.467	Failed to Reject Ho	Not Significant
	11-20 years	43.796				
	21-30years	41.467				
	31-40 years	74.000				
Roles of the TEI College Supervisor	10 years and below	41.410	2.654	0.448	Failed to Reject Ho	Not Significant
	11-20 years	44.685				
	21-30years	34.533				
	31-40 years	63.500				

Table 14 reflects the Kruskal Wallis Test of comparison on the assessment of college supervisors when they are grouped according to number of years of teaching. For the "Roles of the TEI Dean", the college supervisors obtained a Mean Rank of 39.090 for the category of 10 years and below, 43.976 for 11 to 20 years, 41.467 for 21 to 30 years, and 74.000 for 31 to 40 years. These resulted to a p-value of 0.467 which is greater than the assigned level of significance. The result failed to reject the null hypothesis and assumes that when the college supervisors are grouped according to number of years in teaching, there is no significant difference on their assessment of the roles of TEI Deans and College Supervisors in the deployment of pre-service teachers for experiential learning courses.

Alternately, for the "Roles of the College Supervisor", the obtained mean ranks for number of years in teaching are 41.410 for 10 years and below, 44.685 for 11 to 20 years, 34.533 for 21 to 30 years, and 63.500 for 31 to 40 years, which resulted to a p-value of 0.448. With the computed p-value is greater than the assigned level of significance, the results failed to reject the null hypothesis. There is no significant difference on the perceived assessment of the college supervisors on the implementation of their roles in the deployment of pre-service teachers when they are grouped according to number of years in teaching.

The results show that college supervisors' perceptions of the TEI Dean's roles do not significantly vary based on how long they have been teaching. Similarly, teaching experience does not seem to have a major effect on how supervisors see the roles of the College Supervisor. These results suggest that experience alone does not substantially alter how supervisors view the responsibilities of Deans or College Supervisors in the deployment of pre-service teachers. Overall, it seems that the roles of both Deans and College Supervisors are the same or well understood at all levels of teaching experience. As mentioned by Addison (2010), a teacher becomes more experienced and knowledgeable about the school climate with every year of teaching experience gained. Hence, this growing experience contributes to enhanced teacher efficacy.

Table 15

Kruskal-Wallis Test: comparison of the assessment made by the College Supervisors by number of years handling ELCs

Indicators	No. of years in handling ELCs	Mean Rank	*K-statistic*	*p-value*	Decision	Remarks
Roles of the TEI Dean	5 years and below	42.349	2.746	0.432	Failed to Reject Ho	Not Significant
	6- 10 years	37.942				
	11-15 years	49.000				
	16-20 years	74.000				
Roles of the TEI College Supervisor	5 years and below	43.783	2.519	0.472	Failed to Reject Ho	Not Significant
	6- 10 years	36.308				
	11-15 years	54.000				
	16-20 years	30.500				

Table 15 presented above discloses the comparison on the assessment made by the college supervisors when they are grouped according to number of years in handling Experiential Learning Courses using Kruskal Wallis Test of Comparison. In the first indicator, "Roles of the TEI Dean", the Mean Rank for 5 years and below is 42.349, for 6 to 10 years is 37.942, for 11 to 15 years is 49.000, and for 16 to 20 years is 74.000. Given these mean ranks, the computed p-value is 0.432 which is greater than 0.05 assigned level of significance. The results failed to reject the null hypothesis which meaningfully shows that the college supervisors' number of years in handling Experiential Learning Courses has no significant difference in their assessment of the roles of the TEI Deans.

For the second indicator, "Roles of the College Supervisor", the mean ranks obtained for number of years in handling ELCs, namely: 5 years and below, 6 to 10 years, 11 to 15 years, and 16 to 20 years are 41.410, 44.685, 34.533, and 63.500 respectively. It failed to reject the null hypothesis since the computed p-value is 0.448 which is greater than the assigned level of significance (0.05). This confirms that there is no significant difference on the college supervisors' assessment of their roles in the implementation of pre-service teacher deployment when they are grouped according to the number of years, they have been handling Experiential Learning Courses.

The analysis consistently shows that the number of years college supervisors have handled Experiential Learning Courses (ELCs) does not significantly affect their assessment of roles, whether pertaining to TEI Deans or their own responsibilities. This suggests that supervisors' perceptions remain consistent regardless of their years of experience. The findings align with Leviste (2004), who emphasizes the consistent roles of college supervisors in coordinating with school principals and cooperating teachers to monitor student teachers, regardless of tenure.

Research in the Asia-Pacific region acknowledges that the roles of supervisors in teacher education programs such as mentoring, monitoring, and coordinating with schools remain consistently stable across varying levels of experience. The study of Kendall & Trang (2023) in Vietnam illustrates the intricate relationship among policy reform, professional identity, and

practice.

Table 16

Kruskal-Wallis Test: Comparison of the assessment made by the Cooperating Teachers by DepEd Division

Indicators	DEPED Division	Mean Rank	K-statistic	p-value	Decision	Remarks
Roles of the Cooperating School Principal in Field of Study	CALOOCAN	205.094	16.416	0.126	Failed to Reject Ho	Not Significant
	MAKATI	207.500				
	MALABON	146.477				
	MANILA	219.400				
	MARIKINA	187.125				
	MUNTINLUPA	230.321				
	NAVOTAS	221.200				
	PASAY	207.500				
	PASIG	216.426				
	QUEZON CITY	172.728				
	TAGUIG-PATEROS	210.067				
	VALENZUELA	226.447				
Roles of the Cooperating School Principal in Practice Teaching	CALOOCAN	217.689	29.883	0.002	Reject Ho	Significant
	MAKATI	183.184				
	MALABON	106.455				
	MANILA	217.157				
	MARIKINA	213.594				
	MUNTINLUPA	200.714				
	NAVOTAS	228.167				
	PASAY	188.306				
	PASIG	221.148				
	QUEZON CITY	173.432				
	TAGUIG-PATEROS	219.867				
	VALENZUELA	241.855				
Roles of the Cooperating Teachers in Field of Study	CALOOCAN	208.792	25.720	0.007	Reject Ho	Significant
	MAKATI	209.158				
	MALABON	113.477				
	MANILA	223.579				
	MARIKINA	232.313				
	MUNTINLUPA	228.929				
	NAVOTAS	206.067				
	PASAY	233.528				
	PASIG	167.852				
	QUEZON CITY	191.778				
	TAGUIG-PATEROS	201.467				
	VALENZUELA	207.697				

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Roles of the Cooperating Teachers in Practice Teaching	CALOOCAN	185.038	26.313	0.006	Reject Ho	Significant
	MAKATI	173.132				
	MALABON	130.864				
	MANILA	229.964				
	MARIKINA	226.594				
	MUNTINLUPA	276.107				
	NAVOTAS	222.200				
	PASAY	209.028				
	PASIG	174.537				
	QUEZON CITY	197.679				
	TAGUIG-PATEROS	183.233				
	VALENZUELA	224.342				

Table 16 presents the comparison on the assessment made by the cooperating teachers when they are grouped according to DepEd Division. The result is a K-statistic of 16.416 with an identified p-value of 0.126, which is greater than the assigned level of significance (0.05). It failed to reject the null hypothesis, which means that there is no significant difference on the assessment made by the cooperating teachers on the roles of the cooperating school principals in field study when they are grouped according to DepEd Division.

Second, in terms of the "roles of the cooperating school principal in practice teaching", the K-statistic result is 29.883 with p-value of 0.002. In this case, the null hypothesis is rejected, and it is concluded that there is significant difference in the assessment made by the cooperating teachers on the roles of principals in practice teaching when they are grouped according to DepEd Division.Next, for the "roles of the cooperating teachers in field study", the computed K-statistic is 25.720 and a corresponding p-value of 0.007 for this indicator. Since the p-value is lower than the assigned level of significance, the null hypothesis is rejected. It must be noted that there is significant difference in the perceived assessment of the cooperating teachers in their roles in field study when they are grouped according to DepEd Division.

The last indicator in this test of comparison is the "roles of cooperating teachers in practice teaching where the obtained K-statistic is 26.313 and the computed p-value is 0.006. Noticeably, it is lower than the assigned level of significance, which is 0.05, hence, the null hypothesis is rejected. The result suggests that there is significant difference in the assessment of the cooperating teachers in their roles in practice teaching when they are grouped according to DepEd Division.

The analysis of cooperating teachers' assessments indicates that the roles of school principals in field study exhibited no significant difference across divisions, implying that these responsibilities are relatively consistent and standardized. In contrast, significant differences were observed in the roles of principals during practice teaching, as well as in the roles of cooperating teachers in both field study and practice teaching. This suggests that the perceptions of these responsibilities differ depending on the division. The pattern aligns with the claim of Algazor (2017), stating that successful pre-service teacher training requires strong collaboration among cooperating teachers, university supervisors, and aspiring teachers, as well as a clear understanding of program goals and teaching roles. The differences in assessments between divisions show that even though some parts of teacher preparation are the same, the way roles are carried out may be affected by practices, experiences, or support systems that are unique to each division.

Table 17

Kruskal Wallis Test: comparison of the assessment made by the Cooperating Teachers by number of years in teaching

Indicators	No. of years in Teaching	Mean Rank	K-statistic	p-value	Decision	Remarks
Roles of the Cooperating School Principal in Field Study	10 years and below	197.091	3.376	0.497	Failed to Reject Ho	Not Significant
	11-20 years	203.725				
	21-30years	208.577				
	31-40 years	191.000				
	41 years and above	329.000				
Roles of the Cooperating	10 years and below	181.727	12.709	0.013	Reject Ho	Significant

School Principal in Practice Teaching	11-20 years	221.529				
	21-30years	211.143				
	31-40 years	194.457				
	41 years and above	354.000				
Roles of the Cooperating Teachers in Field Study	10 years and below	194.224	7.264	0.123	Failed to Reject Ho	Not Significant
	11-20 years	217.926				
	21-30years	201.703				
	31-40 years	186.130				
	41 years and above	68.000				
Roles of the Cooperating Teachers in Practice Teaching	10 years and below	190.406	8.448	0.076	Failed to Reject Ho	Not Significant
	11-20 years	221.316				
	21-30years	198.203				
	31-40 years	186.217				
	41 years and above	334.500				

Table 17 exemplifies the test of comparison on the assessment made by the cooperating teachers based on the number of years in teaching. The first indicator is the "roles of the cooperating school principal in field study" resulted to a computed p-value of 0.497 which failed to reject the null hypothesis. Accordingly, there is no significant difference in the assessment of the cooperating teachers on the "roles of the principal in field study" when they are grouped according to the number of years in teaching.

In the second indicator "roles of cooperating school principal in practice teaching", obtained a computed p-value is 0.013 which is less than the assigned level of significance. The null hypothesis is rejected, and it could be concluded that there is a significant difference in the assessment made by the cooperating teachers on the "roles of the cooperating school principals in practice teaching" when they are grouped according to the number of years in teaching.

The test of comparison is also applied on the cooperating teachers' perceived assessment of their roles in practice teaching and field study, which garnered a p-value of 0.123, which is greater than 0.05. This failed to reject the null hypothesis. There is no significant difference in the assessment made by the cooperating teachers on their roles in field study when they are grouped according to number of years in teaching. For the final indicator referring to "roles of cooperating teachers in practice teaching", the computed p-value is 0.076 failed to reject the null hypothesis. There is no significant difference in the cooperating teachers' assessment of their roles in practice teaching when they are grouped according to number of years in teaching.

The comparison among groups of cooperating teachers based on years of teaching demonstrates that experience typically does not substantially affect their evaluation of roles in field study and practice teaching. The only exception is the principal's role in practice teaching, which shows a significant difference. This suggests that teachers' opinions about the principal's involvement may change based on how long they have been teaching. The analysis highlights that even though cooperating teachers mostly agree on the roles, their experiences may affect how they expect or see administrative support in practice teaching. These findings are consistent with Guevarra (2005), who emphasizes that cooperating teachers are a pivotal part of the student teaching triad, performing complex roles that facilitate the professional development of student teachers, thereby illustrating the potential impact of experience on evaluating supervisory support.

Table 18

Kruskal-Wallis Test: comparison of the assessment made by the Cooperating Teachers by number of years in handling Pre-service Teachers

Indicators	No. of years in handling pre-service teachers	Mean Rank	*K-statistic*	*p-value*	Decision	Remarks
Roles of the Cooperating School Principal in Field of Study	5 years and below	199.457	5.030	0.284	Failed to Reject Ho	Not Significant
	6- 10 years	196.181				
	11-15 years	228.976				
	16-20	237.056				

	21 years and above	141.200			
Roles of the Cooperating School Principal in Practice Teaching	5 years and below	196.242	4.624	0.328	Failed to Reject Ho	Not Significant
	6- 10 years	206.169			
	11-15 years	220.679			
	16-20	262.944			
	21 years and above	176.200			
Roles of the Cooperating Teachers in Field of Study	5 years and below	201.071	1.568	0.815	Failed to Reject Ho	Not Significant
	6- 10 years	208.181			
	11-15 years	190.310			
	16-20	232.889			
	21 years and above	195.300			
Roles of the Cooperating Teachers in Practice Teaching	5 years and below	199.777	4.220	0.377	Failed to Reject Ho	Not Significant
	6- 10 years	204.131			
	11-15 years	200.964			
	16-20	273.944			
	21 years and above	165.800			

Table 18 confirms the final test of comparison on the assessment made by the cooperating teachers when they are classified according to number of years in handling pre-service teachers. For the "roles of cooperating school principal in field study", the determined p-value is 0.284 which is greater than the assigned level of significance (0.05). Thus, there is no significant difference on the assessment made by the cooperating teachers on the roles of the cooperating school principals in field study when they are grouped according to the number of years in handling pre-service teachers.

Next, for the "roles of cooperating school principal" in practice teaching, the data resulted to a p-value of 0.0328 which failed to reject the null hypothesis. It is worth pointing out that there is no significant difference on the assessment of the cooperating teachers on the roles of cooperating school principals in practice teaching, when the respondents are grouped according to the number of years in handling pre-service teachers.

Moreover, for the indicator, "roles of cooperating teachers in field study", the mean ranks led to a p-value of 0.815 which is greater than the assigned level of significance 0.05, thus failed to reject the null hypothesis. There is no significant difference on the assessment of the cooperating teachers on their roles in field study when they are grouped according to number of years in handling pre-service teachers.

Eventually, the indicator "roles of cooperating teachers in practice teaching" attained p-value of 0.377 of failed to reject the null hypothesis. To point out, there is no significant difference on the assessment of the cooperating teachers on their roles in practice teaching when they are grouped according to the number of years in handling pre-service teachers.

The comparison of cooperating teachers' assessments based on their years of handling pre-service teachers suggests that experience in supervising student teachers does not substantially influence their perception of roles in field study or practice teaching. All indicators, including the roles of the cooperating school principal and the cooperating teachers themselves, showed no significant difference. This indicates that regardless of experience with pre-service teachers, cooperating teachers generally maintain uniform evaluations of roles which highlights the stability of perceptions developed through teacher training and collaboration. This is in line with what Walelign and Fantahun (2007) who emphasize that a well-designed teacher training program and strong collaboration between teacher preparation institutions and host schools are essential in producing competent and committed professionals. Additionally, international studies indicate that structured practicum programs with clear guidelines help cooperating teachers develop a common understanding of their roles, which reduces differences in how they see their roles (Darling-Hammond, 2017).

