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FOREWORD

It is with great pride and renewed commitment that we present **Volume 2, Issue 1 (2026) of *Pamulingan: KCAST Journal of Natural and Cultural Sciences***. Building on the foundation established in its inaugural issue, this volume reflects our continuing commitment to advancing scholarly inquiry, knowledge generation, and research that responds meaningfully to the complex challenges confronting communities, institutions, and society.

Pamulingan, an Ata-Manobo term meaning “**Transformation**,” continues to embody the journal's vision of knowledge as a catalyst for meaningful change. Beyond the generation and dissemination of scholarly knowledge, the journal seeks to foster research that informs practice, supports innovation, strengthens communities, and contributes to sustainable and inclusive development. Through its multidisciplinary orientation, *Pamulingan* provides a space where diverse fields of inquiry converge, encouraging dialogue among researchers, educators, practitioners, and development advocates.

This issue features scholarly contributions that demonstrate the breadth and relevance of research in the natural and cultural sciences. The works presented herein reflect the importance of evidence-based inquiry, interdisciplinary perspectives, and contextualized knowledge in addressing contemporary concerns and advancing local and global development. Each contribution represents not only an academic endeavor but also an opportunity to translate knowledge into insights and actions that can create meaningful impact.

As *Pamulingan* continues to grow, we remain committed to upholding academic integrity, research quality, ethical scholarship, and rigorous peer review. We extend our sincere appreciation to the authors, reviewers, editorial board members, and all individuals who have contributed their time, expertise, and support to the continued development of the journal.

May this second volume serve as another step toward strengthening a vibrant culture of research and scholarship at KCAST and beyond. May the knowledge shared through these pages inspire transformation, innovation, collaboration, and meaningful action in pursuit of inclusive and sustainable development.

Editor-In-Chief

Pamulingan: KCAST Journal of Natural and Cultural Sciences

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**SYNERGISTIC EFFECTS OF
COCONUT WATER AND ORGANIC
SUPER WATER ABSORBENT (SWA)
ON THE GROWTH OF GUYABANO
(*Annona muricata* Linn.) SEEDLINGS**

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SDGs: Goal 2 (Zero Hunger); Goal 13 (Climate Action); Goal 15 (Life on Land)

ABSTRACT

Water scarcity, anticipated to intensify as early as 2025, underscored the urgency of developing innovative strategies to sustain agricultural productivity under drought conditions. Super Water Absorbent (SWA), a material capable of retaining and gradually releasing water, had been recognized internationally as a promising technology, yet its application in the Philippines remained limited. This study aimed to evaluate the combined effects of coconut water and SWA on the growth and survival of Guyabano (*Annona muricata* Linn.) seedlings. Six treatments were applied: C1S1 (control), C1S2 (10 g SWA), C1S3 (20 g SWA), C2S1 (coconut water only), C2S2 (coconut water + 10 g SWA), and C2S3 (coconut water + 20 g SWA). Results revealed that the C2S2 treatment significantly enhanced plant height and stem diameter, while leaf length and leaf area showed no significant differences at $p < 0.05$. Stress-induced wilting and soil moisture were positively influenced by the same treatment, and seedlings treated with coconut water and SWA achieved a 100% survival rate. These findings demonstrated that the integration of coconut water and 10 g SWA improved growth parameters and ensured seedling survival, offering a sustainable and practical approach to addressing water scarcity in crop production. The study highlighted the potential of combining natural resources with innovative technologies to strengthen climate resilience and advance sustainable forestry and agriculture in the Philippines.

Keywords: *Super water absorbent (SWA); Coconut water; Guyabano*

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INTRODUCTION

The intensification of climate change has disrupted global weather systems, resulting in reduced precipitation, elevated temperatures, and prolonged droughts. These environmental shifts have negatively impacted agricultural productivity, forestry development, and the socio-economic welfare of farming communities (UNICEF, 2025). Addressing these challenges requires the integration of resilient tree species with innovative water-conservation technologies to mitigate food insecurity and water scarcity.

The Philippines is an agricultural country that has been dependent on utilizing commercial fertilizers to get rid of pests and increase crop yields. These commonly applied fertilizers exhibit several side effects on the soil, including the damage to its physical and biological properties (Beeby et al., 2020; Paharvi et al., 2021). Thus, it brings negative results that impacts on the overall health of the environment and crop productivity. Since the coconut palms (*Cocos nucifera* L.) are abundant, with 69 of 82 provinces contributing to national production. Also, industry generates surplus coconut water, an underutilized resource rich in phytohormones, sugars, and minerals that promote root initiation and plant growth (Prades et al., 2012; Trisnarningsih & Wahyuni, 2019). Coconut water has been widely recognized as a natural growth regulator, enhancing tissue culture and seedling establishment through its biochemical composition. Perfect resource for the development of sustainable and organic fertilizer for the agroforestry trees and crops. Coconut water serves as an organic fertilizer not only influences plant growth but also provides ecological and economic benefits. In general, coconut water is a major plant product that triggers crop growth (Winarto & Da Silva, 2015). Previous study results showed its content in potassium, minerals such as calcium (Ca), sodium (Na), magnesium (Mg), iron (Fe), cuprum (Cu), and sulfur (S) as well as in sugar and protein. Apart from the mineral richness, coconut water also serves as a plant growth regulator (PGR) source, particularly cytokinins and gibberellins (Tiwery, 2014; Darmawan et al., 2020). The coconut water content is potentially applied as a natural source of nutrients and PGR that are environmentally friendly, cheap and easily obtained (Prando et al., 2014; Lazim et al., 2015; Mintah et al., 2018). These instances indicate that the use of coconut water, specifically in fermented form, appears very important in the support of plant growth and productivity (Darmawan et al., 2020).