Table 19
Frequency and rank distribution of challenges encountered by the College Supervisors in Experiential Learning Courses deployment and the perceived solutions

Challenges Encountered by TEI College Supervisors	Frequency	Rank	Suggestions to Solve the Problems

Late Deployment of pre-service teachers	11	1	Develop a precise timetable in deploying pre-service teachers
Delay in the processing of approval of requests or MOA in the DepEd Division Office	9	2	Prioritize approval of requests of TEIs for field study and practice teaching deployment
College supervisors' time to visit all the cooperating schools is limited due to other teaching schedules	7	3.5	Deload the college supervisors and create an item for an overall college supervisor may be considered.
Lack of proper orientation by the cooperating school heads prior to deployment	7	3.5	Organize a proper orientation by the cooperating school principals before actual deployment of pre-service teachers
Additional workloads and paper works given to pre-service teachers, especially in field study courses	6	5.5	Pre-service teachers should focus more on teacher and classroom in field study
Too much take home tasks given to Student Teachers apart from lesson preparation	6	5.5	Do not give other tasks beyond the duties of pre-service teachers in practice teaching
No transportation allowance provided for college supervisors during visits to cooperating schools	5	7	Consider provision of transportation allowance for college supervisors during school visits
Location of the cooperating schools	4	8	Set the distance of cooperating the cooperating schools from the TEIs
Special cases of practice teachers such as working students, pregnant, or enrolled in other subjects aside from practicum	3	9	Pre-service teachers should be free from other academic subjects while enrolled in field study and practice teaching.
Some schools refuse to accept FS Observers and Practice Teachers	2	10	School principals must be given proper orientation by the Division Office on accepting pre-service teachers in their school.

Note:Multiple answers summarized

Table 19 encapsulates the frequency and rank distribution of challenges encountered by the college supervisors in the deployment of pre-service teachers for Experiential Learning Courses, namely: field study and practice teaching. Furthermore, the table shows corresponding suggestions that may help solve the problems encountered in pre-service teacher deployment.

Among the top problems encountered by the college supervisors are "late deployment of pre-service teachers" is placed on rank 1 with a frequency of 11. This suggests that in general, deployment of pre-service teachers does not begin on time. The recommendation proposed by the college supervisors is the development of precise timetable in the deploying pre-service teachers. The next problem identified at rank 2 is "delay in the processing of approval of requests or MOA in the DepEd Division Office" with frequency of 9 where the perceived solution to "prioritize approval of requests of TEIs for field study and practice teaching deployment". It could be noted that pre-service teachers could not commence with their field study observation and practice teaching immersion of there is no Memorandum of Agreement signed by the two parties.

Moreover, the two problems, namely: "college supervisors' time to visit all the cooperating schools is limited due to other teaching schedules" and "lack of proper orientation by the cooperating school heads prior to deployment" both obtained frequency of 7 at rank 3.5. The proposed solutions for this are to "deload or limit the teaching load of college supervisors and create an item for an overall college supervisor may be considered" and "organize proper orientation by the cooperating school principals before actual deployment of pre-service teachers", respectively.

Considering the perceptions of the college supervisors about the problems or challenges they encountered in pre-service teacher training; it is important to note that there are aspects that need improvement in line with the deployment of pre-service teachers for experiential learning courses. Providing solutions to these challenges encountered could help improve the current practices in the deployment of pre-service teachers for Experiential Learning Courses.

Some of the problems encountered are similar to findings of Somblingo (2010) which reveals that in a study on the implementation of field study courses such as inadequate time allotted to complete the required tasks and limited teaching techniques and strategies which prompted for closer coordination and partnership between Teacher Education Institutions and

DepEd Cooperating Schools in planning and organizing classroom observations and activities relative to the implementation of pre-service teacher training.

Table 20

Frequency and rank distribution of challenges encountered by the Cooperating Teachers in Experiential Learning Courses deployment and the perceived solutions

Challenges Encountered by Cooperating Teachers	F	Rank	Suggestions to Solve the Problems
Late deployment of pre-service teachers in practice teaching	85	1	Prepare timely schedule of pre-service teacher deployment by the TEIs which shall commence as early as the start of the semester.
Conflict of practice teaching with other academic schedules of pre-service teachers	61	2	Students should finish all academic subjects before sending them to practice teaching.
Absenteeism of pre-service teachers due to conflict with the activities in their school.	45	3	College supervisors should regularly monitor and strictly implement policy on absences in pre-service teacher training duties.
Attitude problems of some pre-service teachers	43	4	Proper orientation of pre-service teachers about Code of Ethics, the dos and don'ts in the field, commitment, values, etc. should be conducted
Limited teaching competencies of practice teachers in handling classes	40	5	Conduct an aptitude test to check preparedness of student teachers for field study and practice teaching and provide more trainings and seminars for pre-service teachers' enhancement.
Lack of regular coordination of the TEIs with cooperating schools	20	6	Establish regular communication and coordination between TEIs and cooperating schools to enable the two parties to discuss issues and concerns relative to deployment of pre-service teachers for Experiential Learning Courses.
Lack of orientation of both parties prior to deployment of pre-service teachers	18	7	Conduct proper courtesy call, briefing and orientation in the cooperating school to formalize the actual deployment.
Difficult schedule of pre-service teachers who are working students or irregular	15	8	Student teachers who are working or irregular students may have longer stay and exposure in actual teaching.
College supervisors visit the cooperating schools only during demo teaching.	8	9.5	Require the college supervisors to visit the cooperating schools several times during the implementation of experiential learning courses.
Weak emotional readiness of some pre-service teachers.	8	9.5	The TEI should also check the emotional stability of their students.

Note: Multiple answers were summarized

Table 20 displays the the frequency and rank distribution of problems encountered by the cooperating teachers in the deployment of pre-service teachers for Experiential Learning Courses and the suggestions of the cooperating teachers to solve the problems.

Among the top problems ascertained by the respondents, they considered "late deployment of pre-service teachers in practice teaching" as rank 1 with frequency of 85, where the given suggestion is for the "TEIs to come up with a timely schedule of pre-service teacher deployment which shall begin as early as the start of the semester". Then, the second top problem was, "conflict with other academic schedules of pre-service teachers" with frequency of 61 and the recommendation, "students shall finish all academic subjects before sending them to practice teaching". Additionally, the problems on "absenteeism of pre-service teachers due to conflict with the activities in their school or with personal matters." was placed at rank 3 with frequency of 45, while "attitude problems of some pre-service teachers" was placed at rank 4 with frequency of 43. The recommended solutions for these problems are "college supervisors should regularly monitor and strictly implement policy on absences in pre-service

teacher training duties" and "proper orientation of pre-service teachers about Code of Ethics, the dos and don'ts in the field, commitment, values, etc. should be conducted".

Taking the insights of the cooperating teachers on the challenges encountered in the implementation of pre-service teacher deployment, it is with high hopes that these problems could be addressed. In the study of Badion et.al (2016), although the level of implementation of Field Study courses was perceived by the respondents as full extent, some of the problems identified are lack of proper orientation about the courses, teachers are overloaded with other subjects aside from FS, the curriculum seems to be overcrowded for the students while the subject credit for FS 1 to 6 is only 1 unit each.

4. CONCLUSION

The study affirms that the roles of TEI Deans, College Supervisors, Cooperating School Principals, and Cooperating Teachers in both Field Study and Practice Teaching are highly implemented. This shows a strong collaboration between the Teacher Education Institutions and the Department of Education. However, there are still problems, such as the late deployment of pre-service teachers, not enough time for supervision because of scheduling conflicts, and issues with pre-service teachers' attendance, academic load, and professional attitude.

To address these concerns, the respondents stressed the need for a clear and timely deployment schedule, the need for a college coordinator to lighten the load on supervisors, and the need for incentives like transportation allowances. Additionally, stricter attendance policies, careful scheduling to avoid conflicts with academic subjects, and thorough orientation on professional ethics were recommended to strengthen accountability among pre-service teachers.

This study utilizes self-report data, which may be influenced by biases such as social desirability or faulty recollection. To improve the reliability of the findings, triangulation techniques, including the integration of self-reports with observational data or alternative objective metrics, are recommended. Future research could expand its scope by incorporating private TEIs for comparative analysis and conducting nationwide assessments to achieve more comprehensive insights. Such efforts will contribute to better preparing pre-service teachers for the demands of the teaching profession.

ETHICAL CONSIDERATION

The study successfully complied with the ethical procedures set by the Polytechnic University of the Philippines Research Ethics Committee with reference number 175153. The researcher sought voluntary participation from the respondents, and they were clearly informed about the purpose of the study. All data gathered from the respondents were treated with utmost confidentiality.

ACKNOWLEDGMENT

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Research Article

Nurses' Technology Acceptance of Electronic Health Record and Its Perceived Efficiency in Patient Care: A Basis for Evidence-Informed System Enhancement

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ABSTRACT

This study examined nurses' technology acceptance of the TrakCare Electronic Health Record (EHR) system and its relationship with perceived efficiency in patient care in a tertiary hospital in Saudi Arabia. Using a descriptive correlational design, the study involved 200 nurses from emergency, intensive care, and general ward units. A validated four-part questionnaire measured perceived usefulness, perceived ease of use, and efficiency based on Donabedian's structure–process–outcome model. Findings revealed that nurses strongly agreed that TrakCare enhances job performance and documentation accuracy. Perceived ease of use was rated agreeably, although several items—particularly error recovery—were rated lower, indicating usability challenges. Perceived usefulness and perceived ease of use were significantly correlated with structure and process components of care efficiency. A negative correlation was noted between perceived usefulness and tagging workload, suggesting that documentation burden may diminish perceived system value. These results underscore the need for continuous training, workflow-aligned system improvements, and usability enhancements to strengthen EHR-supported clinical performance. Evidence-informed system refinements are recommended to optimize nursing efficiency and promote better patient care outcomes.

Keywords: Electronic Health Record, Nursing Efficiency, Technology Acceptance, Patient Care, TrakCare

1. INTRODUCTION

Electronic Health Record (EHR) systems have become central to modern healthcare delivery, providing opportunities to improve documentation accuracy, clinical decision-making, and overall patient care efficiency. These regional challenges parallel those experienced in Saudi Arabia, where the TrakCare system is widely used across major healthcare institutions.

In the context of nursing practice, technology acceptance significantly influences the successful adoption and utilization of digital systems. Nurses serve as primary users of EHRs and rely heavily on them for timely documentation, coordination of care, and decision support. The Technology Acceptance Model (TAM) identifies two principal determinants of user acceptance: *perceived usefulness* and *perceived ease of use*. When these determinants are unmet, system efficiency and clinical workflow may be compromised.

In Saudi Arabia, the growing expatriate nursing workforce presents an additional layer of complexity, as nurses must adapt to culturally diverse work environments, varied technological exposure, and changing institutional protocols. Understanding nurses' acceptance of TrakCare and how it affects perceived efficiency is essential for evidence-informed system enhancement and strategic workforce support.

While several international studies have explored EHR acceptance, research examining TrakCare-specific acceptance in Saudi settings remains limited. Existing literature in the Asia-Pacific region highlights frequent issues related to documentation burden, insufficient training frequency, device availability, and system navigation complexity. Aligning the Saudi experience with these regional trends enhances the international relevance of the current study.

This study aims to assess nurses' technology acceptance of TrakCare—specifically perceived usefulness and perceived

ease of use—and determine its relationship with perceived patient care efficiency based on Donabedian's structure–process–outcome model. The findings will provide recommendations for evidence-informed system enhancement to support nursing workflow and optimize patient outcomes.

2. MATERIALS AND METHODS

This study utilized a descriptive correlational research design to examine the relationship between nurses' technology acceptance of the TrakCare Electronic Health Record (EHR) system—specifically perceived usefulness and perceived ease of use—and their perceived efficiency in patient care. This design was deemed appropriate because it allows for the determination of relationships between variables without manipulating any conditions, consistent with quantitative, non-experimental research practices.

Research Locale and Participants

The study was conducted in a tertiary hospital in Saudi Arabia where TrakCare is the primary EHR system used across clinical departments. A total of 200 nurses participated, selected through stratified random sampling to ensure representation from emergency units, intensive care units, and general wards.

Inclusion criteria required participants to (a) be registered nurses, (b) have at least six months of experience using TrakCare, and (c) be assigned to units where the system is routinely utilized. Nurses on extended leave or those with limited TrakCare exposure were excluded to maintain data validity.

Instruments

Data were gathered using a four-part researcher-modified questionnaire based on the Technology Acceptance Model (TAM) and Donabedian's structure–process–outcome framework. The instrument consisted of: Demographic variables (age, sex, years of experience, unit of assignment, training frequency, and tagging workload); Perceived usefulness of TrakCare; Perceived ease of use of TrakCare Perceived patient care efficiency based on structure, process, and outcome indicators.

Data Collection

Prior to data collection, permission was obtained from the hospital administration and unit supervisors. The study was explained to all eligible participants, who were assured of confidentiality and voluntary participation. After informed consent was secured, questionnaires were distributed and retrieved within the same shift to ensure return rate accuracy. Completed forms were anonymized, coded, and securely stored.

Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS). Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize demographic variables and questionnaire scores.

Given the ordinal nature of the Likert scale responses and the non-parametric distribution of variables, Spearman's Rho correlation was used to determine the relationships between: perceived usefulness and patient care efficiency; perceived ease of use and patient care efficiency; demographic variables (age, training frequency, tagging workload) and care efficiency

A significance level of 0.05 was used. Assumptions for Spearman's correlation, including monotonicity, were assessed and met.

3. RESULTS AND DISCUSSION

This section highlights the results of the survey regarding the respondents' acceptance of health information technology and their evaluated effectiveness of the electronic health record (EHR). Following this step is the analytic discussion of the interconnections and consequences of these findings for the evidence-based improvement of systems.

Demographic Profile

Table 1

Respondents' Profile

Variables	Frequency (n=200)	Percentage (%)
Age		
25-29	38	19.0
30-34	54	27.0
35-39	53	26.5
40-44	37	18.5
45-49	13	6.5
50 and above	5	2.5
Sex		
Male	73	36.5
Female	127	63.5
Years of experience in the current unit		
1 -5	45	22.5
6-10	98	49.0
11-15	36	18.0
16-20	15	7.5
21-25	6	3.0
Usual Tagging of Patients Handled		
1 to 5	100	50.0
1 to 3	50	25.0
4,5	50	25.0
OR	19	17.92
Ward	73	68.87
Area of Assignment		
ER	100	50.0
Ward	50	25.0
ICU	50	25.0
Frequency of Training received related to EHR		
1	1	.5
2	4	2.0
3	195	97.5

The research obtained responses from 200 nurses. Most respondents were female, totaling 63.5% of the responses. The largest age groups were 30-34 (27.0%) and 35-39 (26.5%). Nearly half (49.0%) reported having between six and ten years of professional experience, indicating a workforce with a stable level of clinical practice. The largest portion of the responses came from the Emergency Department (ED) (50.0%), as this specialty is known to be very dynamic and complicated. Lastly, a majority (97.5%) of nurses had attended three instructional sessions about EHR, which demonstrates the institution's commitment to training.

The demographic spread shows that most nurses are in the age range where digital adaptability tends to be stable, but this cohort is often influenced by workload and training frequency.

Level of Nurses' Technology Acceptance of the EHR System

Table 2

Respondents' Perceived Usefulness of the Electronic Health Record

Statements	Mean	Interpretation
1. My job would be difficult to perform without EHR (TrakCare Intersystem).	3.67	Strongly Agree
2. Using EHR (TrakCare Intersystem) gives me greater control over my work.	3.55	Strongly Agree
3. Using EHR (TrakCare Intersystem) improves my job performance.	3.53	Strongly Agree
4. The EHR (TrakCare Intersystem) system addresses my job-related needs.	3.42	Strongly Agree
5. Using EHR (TrakCare Intersystem) saves me time.	3.20	Agree
6. EHR (TrakCare Intersystem) enables me to accomplish tasks more quickly.	3.15	Agree
7. EHR (TrakCare Intersystem) supports critical aspects of my job.	3.60	Strongly Agree
8. Using EHR (TrakCare Intersystem) allows me to accomplish more work than would otherwise be possible.	3.30	Strongly Agree
9. Using EHR (TrakCare Intersystem) reduces the time I spend on unproductive activities.	3.24	Agree
10. Using EHR (TrakCare Intersystem) enhances my effectiveness on the job.	3.66	Strongly Agree
11. Using EHR (TrakCare Intersystem) improves the quality of work I do.	3.61	Strongly Agree
12. Using EHR (TrakCare Intersystem) increases my productivity.	3.58	Strongly Agree
13. Using EHR (TrakCare Intersystem) makes it easier to do my job.	3.59	Strongly Agree
14. Overall, I find the EHR system useful in my job.	3.62	Strongly Agree
Pooled Mean	3.48	Strongly Agree

Legend: 1.00 - 1.74=Strongly Disagree; 1.75-2.49=Disagree; 2.50-3.24=Agree; 3.25-4.00=Strongly Agree

Table 2 revealed the respondents' technology acceptance in terms of Perceived Usefulness. The pooled mean of 3.48, interpreted as "Strongly Agree," indicates that respondents believe the system enhances their job performance and supports efficiency in patient care. However, it is notable that items related to time saving and speed ("Using EHR... saves me time," Mean = 3.20; "EHR... enables me to accomplish tasks more quickly," Mean = 3.15) fell within the "Agree" level rather than "Strongly Agree." This variation suggests a partial limitation in how usefulness translates into actual workflow support.

Table 3

Respondents' Perceived Ease of Use of the Electronic Health Record

Indicators	Mean	Interpretation
1. I am improving my proficiency in using the EHR (TrakCare Intersystem) system.	3.52	Strongly Agree
2. I am actively working on minimizing errors when using the EHR (TrakCare Intersystem)	3.45	Strongly Agree
3. I am developing a smoother workflow with the TrakCare Intersystem EHR.	3.52	Strongly Agree
4. I am strengthening my knowledge of the TrakCare Intersystem EHR by consulting the user manual as a resource.	3.52	Strongly Agree
5. I am working on becoming more efficient with the TrakCare Intersystem EHR to reduce the mental effort required.	3.57	Strongly Agree
6. I find it easy to recover from errors encountered while using EHR (TrakCare Intersystem).	2.78	Agree
7. I am adapting to the specific structure and functionality of the EHR (TrakCare Intersystem).	3.84	Strongly Agree
8. I find it easy to get the EHR (TrakCare Intersystem) system to do what I want it to do.	3.68	Strongly Agree
9. I am building a deeper understanding of the TrakCare Intersystem EHR's expected behavior.	3.12	Strongly Agree
10. I am gaining confidence and finding it easier to use the TrakCare Intersystem EHR.	3.98	Strongly Agree
11. My interaction with the EHR (TrakCare Intersystem) system is easy for me to understand.	3.23	Strongly Agree
12. It is easy for me to remember how to perform tasks using EHR (TrakCare Intersystem).	3.26	Strongly Agree
13. The EHR (TrakCare Intersystem) system provides helpful guidance in performing tasks.	3.28	Strongly Agree
14. Overall, I find the EHR (TrakCare Intersystem) system easy to use.	3.60	Strongly Agree
Pooled Mean	3.45	Strongly Agree

Legend: 1.00 - 1.74=Strongly Disagree; 1.75-2.49=Disagree; 2.50-3.24=Agree; 3.25-4.00=Strongly Agree

Table 3 shows the overall pooled mean score for Perceived Ease of Use is 3.45, interpreted as Strongly Agree. Despite this strong overall score, the item measuring error recovery stands at a significantly lower mean of 2.78 (Agree), which signals a key challenge in system usability. Error recovery is a critical indicator of a system's resilience, especially in acute care settings. This specific weakness should be integrated more explicitly into the discussion, as it reflects common concerns across digital health systems in Asia Pacific hospitals where high-acuity, time-sensitive work is performed.

Relationship Between Technology Acceptance and Perceived Efficiency: A Basis for System Enhancement

Table 4

Correlation of Demographic Variables and Technology Acceptance Constructs (Spearman's Rho)

			Technology Acceptance to Electronic Health Record	
			Perceived Usefulness	Perceived Ease of Use
	Age	Correlation Coefficient	.073	.069
		Sig. (2-tailed)	.304	.332
		N	200	200
	Years of Experience	Correlation Coefficient	.018	.115
		Sig. (2-tailed)	.795	.104
		N	200	200
	Frequency of Training	Correlation Coefficient	.094	.072
		Sig. (2-tailed)	.186	.314
		N	200	200
PROFILE	FREQUENCY TAGGING OF PATIENT HANDLED	Correlation Coefficient	-.168[*]	.000
		Sig. (2-tailed)	.017	.997
		N	200	200
	Area of Assignment	Correlation Coefficient	-.126	-.082
		Sig. (2-tailed)	.076	.248
		N	200	200
	Sex	Correlation Coefficient	.092	.111
		Sig. (2-tailed)	.197	.117
		N	200	200

The correlation analysis shows that perceived usefulness holds a significant negative association with tagging workload ($r = -.168$, $p = .017$). This is a critical finding because documentation overload is a recurring challenge in Asia Pacific health systems, where increased digital usage often expands rather than reduces nurse workload. This negative correlation suggests that a higher documentation burden directly reduces the perceived benefit of the EHR system. This

workload sensitivity and the necessity for training frequency are routinely cited in Asia Pacific EHR adoption studies and must be addressed through optimization.

Table 5

Descriptive Statistics for Perceived Efficiency in Patient Care (Structure Dimension)

Indicators	Mean	Interpretation
1. The TrakCare intersystem is consistently accessible throughout my shift, enabling continuous care documentation.	3.48	Strongly Agree
2. There are adequate computers or workstations in my unit to support timely access to the TrakCare inter system.	3.23	Agree
3. The institution provided sufficient training to equip me with the necessary skills to use TrakCare InterSystems effectively.	3.20	Agree
4. Reliable technical support is available whenever I experience issues using the TrakCare intersystem.	3.41	Strongly Agree
5. The hospital's IT infrastructure allows fast, stable, and uninterrupted access to TrakCare intersystem.	3.50	Strongly Agree
6. Established hospital policies and protocols guide the standardized use of TrakCare intersystem among nursing staff.	3.40	Strongly Agree
7. System resources such as user manuals, troubleshooting guides, or help desks are readily accessible for TrakCare intersystem users.	3.19	Agree
8. The hospital has invested in appropriate hardware and software to support efficient EHR utilization.	3.44	Strongly Agree
Pooled Mean	**3.36**	**Strongly Agree**

Legend: 1.00 - 1.74=Strongly Disagree; 1.75-2.49=Disagree; 2.50-3.24=Agree; 3.25-4.00=Strongly Agree

In the structure dimension, nurses provided a pooled average of 3.36, interpreted as "Strongly Agree". This indicates that most respondents viewed the organizational and technological structure of the EHR TrakCare, inclusive of technology and reliability of access, to be positively determining nursing efficiency.

The discussion appropriately links perceived usefulness and ease of use to care efficiency through the Donabedian model. The structure and process dimensions, however, must be connected to broader Asia Pacific digital health challenges, such as ensuring infrastructure readiness, mitigating workforce mobility impacts, and addressing variable digital literacy, to help contextualize the findings more meaningfully. It is also important to note that the descriptive correlational design limits causal inferences; therefore, claims regarding enhanced clinical efficiency must remain **relational, not predictive**. The qualitative reflections regarding training needs and workflow burden are based on interpretive analysis of the quantitative scores (e.g., low means on speed/error recovery items) and comparison with literature, not from separate qualitative data inputs.

4. CONCLUSION

The findings indicate that nurses consider TrakCare a useful (PU = 3.48) and generally easy-to-use (PEOU = 3.45) system that enhances job performance by supporting efficient patient care. Structural features, including accessibility of the system, technical support, and training, further enable efficiency. Perceptions of efficiency are positively influenced by age and frequency of training, while perceived usefulness is negatively influenced by higher workload ($r = -.168$). Enhancing nursing performance and patient care outcomes would thus be better addressed by strengthening training programs, enhancing usability features—particularly error recovery—and optimizing system workflows to mitigate documentation burden

ETHICAL CONSIDERATION

Approval to conduct the study was secured from the hospital administration and the respective unit heads (Emergency Department, ICU, and Wards). The study involved licensed nurses and utilized a survey, but did not involve direct patient data, thus minimizing ethical risk. Prior to participation, informed consent was obtained from all 200 nurse respondents, who were assured of voluntary participation and the confidentiality of their responses. All collected data were anonymized and reported in aggregate form to ensure the privacy of the participants. The researcher declares no conflict of interest other than being an employee of the host institution, and all procedures followed the rigor of the study.

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Research Article

The Influence of Aeta Traditional Healing Practices on Tourism Development in San Felipe, Zambales: A Phenomenological Study

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ABSTRACT

Cultural tourism worldwide places indigenous communities at an important paradox between creating economic advantages and challenging the commodification of intangible cultural heritage. This interplay was explored through the effect of Aeta traditional healing on tourism development in San Felipe, Zambales. There is limited scholarly knowledge about the subtle, human qualities of the actors involved. This phenomenological study was conducted to investigate the meaning of such lived experiences. Data were gathered through in-depth, semi-structured interviews with ten purposively selected key informants (Aeta healers, LGU leaders, tourists). Thematic analysis revealed that Aeta healing is not merely a practice but a profound spiritual calling and a cornerstone of cultural identity. However, its intersection with tourism is shaped by multifaceted dynamics, a broad spectrum of readiness among healers, a critical knowledge and policy gap within the LGU, and a community-wide ethical negotiation to prevent exploitation, embodied by the principle of *kusang loob* (voluntary giving). The study concludes that sustainable integration requires a co-created, empathetic framework that prioritizes cultural sovereignty and ensures the Aeta are the definitive agents of tourism development centered on their heritage.

Keywords: Aeta, Cultural Tourism, Indigenous Knowledge, Phenomenology, Sustainable Development, Traditional Healing

1. INTRODUCTION

Indigenous communities worldwide possess extensive traditional knowledge that gives them a unique view on health, sustainability, and cultural identity (UNESCO, 2023). In the Philippines, this is especially true for the Aeta of San Felipe, Zambales, whose long history of healing is at risk of being lost or exploited by tourists (GMA News, 2024). Existing literature recognizes the significance of indigenous knowledge systems in health and heritage preservation (Teves et al., 2023; Andalan et al., 2024); however, a substantial gap persists in comprehending the intricate, human experience associated with this phenomenon. Contemporary research frequently engages in discourse about indigenous communities rather than with them, lacking the phenomenological depth necessary to formulate genuinely ethical and sustainable policies (Smith, 2021). Moreover, the specialized literature on cultural tourism and indigenous heritage often emphasizes external, structural viewpoints, such as policy frameworks and economic models (Madrid, 2024; Rahmadian et al., 2021), rather than the internal, lived experiences of the culture-bearers. This creates a critical void: a profound lack of understanding of the internal, lived experiences of the Aeta healers, community members, and local stakeholders who are at the heart of this complex interplay.

The challenges faced by the Aeta in San Felipe are not isolated but reflect broader patterns across the Asia-Pacific region, where indigenous communities in Malaysia, Indonesia, Vietnam, Thailand, and the Pacific Islands navigate similar tensions between cultural safeguarding, protection of sacred practices, and the pressures of tourism development. By situating the Aeta experience

within this regional context, this study aims to contribute to a more nuanced understanding of how indigenous healing traditions can be integrated into tourism in a manner that respects cultural sovereignty and promotes sustainable development.

Without this critical, human-centered comprehension, tourism development projects risk becoming culturally insensitive, exploitative, and unsustainable, ultimately jeopardizing Aeta cultural sovereignty. To address this gap, this study employed a qualitative phenomenological approach aimed at understanding the lived experiences of stakeholders as Aeta traditional healing practices intersect with tourism growth. Specifically, the research sought to: 1) delineate the nuanced typologies of Aeta healing practices and their implications for tourism; 2) map the spectrum of readiness among Aeta healers for tourist engagement; and 3) evaluate the facilitative role of the Local Government Unit (LGU) in this process. By centering these human experiences, the study promotes a more empathetic and grounded understanding, which is essential for achieving sustainable, community-driven tourism development aligned with the United Nations Sustainable Development Goals (SDGs), particularly SDG 10 (Reduced Inequalities) and SDG 11 (Sustainable Cities and Communities). A conceptual framework was developed (Figure 1), which illustrates the dynamic interaction between Aeta Traditional Healing Practices and Tourism Development, as influenced by the lived experiences of primary stakeholders.
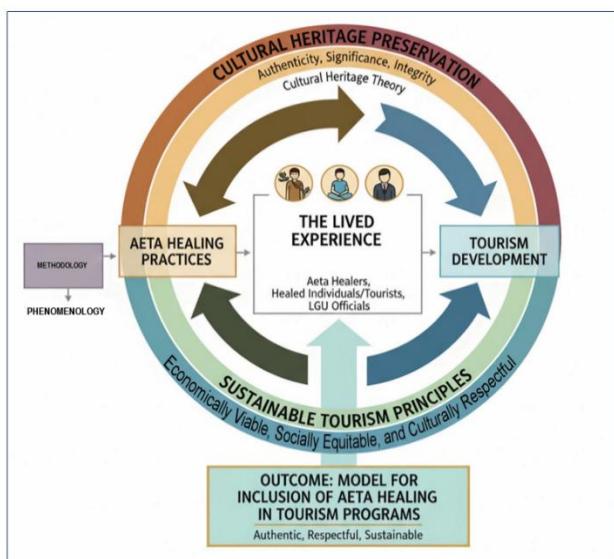
Figure 1. *Conceptual Framework of the Interplay of Lived Experience, Context, and Outcome*

This framework demonstrates the dynamic interaction between Aeta Traditional Healing Practices and Tourism Development, as influenced by the lived experiences of primary stakeholders. Phenomenology offers the tools to elucidate the essence of this principal phenomenon. The two contextual domains, cultural heritage preservation and sustainable tourism principles, surround and inform this core relationship. The ultimate aim of exploring this complex interaction is to synthesize rich, real-world insights toward developing a model for integrating Aeta healing into tourism that is authentic, respectful, and sustainable.

2. MATERIALS AND METHODS

This research utilized a qualitative phenomenological methodology to examine the impact of Aeta traditional healing practices on tourism development in San Felipe, Zambales. The chosen approach emphasized depth, context, and the subjective interpretations that participants attributed to this intricate phenomenon, transcending empirical data to reveal fundamental lived experiences (Creswell & Poth, 2023). This methodological choice is further substantiated by an expanding corpus of academic literature that promotes phenomenological and narrative methodologies in research involving Indigenous communities. These approaches are in line with decolonizing methodologies because they treat Indigenous voices and worldviews as valid sources of knowledge. This goes against the historical trend of research that is external and objectifying (Smith, 2021).

Research Locale and Participants

The study was conducted in the municipality of San Felipe, Zambales, a locale strategically selected for its significant Aeta population and the active interface between their preserved cultural heritage and a developing tourism industry. Participants consisted of ten (10) purposively selected individuals from three key stakeholder groups to ensure a holistic understanding, five (5) Aeta traditional healers and community elders, three (3) Local Government Unit (LGU) officials

involved in tourism and cultural affairs, and two (2) tourists who had personally undergone an Aeta traditional healing ritual. Theoretical data saturation guided the final sample size, with recruitment ceasing when subsequent interviews no longer yielded new substantive themes.

Instruments

The primary research instrument was the researcher, who utilized semi-structured, in-depth interviews to collect comprehensive narrative data. An approved interview guide with open-ended questions and phenomenological prompts like "Can you describe your experience of...?" was used to help people talk about things. A panel of three experts in qualitative research, indigenous studies, and tourism development carefully checked the guide for face and content validity. To add important context, the study also used participant observation and detailed field notes to record non-verbal cues and the setting.

Data Collection

The process of gathering data began with getting the right permits and ethical approval. Before working with individual Aeta participants, the National Commission on Indigenous Peoples (NCIP) and local community leaders worked together to make sure that the principle of Free, Prior, and Informed Consent (FPIC) was strictly followed. Everyone who took part signed a form giving their full consent. In-depth interviews, conducted in Filipino at times and locations selected by the participants, were recorded in both video and audio formats and subsequently transcribed verbatim. A strict data management protocol was put in place. This included systematically anonymizing all data and storing it securely on encrypted, password-protected devices for five years. After that, all files will be permanently deleted, following institutional ethical guidelines.

Data Analysis

The gathered data underwent analysis through thematic analysis, adhering to the structured six-phase framework established by Braun and Clarke (2006). The process consisted of (1) becoming acquainted with the data through multiple readings of transcripts; (2) creating initial codes; (3) identifying themes by organizing codes; (4) evaluating potential themes; (5) delineating and labeling themes; and (6) compiling the final report. This approach facilitated the identification, analysis, and reporting of patterns (themes) that encapsulated the essence of the participants' lived experiences. To ensure the trustworthiness of the analysis, the researchers employed peer debriefing and maintained analytic memos throughout the process, which allowed for reflexivity and validation of the thematic structure.

3. RESULTS AND DISCUSSION

A rigorous thematic analysis of the interview data revealed nine major themes that capture the core of the participants' lived experiences. This section consolidates these into three central findings that directly address the research objectives.

Table 1
Emergent Themes and Frequency Across Stakeholder Groups

Theme	Description	Healers (n=5)	LGU (n=3)	Tourists (n=2)	Total Prominence
1. Typology of Healing Practices	The distinction between physical *hilot* and spiritual/ritual practices.	4	2	2	8
2. Spiritual Calling & Cultural Heritage	Healing as an inherited, spiritual practice central to self-identity.	5	0	0	5
3. Efficacy & Transformative Impact	The perceived effectiveness of the healing and its deep personal impact.	5	1	2	8
4. A Spectrum of Tourism Readiness	Direct experiences with and attitudes towards tourist engagement.	5	3	2	10
5. Challenges: Skepticism & Legitimacy	External and internal pressures (religious criticism, self-doubt).	3	2	0	5
6. Intergenerational Knowledge Transfer at Risk	The methods, challenges, and urgency of passing knowledge to youth.	5	0	0	5
7. The LGU's Bridging Role & Knowledge Gap	The government's facilitative role and its lack of specific knowledge.	0	3	0	3
8. Pragmatic Integration with Modern Medicine	The conscious coexistence and referral to modern healthcare.	4	3	0	7
9. Preservation vs. Commodification	The tension between sharing culture and avoiding exploitation.	3	3	1	7

Note. Prominence represents the number of participants within each stakeholder group whose data contributed to the identification of the theme. It indicates the theme's relevance across the dataset, not its quantitative weight.

The Spiritual and Practical Typologies of Healing

As indicated in Table 1, the distinction between healing typologies was a prominent theme (Total Prominence = 8). The data revealed a critical nuance often homogenized in literature. Aeta healing is not a monolith but a nuanced system comprising distinct typologies. A clear differentiation emerged between physical *hilot* (manual therapy for ailments like sprains) and spiritual/ritual practices like *pag-aanito* or *tawas* (for afflictions attributed to spiritual causes). This finding is vital for tourism development, as each typology caters to different markets (wellness vs. cultural/spiritual tourism) and carries vastly different cultural sensitivities. Presenting them as a single "healing experience" risks misrepresentation and the trivialization of sacred traditions. This empirically validates and adds specificity to the broader categories discussed in related literature (Martinez, 2019; Andalan et al., 2024).

Furthermore, the theme of "Spiritual Calling & Cultural Heritage" was unanimously emphasized by the healers (5 out of 5) but was absent from the accounts of LGU officials and tourists (see Table 1). The healers' narratives defined their practice not as a learned profession but as a spiritual calling or inheritance (*pamana*), often involving an "espiritu na manggagamot" (a spirit that heals). This profound spiritual grounding and ontological gap in understanding provide powerful empirical validation for Cultural Heritage Theory, illustrating intangible heritage as a dynamic, living process of identity-making (Canet, 2025; UNESCO, 2023). This underscores that the practice is a sacred tradition, fundamentally distinct from a commercial service.

A Spectrum of Readiness and the Challenge of Continuity

A central finding, prominent across all stakeholder groups (Total Prominence = 10, see Table 1), was the diverse spectrum of readiness among Aeta healers to engage with tourism. This continuum ranged from active engagement such as a community chieftain treating international visitors to deep reluctance rooted in *hiya* (shame/shyness) or a fear of being perceived as fraudulent. This internal diversity complexifies the often homogenous portrayal of "community" in tourism planning and warns that even community-based tourism (CBT) models can marginalize less confident voices if they assume uniform participation (Gutierrez, 2019; Madrid, 2024).

This reluctance is compounded by significant challenges ("Challenges: Skepticism & Legitimacy," Prominence=5), including external religious skepticism that frames their gifts as diabolical and internalized self-doubt. These pressures directly threaten the intergenerational transfer of knowledge ("Intergenerational Knowledge Transfer at Risk," Prominence=5), which the study found to be fragile and informal. Healers expressed hesitation to pass on their knowledge, explicitly citing the "hardship" (*mahirap ang manggamot*) of the role. This finding provides urgent, human depth to the literature on knowledge transfer, revealing that the threat is as much a matter of personal sacrifice and intergenerational empathy as it is of external cultural erosion.

The Governance Gap and the Ethical Imperative of *Kusang Loob*

To provide a consolidated view of the most pivotal findings, Table 2 presents a triangulated summary of four core themes, highlighting the convergent and divergent perspectives of the key stakeholders.

Table 2

Triangulated Perspectives on Core Themes

Theme	Aeta Healers	Tourists/Visitors	LGU Officials
1. Spiritual Calling & Heritage	PARTICIPANT 1: *"Mayroong... espiritu na manggagamot... Hindi ko maitiwalag ang kultura namin..."*	PARTICIPANT 9: *"Sinasabi ng mga tao doon nakagalaw daw ako ng bahay ng isang engkanto..."*	PARTICIPANT 8: *"Laking hilot talaga ako... talagang meron kaming isang manggamot..."*
2. Efficacy & Impact	PARTICIPANT 1 & 02: *"Talagang maraming gumaling..."*	PARTICIPANT 9: *"Guminhawa yung pakiramdam ko... wala nakong takot."*	PARTICIPANT 7: *"Masaya kasi... masarap yung hilot nila... naiintindihan mo din bakit..."*
3. Tourism Readiness Spectrum	PARTICIPANT 2 (Open): *"Masaya kami... napapalayo na pala yung mga kaalaman namin."* PARTICIPANT 5 (Hesitant): *"Kung mga babae? Mahihiya ako..."*	PARTICIPANT 10 (Promoter): *"I rerecommend ko po... dapat bang itaguyod? Oo..."* PARTICIPANT 9 (Hesitant): *"Para sakin hindi kasi... matatakot sila..."*	PARTICIPANT 6: *"Bago sakin... open naman din ang LGU to look at that."*
4. Preservation vs. Commodification	PARTICIPANT 1 & 02: *"Kusang loob kung may maibigay... Ayaw ko, anak."*	*[Not directly addressed]*	PARTICIPANT 6: "We should not commodified their culture... *may pag galang dapat tayo.*"

Note. This table provides a triangulated summary of select core themes. The quotes presented are illustrative exemplars chosen for their clarity and representativeness in capturing the essence of each theme from the respective stakeholder group's perspective. A theme's presence for a stakeholder group indicates it was a prominent and meaningful pattern within that group's collective narratives, not that every participant identically expressed it.

The study identified a critical implementation gap at the governance level. While the LGU had adopted a progressive, facilitative ethos as a "bridging leader" (a theme exclusive to their group, Prominence=3 in Table 1), this intent was critically hampered by a self-identified "knowledge gap." As evidenced in Table 2, an LGU official explicitly stated that traditional healing was "*Bago sakin*" (new to me). This finding provides a specific, operational example of the broader observation that indigenous perspectives remain marginalized in policy and planning (Madrid, 2024).

A paramount concern permeating the data from both healers and the LGU (Prominence=7, see Table 1) was the conscious negotiation between cultural sharing and commodification. This ethical stance was embodied by the healers' foundational economic principle of *kusang loob* (voluntary giving), where compensation is a heartfelt donation, not a fixed price (see Table 2). This cultural mechanism actively resists the commodification of their spiritual service. The LGU's parallel theoretical stance against "exploitation" (Table 2) demonstrates a strategic alignment in principle. This theme provides the lived-experience core for the imperative of "Ethical Tourism Practices Safeguarding Cultural Integrity" (Angeles & Angeles, 2024), establishing a clear boundary that any tourism development must respect.

4. CONCLUSION

This phenomenological inquiry concludes that the essence of the Aeta healer's lived experience is a profound sense of purpose rooted in a spiritual calling, which exists in dynamic tension with modernization pressures and a deeply personal calculus regarding tourism. The potential for tourism is intrinsically linked to the authenticity and efficacy of the healing practices but is critically contingent on a nuanced approach that respects the wide spectrum of individual readiness among practitioners.

The study demonstrates that a sustainable and authentic model for integrating Aeta healing into tourism cannot be externally imposed or based on standard commercial frameworks. The well-documented chasm between the LGU's facilitative intent and its capacity for action must be closed by a foundational investment in cultural mapping and deep ethnographic engagement. Ultimately, success hinges on co-creating a framework through continuous trilateral dialogue--one that innovates economic models honoring *kusang loob*, establishes robust cultural protocols, and empowers the Aeta as the primary agents and beneficiaries of their cultural heritage. This approach ensures that tourism acts as a supportive force for cultural preservation, guided by the community's own meanings and aspirations.

It is important to note that this study, while providing in-depth phenomenological insights, is based on a small sample within a specific community. Therefore, the findings are not generalizable to all Aeta communities or other indigenous groups. However, the rich qualitative data offer valuable contextual understanding that can inform similar contexts in the Asia-Pacific region.

ETHICAL CONSIDERATION

This study received ethical approval from the Institutional Review Board of the Philippine Merchant Marine School (Reference No: PMMS-IRB-2025-003). The research strictly adhered to ethical protocols for research involving indigenous peoples. The principle of Free, Prior, and Informed Consent (FPIC) was secured through dialogues with the Aeta community leadership and the National Commission on Indigenous Peoples (NCIP) Regional Office prior to data collection. Written informed consent was obtained from all participants, ensuring voluntary participation, anonymity, confidentiality, and the right to withdraw without consequence. All data were anonymized and stored securely.

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Research Article

The Use of Generative AI in Clinical Learning Activities and Its Relationship on Student Nurses' Caring Practices

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ABSTRACT

This study examined the relationship between the use of Generative Artificial Intelligence (Generative AI) in clinical learning activities and the caring practices of student nurses. Guided by Watson's Theory of Human Caring, the research investigated caring behaviors across decision-making, holistic care, and helping-trusting relationships among 293 second- to fourth-year nursing students at Wesleyan University-Philippines during Academic Year 2024-2025. Using a quantitative descriptive-correlational design and stratified purposive sampling, the study included only students who had completed at least one semester of Related Learning Experience and had prior exposure to Generative AI for academic and clinical tasks. Data were gathered through a researcher-developed questionnaire with validated subscales, including an adapted Caring Behaviors Inventory (Cronbach's α = 0.86 in the full dataset). Descriptive statistics showed that student nurses "often" used Generative AI across planning, writing, and review tasks, while caring practices remained consistently "high" across all measured domains. Assumption testing using Shapiro-Wilk confirmed that composite scores were approximately normally distributed, permitting the use of Pearson's r to analyze relationships between variables. Correlation results revealed no significant associations ($p > 0.05$) between the frequency of Generative AI use and caring practices, indicating that increased AI use did not predict changes in humanistic nursing behaviors. Uniformly high scores across caring dimensions also suggested potential ceiling effects, warranting cautious interpretation of nonsignificant results. The study concludes that while Generative AI supports academic tasks, it does not diminish core caring values among student nurses and highlights the need for ethical, balanced integration of AI in nursing education.

Keywords: Caring Practices, Clinical Learning Activities, Generative AI, Holistic Care, Nursing Education, Student Nurses

1. INTRODUCTION

The rapid advancement of artificial intelligence (AI) has reshaped health professions education worldwide, with generative artificial intelligence (Generative AI) emerging as a widely used tool that supports text generation, idea development, and cognitive processing in academic and clinical tasks. Within nursing education, students increasingly use Generative AI to assist in planning, writing, reviewing, and analyzing course requirements, including care plans, clinical case analyses, and reflective journals (Han et al., 2025; Topaz & Pruinelli, 2025). Research highlights both the benefits and challenges of these technologies: while AI tools can enhance clarity, efficiency, and cognitive scaffolding, scholars warn that excessive reliance may impede the development of independent judgment and critical interpersonal competencies essential to holistic nursing care (Seo et al., 2024; Sockolow et al., 2025). Although global discussions continue to expand, the integration of Generative AI in nursing education must also be understood within the socio-cultural and infrastructural realities of the Asia-Pacific region. Across the region, digital transformation in higher education is progressing unevenly, influenced by disparities in technological readiness, access to digital learning environments, and institutional capacity for adopting AI-enabled tools. These variations shape how nursing students encounter and depend on AI in their academic work. At the same time, Asia-Pacific nursing cultures place strong emphasis on relational orientation, compassionate presence, family-centered values, and respect for elders—cultural commitments that continue to define what it means to provide holistic and person-centered care. As nursing schools adopt AI-supported learning strategies, educators

are increasingly concerned with how technological efficiency can coexist with these longstanding regional expectations of humanistic, relational nursing practice.

This regional conversation aligns with emerging scholarship within the APCORE Online Journal, which has begun examining how AI-related innovations influence educational practice. For example, Nguyen (2025) discussed the growing presence of AI in service-learning pedagogies within Asia-Pacific higher education and highlighted the need to safeguard humanistic and community-oriented values even as institutions incorporate digital tools. Although not focused specifically on nursing, such scholarship points to the broader relevance of examining how AI integrates into culturally rooted educational systems.

2. MATERIALS AND METHODS

This study employed a quantitative descriptive–correlational design to examine associations between Generative AI use and caring practices among student nurses. Correlational methods are well suited for identifying relationships in natural educational settings without manipulating conditions (Cohen, 1988).

Research Locale and Participants

The study was conducted at Wesleyan University–Philippines, an institution known for its values-based, holistic nursing education philosophy aligned with caring theory (Watson, 2008; Ghanbari-Afra et al., 2022). A total of 293 second-, third-, and fourth-year nursing students participated, selected via stratified–purposive sampling to ensure representation across academic levels and clinical exposure.

To ensure adequate representation across academic levels while maintaining relevance to the study objectives, stratified purposive sampling was employed. In this approach, the Bachelor of Science in Nursing (BSN) levels—Levels 2, 3, and 4 served as predefined strata based on their differing degrees of clinical exposure and Generative AI utilization. Stratification ensured that each academic level was proportionately represented in the sample, thereby enhancing the comparability of responses across training stages.

Within each stratum, purposive selection was applied using explicit, predetermined inclusion criteria: (1) regular enrollment during the second semester of Academic Year 2024–2025; (2) completion of at least one semester of Related Learning Experience (RLE); and (3) documented use of Generative AI tools for clinical learning activities. These criteria restricted participation solely to students who had meaningful exposure to both clinical learning and AI-supported academic tasks, which was essential for addressing the research questions.

Applying uniform eligibility requirements within each stratum minimized researcher discretion and helped reduce potential selection bias by ensuring that all who met the criteria were invited to participate. This structured two-stage process supports both representativeness across academic levels and consistency in participant selection.

Instruments

Data were collected using a researcher-developed questionnaire composed of five sections: (1) demographic profile; (2) use of Generative AI in clinical learning activities across planning and research, writing and development, and review and editing; (3) caring practices measured through decision-making, holistic care, and helping–trusting relationships; (4) relationship between Generative AI use and caring practices; and (5) the proposed educational output. Items were rated using a 4-point Likert scale, a widely used method for capturing behavioral frequency and self-reported perceptions in nursing and social science research (Joshi et al., 2015).

Initial pilot testing yielded a Cronbach's alpha of 0.838, indicating acceptable reliability. However, because the caring behaviors scale constituted a core variable in the correlational analysis, internal consistency was recalculated using the full study sample. The reliability coefficient for the main dataset was 0.86, demonstrating robust internal consistency and strengthening confidence in the scale's measurement quality for the primary analyses.

Data Collection

Quantitative data were collected through the distribution of printed survey questionnaires to qualified nursing students across Levels 2, 3, and 4. Standardized protocols for classroom-based paper surveys were followed to ensure accessibility and minimize disruption to academic activities (Dillman et al., 2014). After securing approval from the College of Nursing and obtaining informed consent, the questionnaires were administered during scheduled class hours. Each participant was given approximately 20 minutes to complete the instrument, a typical timeframe for structured paper surveys in nursing education research (Polit & Beck, 2021).

Completed questionnaires were checked for completeness, legibility, and accuracy. This step aligns with best practices in survey research to ensure data quality prior to encoding (Dillman et al., 2014). Forms were numbered and securely stored to maintain respondent anonymity and data integrity.

Data Analysis

Data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) to summarize demographic characteristics, levels of Generative AI use, and caring practices. Before conducting correlation analyses, the assumptions for treating Likert-type scores as continuous variables were evaluated. Although Likert data are ordinal, composite

scale scores with four or more items may be treated as approximately continuous when supported by empirical validation in educational and behavioral research. To assess the suitability of parametric tests, the distribution of composite scores for Generative AI use and caring practice dimensions was examined using the Shapiro–Wilk test, along with visual inspection of histograms and Q–Q plots. Results indicated that the composite scores were approximately normally distributed, and scatterplots demonstrated linear relationships among variables. Internal consistency of the Caring Behaviors scale was recalculated using the full study sample, yielding a Cronbach's alpha of 0.86, which confirms reliability for correlation analysis.

Given that the assumptions of normality, linearity, and reliability were satisfied, Pearson's r was used to examine the relationships between Generative AI use and caring practice dimensions. Interpretation of correlation strength followed established statistical conventions for behavioral research.

3. RESULTS AND DISCUSSION
Quantitative Findings and Interpretation

Survey responses from 293 nursing students were analyzed to describe their demographic profile, extent of Generative AI use in clinical learning activities, caring practices, and the relationship between Generative AI usage and caring behaviors. Descriptive statistics showed that respondents "often" used Generative AI across planning, writing, and review tasks, while caring practices across the domains of decision-making, holistic care, and helping–trusting relationships consistently fell within the "high" descriptive range. These findings are summarized in Tables 1–3.

Table 1

Descriptive statistics for the use of generative AI in clinical learning activities (n = 293)

Variable	Mean (M)	Standard Deviation (SD)	Interpretation
Planning and Research	3.16	0.55	Often
Writing and Development	3.14	0.57	Often
Review and Editing	3.18	0.53	Often

Student nurses reported consistent use of Generative AI across all academic phases, with all domain means falling within the "Often" descriptive range. The highest mean was observed in Planning and Research, indicating that students most frequently used Generative AI during the preliminary stages of academic tasks. Prior studies similarly report that learners tend to apply Generative AI more frequently in initial academic processes, such as information acquisition and organization, due to the structured and task-oriented nature of these phases (Han et al., 2025; Seo et al., 2024).

The means for Writing and Development and Review and Editing also fell within the same descriptive category, showing that students used Generative AI at comparable levels across stages of academic output preparation. Existing quantitative literature notes parallel patterns, where nursing students use AI tools consistently across different academic functions without major variability between task types (Han et al., 2025; Sockolow et al., 2025). These findings align with evidence that AI-supported academic tasks produce stable frequency patterns when measured through Likert-type usage scales (Han et al., 2025).

Overall, the uniformly high means across the three domains indicate that Generative AI use was frequent and consistent in this sample, without extreme variation between tasks. Such distribution patterns are characteristic of AI-usage studies where students report regular engagement across structured academic activities (Han et al., 2025; Seo et al., 2024). The descriptive results therefore reflect the statistical tendency of student populations to use Generative AI at similar frequencies across academic phases when measured quantitatively through self-report Likert scales.

Table 2

Descriptive statistics for caring practices in terms of decision-making, holistic care, and helping-trusting relationships (n = 293)

Caring Practice Dimension	Mean (M)	Standard Deviation (SD)	Interpretation

Decision-Making	3.57	0.45	Always
Holistic Care	3.60	0.42	Always
Helping-Trusting Relationship	3.64	0.40	Always

The consistently high means across caring dimensions indicate that student nurses continue to embody the core values of nursing practice despite their increasing use of Generative AI. Notably, Helping–Trusting Relationships scored the highest (M = 3.81), suggesting that students remain adept at building rapport, instilling trust, and demonstrating empathy—behaviors derived from Watson's carative factors emphasizing authentic presence, sensitivity, and human connection (Watson, 2008).

High scores in Decision-making and Holistic Care (both M = 3.79) reinforce the finding that Generative AI tools do not diminish students' capacity to integrate ethical reasoning, cultural sensitivity, and patient-centered care. These results support recent literature asserting that while Generative AI may assist with technical tasks, caring competencies emerge primarily from interpersonal experiences and reflective practice, not digital tool usage.

Overall, the findings demonstrate that Generative AI does not compromise the humanistic dimensions of nursing; instead, it allows students to better manage academic demands, leaving more cognitive space for relational and ethical aspects of care—consistent with global recommendations on responsible AI integration in nursing education (Topaz et al., 2024).

The consistently high caring scores observed in this cohort may also reflect cultural factors particular to Philippine and broader Asia Pacific nursing traditions. Caring in these contexts is deeply rooted in collectivist values, strong familial expectations, and moral duty, which emphasize emotional presence, respect, and compassion regardless of technological tools available to students. Because caring is culturally reinforced as a professional and personal virtue among Filipino student nurses, their caring behaviors may remain stable and resilient even as digital tools such as Generative AI become more integrated in academic work. This cultural stability likely contributed to the absence of significant correlations, as students' caring practices appear to be shaped more by sociocultural norms and professional value formation than by the frequency of AI use.

Table 3

Relationship between use of generative AI in clinical learning activities and caring practices (n = 293)

Pearson Correlation				
Generative AI Use	Decision-Making	Holistic Care	Helping-Trusting Relationship	Interpretation
Planning & Research	-0.044	-0.044	0.011	Not Significant
Writing & Development	-0.058	-0.047	-0.016	Not Significant
Review & Editing	-0.043	-0.052	0.013	Not Significant

The correlation results show that all relationships between the three dimensions of Generative AI use and the three dimensions of caring practices are weak and statistically insignificant. Across all dimensions, the coefficients fall within the range –0.058 to 0.013, confirming that there is no meaningful linear association between how often students use Generative AI and how strongly they demonstrate caring practices. According to Cohen (1988), correlations below |.10| are interpreted as "trivial," supporting the conclusion that these relationships are statistically and practically insignificant.

These results imply that higher or lower use of Generative AI does not predict student nurses' capacity to demonstrate caring behaviors in terms of decision-making, holistic care provision, or helping–trusting relationships. This pattern indicates that caring behaviors—rooted in empathy, presence, ethical sensitivity, and relational engagement—are shaped more by personal disposition, clinical exposure, and professional value formation than by engagement with digital tools.

The findings align with Watson's Theory of Human Caring, which emphasizes that caring originates from human-to-

human interactions, intentionality, and moral commitment rather than cognitive or technical aids (Watson, 2008). They also support recent discussions in the literature suggesting that while Generative AI may enhance academic tasks such as planning, drafting, and editing, it does not substitute for the development of humanistic competencies in nursing (Karim & Ocampo, 2024; Topaz et al., 2024). Students appear to use Generative AI as an academic support tool, not as a mechanism for shaping their caring identity or clinical relational skills.

Overall, the insignificant correlations reaffirm that Generative AI is academically helpful but affectively neutral—it may support efficiency in learning tasks, but it neither improves nor diminishes the core caring values that student nurses practice.

However, the uniformly high means may indicate a potential ceiling effect and/or social desirability bias, which could restrict score variability and influence the magnitude of the correlations.

While the findings showed no significant relationships between Generative AI use and caring practices, this non-significance should be interpreted cautiously. The absence of correlation may reflect not only the human-centered nature of caring but also methodological constraints such as restricted score variability and potential ceiling effects in both the AI-use and caring-practice measures. Uniformly high scores limit statistical sensitivity and reduce the ability of Pearson correlation to detect possible associations. Therefore, the results indicate that this instrument and this dataset did not reveal a relationship, rather than conclusively proving that no relationship exists in practice.

4. CONCLUSION

This study examined the relationship between student nurses' use of Generative Artificial Intelligence (Generative AI) in clinical learning activities and their caring practices in terms of decision-making, holistic care, and helping–trusting relationships. Quantitative analyses revealed that students "often" used Generative AI for planning, writing, and reviewing academic outputs; however, caring practices remained consistently high across all dimensions. Correlation results showed that the frequency of Generative AI use had no significant relationship with caring behaviors, suggesting that while Generative AI supports academic efficiency, it does not diminish or enhance the affective and relational competencies central to nursing practice.

These findings affirm that caring is grounded in human connection, ethical intentionality, and experiential learning rather than in technological engagement. The results support the position that Generative AI functions primarily as an academic tool—useful for brainstorming, drafting, and refining outputs—but does not shape the deeper humanistic capacities that Jean Watson describes as essential to authentic, compassionate, and person-centered care. For nursing education, this highlights the continued importance of clinical experiences, mentorship, and value-based instruction in cultivating caring behaviors, even as digital tools become increasingly embedded in learning environments.

Given these insights, nursing programs are encouraged to adopt structured guidelines that promote the ethical and responsible use of Generative AI. Educators may integrate reflective activities, simulated caring encounters, and discussions on digital professionalism to ensure that students balance technological proficiency with empathy, integrity, and therapeutic presence. Institutions should also provide training that helps students critically discern when and how Generative AI can support—not replace—clinical reasoning and caring engagement.

Future research could explore longitudinal patterns in students' caring practices as Generative AI becomes more sophisticated and widely used, including its implications for clinical judgment, emotional labor, and interpersonal communication in real patient settings. As nursing education evolves in the digital age, the challenge is not merely to integrate technology, but to preserve and strengthen the humanistic core of nursing—ensuring that future nurses remain compassionate, reflective, and ethically grounded, even amidst rapid technological change.

ETHICAL CONSIDERATION

In this study, institutional approval was given by the College of Nursing of Wesleyan University-Philippines based on its internal review process of research. All participants were informed about the study and gave informed consent before the survey. The participation was voluntary, and the students could opt out at any point or withdraw. No personal data was gathered, and all the responses were anonymized, kept confidential, and stored securely in locked physical copy and password-protected electronic formats. Data were of research interest only and could be accessed by the researchers only. No data generation or manipulation with AI tools was involved, and no vulnerable populations were involved.

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Research Article

Comparative Genomics to Investigate the Resistome and Bacterial Heterogeneity in the Creekside Ecosystem in Navotas City: An Exploratory Research

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ABSTRACT

Rapid urbanization and untreated sewage discharge have degraded aquatic ecosystems, particularly the Navotas River. This study aimed to assess antimicrobial resistance (AMR) patterns in bacterial communities to support rehabilitation efforts. A comparative descriptive design was employed at three creekside sites with varying levels of human activity. Triplicate water samples (600 mL/site) were collected during the first and fourth weeks of January 2025. DNA was extracted and validated using Qubit, NanoDrop, and gel electrophoresis. Shotgun metagenomic sequencing was performed via Illumina NovaSeq (15 million reads/sample). Taxonomic classification was performed using QIIME, KRAKEN, and BRACKEN, while antimicrobial resistance genes (ARGs) were identified through Q2-RGI with the comprehensive antimicrobial resistance database (CARD). A one-way ANOVA was used to assess differences in bacterial and ARG abundance across sites. In line with comparable environmental metagenomics studies, it was used for exploratory comparison across sites after the assumptions of independence and homogeneity of variance were taken into account prior to statistical analysis. The DNA quality met sequencing requirements, and physicochemical parameters, such as pH and temperature, were within normal limits. A diverse microbial community with known pathogenicity was found, including *Pseudomonas, Sulfitobacter, Streptomyces, and Rhodococcus*. The most abundant ARG was *rpoB* mutant in *Bifidobacterium adolescentis* (35.41%), conferring rifampicin resistance, followed by *rpoB2* in *Nocardia* (20.94%). Other notable ARGs included *sul1* (8.61%) and *tlrC* (4.90%), which are associated with sulfonamide and macrolide-lincosamide resistance. Beta-lactamases, including VIM, NDM, and OXA variants, including aminoglycoside-resistance genes, were identified. No significant differences in ARG abundance were found across sites ($p = 0.997$; $p = 0.777$). The presence of antibiotic-resistant bacteria and ARGs, particularly rpoB mutants and beta-lactamases, signals a silent AMR crisis in the Navotas River. These findings highlight the urgent need for policy intervention and continuous AMR surveillance in aquatic environments.

Keywords: Antibiotic Resistance Gene, Antimicrobial Resistance, Creekside Bacteria, Public Health, Shotgun Metagenomic Sequence

1. INTRODUCTION

Antimicrobial resistance (AMR) is a growing global health crisis that threatens the effectiveness of existing antimicrobial drugs, increasing the risk of prolonged infections and mortality. Aquatic environments have been recognized as major reservoirs and transmission pathways of antimicrobial-resistant bacteria and antimicrobial resistance genes (ARGs), largely due to anthropogenic activities such as wastewater discharge and urban runoff (Liu et al., 2023). In the Philippines, poor wastewater management contributes to the spread of resistant microorganisms in urban waterways, particularly in areas such as Navotas City, where creeks and rivers are continually exposed to domestic and industrial effluents.

Studies have shown that riverine and freshwater systems can harbor diverse ARGs and pathogenic microorganisms, which may persist and disseminate through horizontal gene transfer, posing risks to both environmental and public health (Singh, 2020). Wastewater and polluted surface waters have been identified as critical contributors to the spread of resistance genes, including those associated with beta-lactams, sulfonamides, macrolides, and other antibiotic classes. Research further emphasizes that environmental factors, such as temperature and pH, can influence the survival and abundance of resistant bacteria in aquatic ecosystems. These findings highlight the importance of environmental surveillance, as ARGs present in water systems may transfer to clinically significant bacteria, potentially limiting the effectiveness of antimicrobial therapies.

The escalating crisis of global antimicrobial resistance (AMR) is profoundly influenced by intensive agricultural practices, particularly in Asia. Asia stands as the primary international hub for swine production, accounting for 58.4% of the world's total

pig population. Within the Southeast Asian region, countries including Vietnam, Myanmar, and the Philippines are recognized as leading producers. Empirical evidence confirms the translational risk between the farm and clinical settings. Surveillance data from Vietnam and Thailand, for instance, report a 10% to 22% prevalence of the *mcr-1* and *mcr-3* genes, which confer resistance to colistin, a critically important last-resort antimicrobial in *Escherichia coli* isolates from both pig and chicken farms (Khine et al., 2020). Further resistance mechanisms have been documented in other bacterial species, including the detection of *mcr*-positive *Klebsiella pneumoniae* strains recovered from farmed swine in Malaysia. The long-term, extensive use of specific antimicrobial agents, such as tetracycline, has directly correlated with the high frequency of resistant bacterial (ARB) isolates detected in pigs in Thailand and throughout the SEA region (Lunha et al., 2020).

The high level of resistance detected in Gram-negative organisms, which are commonly associated with nosocomial infections, is a pressing concern. In Indonesia, a significant proportion (57.7%) of *E. coli* isolates identified from bloodstream infections were identified as Extended-Spectrum beta-Lactamase (ESBL) producers, along with Myanmar, which documented alarming rates of carbapenem resistance in pediatric isolates, specifically in *E. coli* (48%), *K. pneumoniae* (42%), and *Acinetobacter* sp. (59%). This epidemiological profile is directly correlated with patient mortality. Supporting this, a study from Thailand estimated that multidrug-resistant organisms contributed to 19,122 of 45,209 deaths (43%) among patients with hospital-acquired infections in 2016 (Sihombing et al., 2023).

In response to these concerns, metagenomic approaches have gained prominence for characterizing microbial communities and detecting ARGs in contaminated environments. Shotgun metagenomic sequencing, in particular, provides an unbiased method for identifying both the resistome and taxonomic composition of water samples without the need for culture-based isolation. Despite the increasing application of metagenomics in international studies, local investigations in Philippine water systems remain limited, especially in creekside environments where human activity is concentrated.

Given these gaps, this study aimed to investigate the bacterial community and resistome of creekside water in Navotas City using shotgun metagenomic sequencing. By identifying the most abundant bacterial taxa and acquired ARGs present in selected sampling sites, the research seeks to provide baseline molecular data on environmental AMR in a vulnerable urban waterway. The findings of this study may contribute to ongoing efforts to strengthen environmental monitoring, support future public health assessments, and inform local interventions that address the growing threat of antimicrobial resistance.

2. MATERIALS AND METHODS

Aim, Design, and Setting of the Study

Urbanization driven by human activities, particularly those related to sewage, is altering water systems and increasing pollution, which impacts aquatic microbial communities (Nurmberger, 2022). In the Philippines, rapid industrialization, urbanization, and population growth have led to increased waste, particularly in metropolitan areas (Edullantes & Walag, 2024). Antimicrobial resistance (AMR) causes approximately 1.27 million deaths nationally and poses a significant challenge. Urban areas like Navotas City have high bacterial proliferation, some carrying AMR genes. However, data on the specific bacterial communities and their functions in these waters remain limited, prompting this study to identify the bacterial community and resistome in water samples from three locations.

A comparative descriptive design was used to characterize the microbial diversity and antimicrobial resistome profiles present in the creek waters. In this manner, the mean relative abundances of the detected taxa and genes were quantitatively compared across several sample sites without trying to establish linear correlations. Three nearby locations within the Navotas creekside—Points 1, 2, and 3—were selected using non-probability purposive sampling to guarantee that the samples were representative of the widespread, high-level anthropogenic stressors typical of this urban coastal environment. These specific, closely spaced areas were chosen in order to evaluate the spatial homogeneity of the resistome and microbial populations under the influence of continuous, diffuse pollution sources throughout a brief portion of the creekside rather than discrete contamination instances. In order to demonstrate internal validity, this chosen location had to ensure similar baseline exposure conditions. The sampling locations were carefully chosen given that they are near significant infrastructure such as residential neighborhoods, commercial establishments, and wastewater outlets, all of which have an effect on microbial communities.

Point 1 (Latitude 14.662869 N, Longitude: 120.947210 E) is situated next to a ship repair facility and has a significant buildup of trash and stagnant water, which contributes to higher ARG concentrations because of decreased water movement and the presence of nutrient-rich waste.
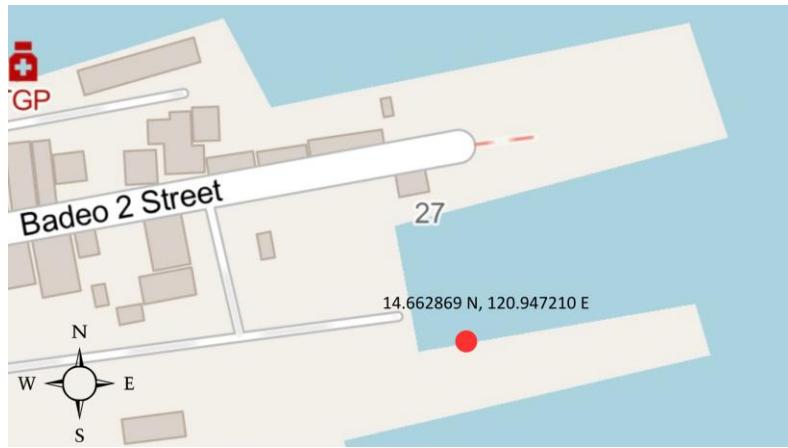
Figure 1. *Sampling point 1 at Navotas Creekside, Manila City, Philippines*

Point 2 (Latitude: 14.662930 N, Longitude: 120.947452 E) has been impacted by residential wastewater inflow, which exposes microorganisms to chemicals and household toxins, leading to the development of resistance as a result of prolonged pollution exposure.

Figure 2. *Sampling point 2 at Navotas Creekside, Manila City, Philippines*

Point 3 (*Latitude: 14.662876 N, Longitude: 120.947691 E*) is closest to where the creek flows into the Navotas River, introducing a diverse range of contaminants that affect microbial populations and may represent microbial exchange with the large coastal system.
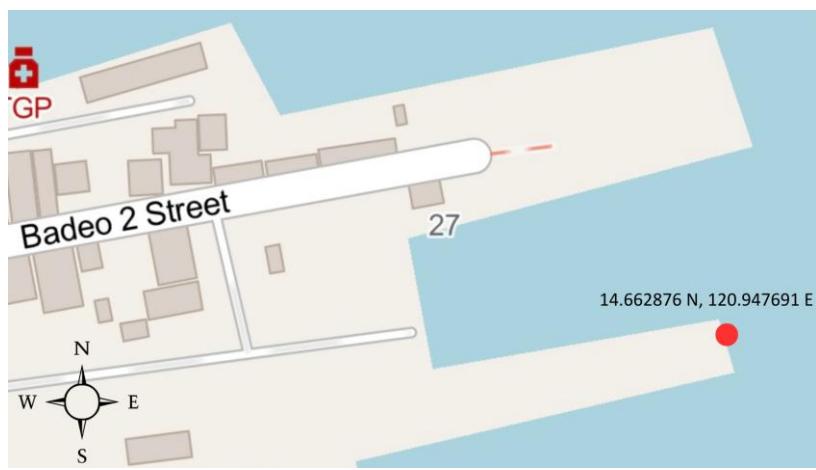
Figure 3. *Sampling point 3 at Navotas Creekside, Manila City, Philippines*

Materials and Equipment

The water was collected using a sterile bottle made of new polyethylene or glass with a total capacity of 600 milliliters. A one-way valve was used to obtain samples to prevent contamination, and it was applied to both surface and subsurface water sample collection. A metric tape measure was used to measure the deeper parts of the shore, consistently measuring a 0.2-meter depth of the subsurface sample of creekside water. After the samples were collected and transferred in a sterile glass container, it was temporarily stored in an ice cooler as it was being transported to the laboratory, where it was stored longer in an empty and clean refrigerator. The samples were stored until the last sample was collected, given that the DNA extraction process required simultaneous observation for each pooled sample as they were correlated with one another.

The isolation of genomic DNA from a wide range of filtered water samples, including turbid ones, was done through HiPura Water DNA Purification Kit. Water samples were first filtered using a sterile gauze pad and hydrophilic membrane filter as an initial part of the DNA extraction procedure. Bacteria from the filter were resuspended in a small volume of buffer to be centrifuged into pellets and used for DNA extraction.

The researchers employed a number of methods to assess each sample's overall quality as part of the quality control procedures. The Multiskan SkyHigh Microplate Spectrophotometer was used to ensure the purity of all isolated DNA samples. The absorbance at wavelengths A260, A280, and A320 was used to quantify pure nucleic acid. Additionally, the precise measurement of proteins or nucleic acids in ng/uL was determined using the Qubit Fluorometer machine. Finally, the integrity of nucleic acids was assessed using gel electrophoresis, which showed deterioration or contamination with undesirable compounds.

DNA Extraction

The HiPurA Water DNA Extraction Kit from Maharashtra, India, was used for the extraction of genomic DNA (gDNA) from six environmental water samples collected from the creekside in Navotas, City. The results of the extraction were quality-controlled using an Invitrogen Qubit 4 Fluorometer and a FLUOstar Microplate NanoDrop Reader for NanoDrop analysis.

Shotgun metagenomic sequencing was employed to comprehensively characterize the microbial communities in a complex environmental sample. The extracted DNA was sent to the Australian Genome Research Facility (AGRF) for library preparation using the Illumina DNA Prep (M) Tagmentation Kit, which is compatible with DNA input ranging from 1 to 500 ng. The preparation process takes 3 to 4 hours to complete. The fragments were then amplified by Quantitative Polymerase Chain Reaction (qPCR) to create multiple copies of the sequence for quantification. Additionally, magnetic beads that bind to DNA fragments were used, allowing for the separation and selection of properly sized DNA fragments for quality assurance during library preparation.

Sequencing was performed using the Illumina NovaSeq X Plus platform, providing high-throughput and high-quality sequence data. Targeting a read depth of roughly 15 million reads per sample, sequencing was done using 150-base-pair paired-end reads for each metagenomic sample. The obtained DNA sequences were aligned with current datasets in the National Center for Biotechnology Information (NCBI) database to facilitate accurate taxonomic identification and classification. Furthermore, bioinformatics and statistical tools were employed to analyze the results of the bacterial ARGs and taxonomy identified in the water samples. These tools include QIIME2, which aids in the analysis and interpretation of microbiome data; CARD, which detects the presence of AMR genes; and Kraken, which provides a high-throughput taxonomic classification of the microbiome through the use of Ubuntu terminal Linux Windows System. Following the bioinformatics analysis, the data underwent statistical analysis using SPSS, a software program that facilitates statistical analysis, data management, and data visualization, all essential for computing results in Analysis of Variance (ANOVA). This statistical method enabled comparison across multiple groups, allowing for testing of hypotheses about population differences when three or more groups are involved.

Data Analysis

The ANOVA test was used to compare variation between and within groups. Key statistics include the Sum of Squares (SS), degrees of freedom (df), Mean Squares (MS), F-value, p-value, and the critical F-value (F crit). It assessed whether there are significant differences among groups based on their variance. The assumptions of independence and homogeneity of variance were taken into consideration prior to one-way ANOVA. ANOVA was applied for exploratory comparison across sites, consistent with similar environmental metagenomics studies. This method is justified because, despite the compositional nature of the data, the relative abundance data approximate distributions appropriate for ANOVA, enabling the detection of variations in mean bacterial abundances across sites. If the p-value is below a set significance level, it suggests a statistically significant difference among the group means. The ANOVA results helped pinpoint specific bacterial groups that vary significantly between sample sites or conditions. By identifying which groups differ statistically, researchers focused on those particular bacteria, thereby streamlining the identification process.

The five most abundant types of bacteria and associated AMR genes based on their average relative abundance percentages were ranked. Data was sourced from QIIME 2 (version 2024.10) and KRAKEN (version 2.1.4) gene databases, which provided insights into the structure of bacterial populations and the prevalence of resistant genes. It was essential for studying microbial community dynamics and understanding the spread of antimicrobial resistance in environmental samples. Additionally, the data on the relative abundance of bacteria and AMR genes helped identify bacterial strains that pose public health risks due to antimicrobial resistance. This was crucial in both environmental and clinical microbiology, as it allowed researchers to isolate and identify the bacterial species present and those with resistance characteristics. This dual focus on species and AMR traits facilitated a more comprehensive identification process essential for tracking and managing bacterial infections and resistance trends.

3. RESULTS AND DISCUSSION

Shotgun metagenomic sequencing was conducted to characterize the bacterial community structure and resistome of water samples collected from three creekside sites: Near Stagnant (NS) *14.662869 N, 120.947210 E*, Near Residential (NRS) *14.662930 N, 120.947452 E*, and Near River (NRV) *14.662876 N, 120.947691 E* in Badeo Dos, Navotas City encompassing an area of 87727 sqm. The specific coordinates were mapped out using the Quantum Geographic Information System (QGIS). The sequencing data, processed through QIIME 2, CARD, and KRAKEN2 pipelines, generated a comprehensive profile of microbial diversity and antibiotic resistance gene (ARG) distribution across the sites.

Classification of the Most Abundant Bacteria

Taxonomic profiling revealed a diverse microbial community dominated by genera with both environmental and potential clinical significance. On average, *Caulobacter* (15.82%) and *Pseudomonas* (15.73%) were the two most abundant genera across all sampling sites, followed by *Parazoarcus* (11.67%), *Rhodococcus* (10.95%), *Alcanivorax* (7.93%), *Streptomyces* (4.42%), *Gimesia* (3.23%), *Sulfitobacter* (2.25%), *Sphingopyxis* (2.09%), and *Alloalcanivorax* (1.76%). When analyzed per location, *Caulobacter* dominated the stagnant site (35.24%), *Pseudomonas* dominated the residential site (47.92%), and *Rhodococcus* was most prevalent at the river site (32.33%). These results suggest that the creekside ecosystem sustains a range of both saprophytic and opportunistic bacterial genera capable of adapting to polluted and nutrient-rich environments.
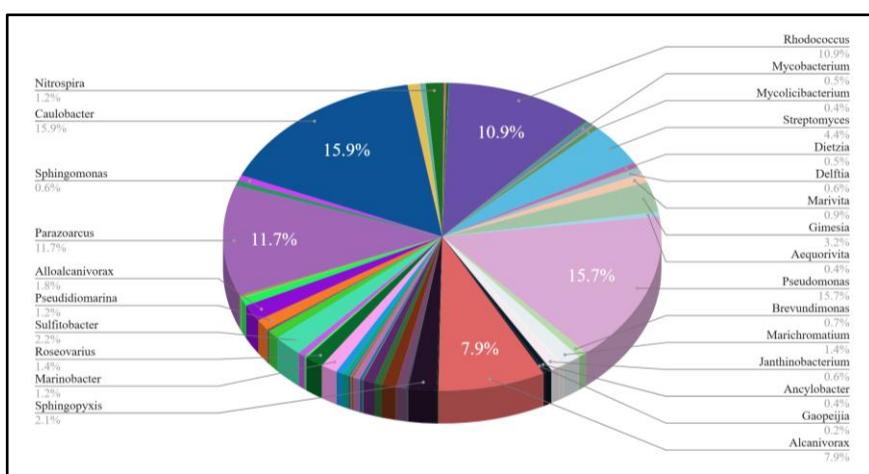

Figure 4. *Bacterial genus-level profiles of sampling points in Creekside at Badeo Dos, Navotas, City*

Classification of the Most Abundant Antibiotic Resistance Genes

Resistome analysis revealed multiple antibiotic resistance genes across all sampling sites, indicating the influence of anthropogenic contamination on the microbial composition of the creek.

Table 1
Most abundant ARGs of extrinsic origin with their drug class and mechanisms of action

ARO Term	Drug Class	Mechanism of Action
Bifidobacterium adolescentis rpoB mutants conferring resistance to rifampicin	Rifamycin antibiotic	Antibiotic target alteration; antibiotic target replacement
rpoB2	Rifamycin antibiotic	Antibiotic target alteration; antibiotic target replacement
sul1	Sulfonamide antibiotic	Antibiotic target replacement
tlrC	Macrolide antibiotic Lincosamide antibiotic	Antibiotic inactivation
Beta-lactamases (VIM, NDM, OXA)	Beta-lactamase	Hydrolyze beta-lactam ring (VIM and NDM are zinc-dependent; OXA is serine-dependent)

Table 1 shows that the most abundant resistance determinant detected was the *rpoB* mutant associated with *Bifidobacterium adolescentis*, representing approximately 35.41% of all ARG reads and conferring resistance to rifampicin. The *rpoB2* variant followed at 20.94%, also conferring rifampicin resistance. Other identified ARGs included sul1/sul2 (sulfonamide resistance), *ANT*(3″) (aminoglycoside resistance), *thrC/oleB* (macrolide and lincosamide resistance), and ABC-F subfamily ribosomal protection genes. Additional genes such as *tet*M, *bla*TEM, *erm*B, *mex*K, *ceo*B, and *ade*J were detected, associated with tetracycline, beta-lactam, macrolide, and multidrug efflux resistance mechanisms. The high prevalence of these genes suggests strong selection pressures for antibiotic resistance within the creek's microbial populations.

Comparison of Identified Bacteria and ARG between Three Sampling Sites

A one-way Analysis of Variance (ANOVA) was performed to determine whether significant differences existed in bacterial and ARG abundances among the three sampling points. The results showed no statistically significant variation in bacterial taxa ($F = 0.003$, $p = 0.997$) or ARG distribution ($F = 0.255$, $p = 0.777$), both exceeding the 0.05 threshold for significance.

The bacterial community in the creekside ecosystem was dominated by *Parazoarcus* (11.67%), *Pseudomonas* (15.73%,), and *Caulobacter* (15.82%). Several pathogenic genera, including *Pseudomonas, Rhodococcus, Streptomyces*, and *Sulfitobacter, were detected, posing potential health risks to both humans and aquatic organisms*. Notably, *rpoB* mutations in *Bifidobacterium adolescentis* and *rpoB2* were found to confer resistance to rifampicin, a first-line drug used to treat tuberculosis. These ARGs were consistently detected across all three sampling sites, suggesting widespread resistance acquisition. Other prominent ARGs, such as *sul*1 and *thr*C, confer resistance to macrolide and sulfonamide antibiotics, with a substantial number of sequencing reads supporting their prevalence.

Site-specific variations in relative abundance were observed, with *Caulobacter* predominant in stagnant water (35.24%), *Pseudomonas* in residential areas (47.92%), and *Rhodococcus* in the river samples (32.33%), each harboring *rpo*B rifampicin resistance genes. Although relative abundance values varied numerically among sampling points, statistical comparison using ANOVA did not detect significant spatial differences. Rather than indicating ecological uniformity, this observation is more appropriately interpreted within the context of hydrological connectivity and methodological constraints. The close proximity of the sampling locations and their exposure to similar pollution sources likely promote microbial mixing, resulting in compositional similarity across sites. In urban coastal settings such as Navotas City, tidal influence and seasonal flushing can further homogenize microbial assemblages between creeks and adjacent coastal waters.

These findings highlight environmental water systems as reservoirs of both pathogenic bacteria and a wide array of antibiotic resistance determinants, reflecting a global ecological concern regarding the spread and persistence of ARGs in natural habitats. Furthermore, the sewage water and Navotas river converge together in the dock in Badeo Dos which concentrates microbes and resistance genes, this exemplifies the zone's hydrological mixing enabling ARG spread. The consistent presence of high levels of rifampicin resistance genes across diverse bacterial taxa and sampling sites underscores the growing challenge of managing antibiotic resistance within environmental microbiomes. However, the lack of significant spatial variation in ARG abundance suggests a widespread dissemination likely facilitated by hydrological connectivity and anthropogenic activity must still be confirmed as given the sample size and spatial spatial proximity of the sites, the study did not detect measurable differences at the chosen significance threshold.

For further analysis, phenotypic research could be conducted to culture bacterial species identified in the metagenomic data to support transcriptomic investigations and identify the gene-level activity. The use of more advanced automation with the use of High-Performance Computing (HPC) in respective institutions to enable fast, resource-demanding computations and the handling of large volumes of data. In addition to this, institutions may also consider providing SciCloud access to provide virtual servers that are easy to implement and scale. Consequently, future research may consider widening the sampling scope of the research to fully capture the whole area.

The study focuses on spatial analysis taking place in one season; thus, future research could take a temporal approach to assess the variations in ARGs present over time at one or multiple locations as seasonal hydrological forces in Asia Pacific estuaries (like Manila Bay) might influence the exchange of microbes between the creek and coastal waters especially in dry *Habagat r*educed rainfall and weaker fluvial flushing can cause longer water residence times in narrow creeks, promoting the accumulation and mixing of microbes and Antibiotic Resistance Genes (ARG) and wet *Amihan* bringing intense rainfall and stronger runoff, which enhances downstream transport of creek-derived bacteria toward coastal waters while simultaneously importing coastal and estuarine microbial assemblages upstream during high tides and storm surges. Implementing such improvements may allow future researchers to develop a more comprehensive understanding of the resistome and bacterial heterogeneity in aquatic ecosystems or to explore these microbial communities from novel viewpoints with different research goals.

4. CONCLUSION

The creekside ecosystem of Navotas system harbors resistome and diverse bacterial communities of which the spatial variability may reflect the pollution from urbanization and the lack of sanitation of the aquatic environment. with *Pseudomonas aeruginosa* being the most abundant pathogenic bacteria found in the area. There were no significant differences between the three sampling points indicating a homogenous distribution of bacteria and there were no significant differences of ARGs between the three sampling sites as both exceeded the p value of <0.5 indicating an even spread across the three sampling points.

The findings emphasize the importance of integrating AMR surveillance into public health and environmental management frameworks. Routine monitoring of aquatic ecosystems can facilitate early detection of resistance trends, enabling

timely responses to emerging threats. These measures align with the Sustainable Development Goals (SDGs): SDG 3 (Good Health and Well-Being) by addressing public health risks from antibiotic-resistant bacteria; SDG 12 (Responsible Consumption and Production) through the promotion of proper waste and antibiotic management; SDG 13 (Climate Action) by recognizing how environmental changes influence microbial resistance; and SDG 14 (Life Below Water) by protecting aquatic ecosystems from pollution and preserving microbial diversity. Without sustained and strategic action, environmental reservoirs such as the Navotas River may accelerate the spread of resistance, threatening current therapeutic options and posing a significant challenge to public health.

ETHICAL CONSIDERATION

The study protocol was approved by the University of Santo Tomas Faculty of Pharmacy Research Ethics Committee (FOPREC) under approval reference number FOPREC 2425-051. All methods were carried out in accordance with the approved guidelines and regulations. As the study involved environmental sampling and no human participants, the need for informed consent was waived.

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Research Article

Talibong: A Material Culture Study

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ABSTRACT

This qualitative study applied Material Culture study and Ethnography as research methodologies to describe and understand Talibong, an ancient sword, a material culture and identity of the people of Libacao, Aklan. This study was conducted in the remote town of Libacao in the Province of Aklan in the Philippines. This study has seven participants who are known locally as "panday" or blade smith and were identified to be making Talibong since they were young. The data collection strategies that were employed are participant observation, focus group discussion and in-depth interviews. Photographs and audio recordings were also used while gathering data. The set of data were analyzed using Jules Prown's model of material culture analysis employing description, deduction and speculation. The findings of the study revealed that Talibong is an old age tradition practiced by the people of Libacao, Aklan. This has been culturally identified with the Libacaonons for centuries and it is an heirloom identified with the people. Rituals that are century old are practiced in the making of Talibong to ensure the safety of the blade smith while making it and protection to the owner of the Talibong. Talibong is a symbol of bravery, power and affluence.Talibong during the early times were made purposely for defense, a weapon for war. It is a material culture that is identified with the people of Libacao, Aklan, hence the expression of the locals: "ginaeagnat ru talibong kung indi kaeabu" (The Talibong gets sick when it could not slash).

Keywords: Bladesmith, Culture, Ethnography, Heirloom, Material Culture, Rituals, Talibong

1. INTRODUCTION

Culture and heritage reflect and shape the values, beliefs, and aspirations of the people thereby giving them their sense of identity (Hoffman 2003). This sense of identity is a product of the people's preserved cultural heritage which is important in keeping their integrity and identity as a people. This identity, according to Gell (1992), is simultaneously embodied in their persons and objectified in things – things that produce effects on persons. Such things or objects serve to objectify cultural meanings, individual experiences, and identities (Gell 1992). Thus, things, objects, or material culture of a given society are a pervading facet of human life, a manifestation of, and an influence on cultures, social structures, sense of agency, identity, and power structures (D' Toole and Were 2017). In many ways, material culture is the most obvious element of culture (Glassie 1999). Émile Durkheim saw material culture as one of the social facts that functions as a coercive force to maintain solidarity in a society (Woodward 2007). The material culture of the people acts as primary data for understanding the people's culture, thereby rendering it a significant contributor in heritage conservation and preservation of the people's cultural identity (Chevalier 2012).

It is through this cultural identity where Aklanons as a people became identified with some known cultural patterns that they became famous for. Aklanons refer to people who are born in the province of Aklan in the Philippines who speak their language and adhere to their culture. Folk belief is that Aklan derived its name from a river called Akean, that when the Spaniards came in the earliest times, they could not pronounce the word Akean properly that they uttered Aklan (CCP Encyclopedia of Philippine Arts 1994, 2:245). A Libacaonon is an Aklanon who lives in Libacao, a town in the province of Aklan. A landlocked municipality surrounded by mountainous sceneries and Aklan river's prominence, Libacaonons are said to be friendly and hospitable (Tutay 1979). Libacao is a place where Aklan's ethnic cultures, habits, traditions, and practices were spared from outside influence like "hongaw" (arranged marriage), "dupli" (polygamous marriage), and "bas-ing" (offering of gifts to settle feuds), thereby considering it a repository of Aklan's ethnicity and culture (Dela Cruz 2011). Libacaonons are described as clannish, often

resulting in blind loyalty and obedience to the family and the clan, thus sometimes resulting in differences and feuds. It is believed that from this nature where the Libacaonons are identified and became known and feared for their Talibong, a special sword and a tangible cultural heritage of the people, a material culture that is highly recognized. Talibong is historically known to be the fighting sword of the people of Libacao and the province of Aklan, brandished by various generations of Libacaonon warriors who fought foreign invaders throughout the centuries (Dela Cruz 2014). Talibong became historically known when during the Japanese invasion of Banga, another town in Aklan, a group of local guerrillas formed the Bolo Battalion which was made up of Libacaonons, who later raided the Japanese garrison in the town of Banga armed with only their Talibongs, thus the popularity of the sword and the identity of the people. Talibong is a material culture that reflected the sentiments and values of the Libacaonon. It is a kind of bolo used by the people and their ancestors during conflicts and tribal wars; sometimes it was used to settle grudges with other members of their family. It served various purposes either in the home, during war, as a gift, and as a bride price. Talibong is known for its sharpness, which is also the meaning of the word, "matarum". It was a weapon created and made for defense and armaments. The weapon was a symbol of power and affluence during the early times (De Juan 2009). Talibong, the fighting sword of Aklan, and is popularly known to the people of Libacao has been identified as a tangible heritage that needs to be preserved and culturally recognized.

2. MATERIALS AND METHODS

The study made use of a qualitative approach for Talibong as a material culture and identity because qualitative methods generally aim to understand the experiences and attitudes of participants, to explore the phenomenon being studied and to provide an in-depth understanding of the participants' experiences (Strauss and Corbin 1990). Ethnography is the process of discovering and describing a particular culture. It involves the researcher in an intimate and personal activity as they attempt to learn how the members of a particular group see their worlds; it works in describing a culture (Spradley and McCurdy 2012). It aims to understand another way of life from the point of view of the native. The goal of ethnography, as Malinowski (1948) puts it, is "to grasp the native's point of view, his relation to life, to realize his vision of his world."

The aim of using ethnography is to find meaning and symbol in Talibong making thereby creating a cultural identity of the people. The participants who very well know this cultural heritage with their knowledge, expertise, and experiences in Talibong making were able to share their views on the tradition. The inherent and attached value of Talibong as a recognized heritage of the people embodied and reflected the cultural beliefs of the Libacaonons given the history it provided. The people put value on this material culture that it continues to become part of the Libacaonons' household even up to the present. To understand the setup, ethnographic methods such as participant observation, interviews, field notes, and artifact analysis were made to gather data.

These tools were provided in order for the researcher to have better understanding of the lives of the participants and give their own perspective on their literacies and living, and afforded an in-depth understanding of their own perceptions about their cultural identity. Ethnography was used to find meaning and an understanding in Talibong making which created the cultural identity of the people. Within this context that the study on Talibong emerged as a cultural experience that the blade smiths are able to live and tell. The relationship that emerged from the researcher and the key informants are essential elements to back up the claim-being a cultural identity of the people of Libacao, Aklan.

Data Collection

There are a variety of methods of data collection used in qualitative research. In this particular study, the following techniques were employed to gather and analyze the data related to the research questions: participant observation, focus-group discussion and in-depth interviews. The interview was conducted using "Aklanon", the language of the blade smith.

Data Analysis

As this study is qualitative and employed material culture study and ethnography to understand the narratives of the blade smiths, the data that were collected by the researcher appeared in words based on what was provided by the blade smiths taken from the interviews, observations and discussions conducted. Such form of data requires some sort of processing before they are available for further analysis (Miles and Huberman, 1994). Field notes that were gathered during the interview, observation and group discussions with the key informants were recorded, and transcribed by the researcher.

In the use of material culture analysis, J. Prown (1982) proposed three stages of analysis: the analysis proceeds from description which is recording the internal evidence of the object; deduction, which is interpreting the interaction between the object and the perceiver and lastly, speculation which is framing hypotheses and questions which lead out from the object to external evidence for testing and resolution. In the description of the object under study, substantial analysis is applied by which description begins with an account of the physical dimensions, material and articulation of the object (Prown, 1982). To determine physical dimensions, the object is measured and weighed. After substantial analysis comes a description of the materials used – what they are and how extensive were they used in the making of the object under study, moreover, patterns of distribution of these materials. Finally, according to Prown (1982), the ways in which the materials are put together in the fabrication of the object which is the articulation of the object must also be noted. Substantial analysis according to Prown (1982) is a description of the physical inventory of the object under study using all forms technical apparatus appropriate and available to use. In this stage of the analysis, talibong is carefully described based on how it is seen physically by the researcher and how it is described by the blade smiths.

Material culture refers directly to both the subject matter of the study-the material-which in this case, talibong and to its

purpose-the understanding of culture. As the study uses material culture as its focus, two approaches used and popularized by Bernard Herman, a leading pioneer in the study of material culture, were applied, these are the object-centered approach which focused on the object (Talibong) itself and the object-driven approach to which the focus is shifted towards an emphasis on understanding how objects relate to the people and culture that made and used them.

In the object-centered approach, attention will be given to the physicality of the object being studied. Talibong as a material culture is described according to what is seen externally with description about its texture, size, color, etc. This is the same with how Prown (1982) would discuss how a material culture should be analyzed, starting with the description of the object being studied. In the object-driven approach, the study will shift from the description of the physical attributes of talibong, the object, but will then focus on how this object relate to the cultural beliefs and development of the people leading towards their identity.

Research Locale and Participants

This study was conducted in Libacao, a town in the province of Aklan during the Academic Year 2019-2020. Libacao, officially the Municipality of Libacao, (Aklanon: Banwa it Libacao; : Banwa sang Libacao; Tagalog: Bayan ng Libacao), is a 3rd class in the of Aklan, . According to the 2015 census, it has a population of 28,241 people.Libacao is 31 kilometres (19 mi) from the provincial capital Kalibo.

The participants of this study were the blade smiths or commonly known in Libacao as "panday". They were identified using purposive sampling. Since some of the blade smiths/panday are residing in some areas of Libacao, Aklan, and its neighboring towns it was deemed proper to make use of purposive sampling in identifying the participants. The rationale for selecting the key informants of the study was based on: first, the recommended list provided by the Local Government of Libacao's Tourism Office through their local tourism officer, Reinnette DalaTeodosio. Second, the blade smiths identified were recommended by the Office of the Sangguniang Panlalawigan Aklan and were also the same blade smiths actively participating in the annual "Talibong Festival" sponsored by the Provincial government of Aklan, showcasing the artistry and craftsmanship of the blade they made, like Junior Redecio a blade smith for more than 30 years, Dionesio "Nono" Teodosio, a blade smith for more than 50 years and Juveth Merano, although young at the age of 31 but has learned the craft of blade smithing from his father and grandfather since 12 years old. Third, they have been into the craft of Talibong making for more than twenty years and that talibong making has been in the family tradition for generations.

Lastly, the blade smiths identified are also known popularly known by the people of Libacao and are willing to participate in the study. Moreover, the researcher also incorporated the narratives provided by the informal participants acting as secondary informants in the study like the Municipal Mayor of Libacao, Aklan, the Tourism Officer and a Barangay Kagawad who each contributed their knowledge about Talibong and also have vital experiences with how it contributed to the Libacaonons culturally.

3. RESULTS AND DISCUSSION

Qualitative Findings and Interpretation

Generally, this study aimed to describe talibong as a material culture and identity of the people of Libacao, Aklan. Specifically, the study sought to answer the following questions: What are the significant contributions of talibong to the people of Libacao, Aklan that contributed to the creation of their cultural identity? What is the use and purpose of making talibong? How is talibong, the object, related to the culture and the people who make and use it? How would you describe the physical appearance of talibong in terms of shape, size, texture, color, design, and decorations? What are the materials used in making talibong?

A qualitative research approach using material culture study as methodology and ethnography as the method was employed in the conduct of the study. Using purposive sampling, a total of seven bladesmiths were identified and selected based on the inclusion criteria set by the researcher to participate in the study.

The findings suggest that Talibong is a sword closely associated with the people of Libacao, Aklan, for generations. It is an heirloom recognized not only by the Libacaonons but also by the entire Province of Aklan and its neighboring provinces. Talibong making is an ancient cultural craftsmanship accompanied by ritual practices that have been handed down for generations. These practices ensure the safety and strength of both the owner and the bladesmith. According to the narratives of the bladesmiths, talibong symbolizes bravery, power, and affluence from earlier times, reflected in the local expression: "ginaeagnat ru talibong kung indi kaeabu" (the talibong gets fever if it could not slash). One is considered brave and powerful if seen with a talibong. The history of the "Bolo Batallion" further contributes to the notion that Libacaonons are brave due to their talibong, which was used to fight Japanese invaders in Aklan.

Originally, talibong was made for defense and warfare, primarily for the warring class. Most talibong makers crafted blades for the nobility, incorporating materials such as silver, gold, or brass. Additionally, talibong was used for dowry giving during courtship or marriage and was considered a prized possession if offered by the groom's family to the bride's family. Bladesmiths believed that owning a talibong provided protection in wars, which is why its use was restricted to warfare. Rituals were an essential part of talibong making, as following these practices was believed to prevent harm to the owner.

Affluence was indicated by owning a talibong made of "sapot"—a silver talibong considered rare and only affordable to the nobility. Power was associated with the use of talibong during warfare, dispute settlement, and dowry. The owner's power was further emphasized by the talibong's exclusive use for special occasions. Currently, bladesmiths use scrap metal or "molle" for making blades, whereas their ancestors used silver, gold, or brass. Carabao horn, including that of an albino carabao, was used for the handle or "pueo." The shape of the talibong depends on the customer's order, traditionally either sloped like a "bakutan" or

straight like a "linamay." The length of the blade is often determined by ritual counting using a string, typically resulting in a length of 31 inches including the handle.

Talibong, as a part of Libacaonons' material culture, has also shaped their cultural identity. This identity is evident in how outsiders react when a Libacaonon is seen with his talibong. As the Mayor of Libacao noted, "Libacaonons during the days never leave their homes without their talibongs," underscoring its significance in their identity.

Talibong as a material culture is described externally, including its texture, size, color, etc., following Prown's (1982) approach to analyzing material culture, which emphasizes starting with the physical description of the object. Moving beyond the object-driven approach, this study shifts focus to how Talibong relates to the cultural beliefs and development of the people, contributing to their identity. Recognized as tangible heritage of the people of Libacao, Aklan, Talibong warrants the application of material culture study as a relevant methodology in this research.

This qualitative study also centers on understanding Talibong as a cultural identity of the people of Libacao, Aklan, thus cementing its status as cultural heritage and tradition. Creswell (1994) defines qualitative research as an inquiry that explores social problems through distinct methodological traditions, focusing on diverse perspectives on reality.

The narratives of identified blade smiths served as primary data, crucial for substantiating claims regarding cultural identity. These individuals possess unparalleled insight into the cultural heritage, as noted by Dela Cruz (2019). Kumar (1989) underscores the value of key informant interviews, highlighting their ability to provide confidential information and unique perspectives that enrich understanding.

Secondary informants were also consulted to complement the insights gathered from key informants. As a material culture study, Talibong serves as primary data in understanding the identity of the Libacaonons.

This study aims to deeply understand the heritage and tradition surrounding Talibong and its evolution into a cultural identity of the people. To achieve this, the researcher employs material culture study as an approach to qualitatively describe the insights of key informants, particularly the blade smiths (panday).

The present study has elucidated Talibong as both a material culture and an identity marker of the people of Libacao, Aklan. This sword is believed to have existed among the Libacaonons even prior to the Spanish colonization of the Philippines. Material Culture study and ethnography served as the primary research methodologies, enabling a comprehensive exploration of Talibong as a sword deeply embedded in the cultural life of Libacao, Aklan.

The findings underscore that Talibong has been integral to the cultural fabric of Libacao, serving not only as a weapon for defense and dispute settlement but also as a symbol of prestige and a cherished heirloom. Rituals performed during Talibong-making rituals are believed to ensure the safety and protection of both the bladesmith and the future owner, thereby honoring ancestors and preserving tradition. These rituals are considered foundational by bladesmiths, who pass them down to subsequent generations.

However, economic constraints pose a significant challenge, as younger generations exhibit less interest in bladesmithing due to its limited financial prospects. To address this, the Provincial government of Aklan hosts the annual "Talibong Festival" to promote and preserve this craft, encouraging both bladesmiths and younger individuals to engage in and learn about Talibong-making.

The key informants—experienced bladesmiths—attest to the significance of Talibong as a material culture and a defining element of the identity of the people of Libacao, Aklan. Without Talibong, they argue, the Libacaonons would not have earned their reputation for bravery, encapsulated in the local saying: "ginaeagnat ru talibong kung indi kaeabu."

Below is a matrix showing the summary and the described display of the various shapes, size, textures, color, designs and decorations of talibong.

Table 1
The Matrix on Talibong and its physical appearance

Shape	elongated, straight and sloping
Texture	handle is rough, blade is smooth and polished
Color	handle and sheath are colored brown because of the wood used and the blade is colored like silver or when not polished is grayish brown
Design	the blade's design is either elongated straight or sloping
Decorations	old coins, carved wood, flowers and insect decorations are carved on its handle and sheath

Table 2
The Matrix of the different type of blades of Talibong

Bakutan	It is described to be beveled on its edge and flat on one side and chiseled on the other, It is described to be larger than the other

	types of talibong, its blade length is 31 inches with the handle.
Linamay	Is elongated and is measured at a standard size of 31inches depending however on the height of the owner.
Ginunting	Is usually used by Libacaonons on close hand to hand encounters. The blade is shaped like a beak because the tip is curved downward; the "ginunting" is the official sword of the Philippine Marines
Kinampit	Looks like a ginunting but its tip is cut diagonally which is distinct

Figure 1. *The physical appearance of talibong*

A Talibong is an elongated and straight sometimes sloping type of a sword made and used by the Libacaonons. According to Roming, the blades made by the Libacaonons are of different types, there is the "*bakutan*", a typical sword characterized among the Visayans. It is described to be beveled on its edge and flat on one side and chiseled on the other. According to Roming, this indicates if the owner is left or right handed. The sword has various shape and sizes and it has a very distinct appearance because its blade is mostly straight from the tip to its base. It is described to be larger than the other types of Talibong forged in Aklan which is why it is known to be primarily a powerful slashing weapon. Nono also makes the same type of bakutan blade. The other type of blade forged is the *"linamay"* which is elongated. The "ginunting is usually used by Libacaonons on close hand to hand encounters. The blade is shaped like a beak because the tip is curved downward.

4. CONCLUSION

Talibong as a material culture is described externally, including its texture, size, color, etc., following Prown's (1982) approach to analyzing material culture, which emphasizes starting with the physical description of the object. Moving beyond the object-driven approach, this study shifts focus to how Talibong relates to the cultural beliefs and development of the people, contributing to their identity. Recognized as tangible heritage of the people of Libacao, Aklan, Talibong warrants the application of material culture study as a relevant methodology in this research.

This qualitative study also centers on understanding Talibong as a cultural identity of the people of Libacao, Aklan, thus cementing its status as cultural heritage and tradition. Creswell (1994) defines qualitative research as an inquiry that explores social problems through distinct methodological traditions, focusing on diverse perspectives on reality.

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ETHICAL CONSIDERATION

The basic ethical principle to be maintained in doing research include doing good, not doing harm and protecting the autonomy, wellbeing, safety and dignity of all research participants (Iphofen, R. Research Ethics in Ethnography/Anthropology, 2011).

The key informants must be able to choose freely to participate in the research. They must be given enough details and information about the research so that they may know up to what extent their participation to the research will be. Since the study on Talibong used human subjects it is the primary concern of the researcher to safeguard the interest and personality of the key informants of the study. The research was conducted with full compliance to ethics norms. Among the significant issues that were considered are consent and confidentiality. In order to secure the consent of the key informants, the researcher explained in details the purpose of the study and was able to discuss the importance of the study and how vital their participation is. The key informants were given the decision to participate or withdraw from participating even during the research process; this is to make sure that they were not forced to participate in the study. The confidentiality of the key informants was practiced by not disclosing their names or personal information in the study. Moreover, confidentiality and maintaining anonymity was made sure by the researcher using pseudonyms for each of the "panday".Although anonymity can be a complicated issue in providing pseudonyms is a helpful way to hide any identifiable information about the participants (Wiles et al. 2012) Although the seven participants voluntarily allowed the researcher to use their full names to be used for the study. The researcher opted to keep the key informants names anonymous by assigning them pseudonyms to prevent the occurrence of any possible issues in the future as well as it being part of the ethics pledge in doing research. The key informants allowed the researcher as well to use their quotes from the interview and group discussions in the study and no key informant was forced or harassed in any way during the course of the interactions with the researcher and the entire duration of the study.

The key informants were clearly and fully informed about their rights during the entire process of the study, these rights included voluntary participation, the purpose of the study and its intended use, what their participation meant, risks involved and that their participation was free from coercion. "Informed consent is a particularly important ethical issue in research involving migrants," Takabvirwa (2010). The key informants were also informed that they could withdraw from the study anytime during the process.The Aklanon dialect was used to clearly explain all the information as the participants could understand better using their own Aklanon dialect.

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