Parallel to this, Super Water Absorbent (SWA) polymers are hydrophilic, crosslinked materials capable of retaining and gradually releasing water have been developed to improve soil moisture, reduce drought stress, and extend irrigation intervals (Lertsarawat et al., 2021; Ostrand et al., 2020). Commercially used water-absorbent polymeric materials employed are partial neutralization products of cross linked polyacrylic acids, partial hydrolysis products of starch acrylonitrile copolymers and starch acrylic acid graft copolymers. The polymer consists of a set of polymeric chains that are parallel to each other regularly linked to each other by cross linking agents, thus forming a network. When water comes into contact with one of these chains, it is drowned into the molecule by osmosis. Water rapidly migrates into the interior of the polymer network where it is stored. (Li et al., 2014, Fernando et al., 2013) The result of the study by Ndunge Benard et al. (2022) concluded that the application of superabsorbent polymers in irrigation significantly promotes the growth parameters such as plant height, stem diameter, and leaf size of their experimental plants which are African Leafy Vegetables (ALV).

Although coconut water and Super Water Absorbent (SWA) have been individually examined in various agricultural contexts worldwide, no prior research has investigated their combined effects, particularly within forestry and crop production systems. The concept of synergism is central here, as the biochemical properties of coconut water rich in growth-promoting compounds complement the physical water-retention capacity of SWA, together offering a promising model for enhancing drought resilience, improving seedling survival, and advancing sustainable practices in resource-limited environments.

The framework of this study integrates plant physiology theories on the role of effects in the identified parameters such as plant height, stem diameter, length of leaves, and survival rate with soil-water conservation concepts emphasizing moisture regulation through polymer-based absorbents. Coconut water serves as a natural growth regulator, while SWA functions as a soil amendment that prolongs water availability. Together, these variables form a synergistic model for enhancing drought resilience in seedlings. This framework aligns with SDG 2 (Zero Hunger) by promoting sustainable food production, SDG 13 (Climate Action) by advancing adaptive responses to drought, and SDG 15 (Life on Land) by supporting reforestation and ecosystem restoration. By grounding the study in this conceptual framework, the research design systematically examined the combined effects of coconut water and SWA on Guyabano seedlings. The framework guided data interpretation by linking observed growth outcomes to theoretical constructs of water-use efficiency and plant resilience. Furthermore, the study's implications extend to policy and community development, offering practical strategies for achieving SDG targets related to food security, climate adaptation, and sustainable land management.

METHODOLOGY

The study was conducted within the premises of Bamboo and Rattan Research and Development at Pampanga State Agricultural University, Magalang, Pampanga. The researcher chose the place of the experiment due to its accessibility, abundance of sunlight, and security from domestic animals such as goats that might eat and destroy seedlings. The research commenced from the third week of January of 2024 and ended on April 13, 2024. The experimental design used in this study was a two-factor factorial arranged in Randomized Complete Block Design (RCBD), which offers a systematic framework for addressing potential environmental variability. The collected data underwent evaluation using a Two-Way Analysis of Variance (ANOVA). To ensure robustness and reliability, a total of 10 samples per treatment was collected, and each treatment had three replications. Generally, six treatments were administered, resulted in the cultivation of 180 Guyabano seedlings, and the factors are as follows:

While conducting the research, data was collected from the experimental site every 15 days to record parameter increments for 75 days. The following are the parameters of the study.

1. Plant height – The researcher recorded the initial height of the Guyabano seedlings, then did the monitoring and documentation of the increment every 15 days. A tape measure or meter stick was utilized, and the measurement was 2 cm above the base up to the shoot or apex of the seedlings.

2. Stem diameter – The researcher recorded the initial diameter of the Guyabano seedlings. Then, monitoring and documentation of the increment were done every 15 days. A digital caliper was utilized; the measurement was 2 cm above the base of the seedlings.
3. Length of leaves – The researcher recorded the initial length of the third leaf. Then, monitoring and documentation of the increment were done every 15 days. A tape measure was utilized to document the length of the leaves.
4. Survival Rate – The researcher monitored and counted the plant seedlings that have survived.

Factor A (Coconut water presence)	Factor B (Super Water Absorbent (SWA) Levels)
C1 – Without coconut water	S1 – No SWA S2 – 10 grams of SWA S3 – 20 grams of SWA
C2 – With coconut water	S1 – No SWA S2 – 10 grams of SWA S3 – 20 grams of SWA

Factor Code Combinations	Description
C1 S1	without coconut water + no SWA
C1 S2	without coconut water + 10 grams SWA
C1 S3	without coconut water + 20 grams SWA
C2 S1	with coconut water + no SWA
C2 S2	with coconut water + 10 grams SWA
C2 S3	with coconut water + 20 grams SWA

RESULTS

Many researchers believe coconut water to be an organic fertilizer since it provides plants with the right quantity of nutrients. In addition, it contains growth hormones, which makes it perfect for cultivating crops, vegetables, and testing out different tree species. When combined with Super Water Absorbent (SWA), which has been extensively studied and used for its ability to retain water, it becomes a perfect countermeasure for water shortages and droughts. The data examined in this study shows that the growth parameters of the Guyabano plant are significantly impacted by the combination of SWA and coconut water.

Figure 1 reveals the combined application of coconut water and super water absorbent (SWA) produced a marked enhancement in the vertical growth of *Annona muricata* seedlings, with treatments C2S2 (coconut water + 10 g SWA) and C2S3 (coconut water + 20 g SWA) consistently outperforming the controls.

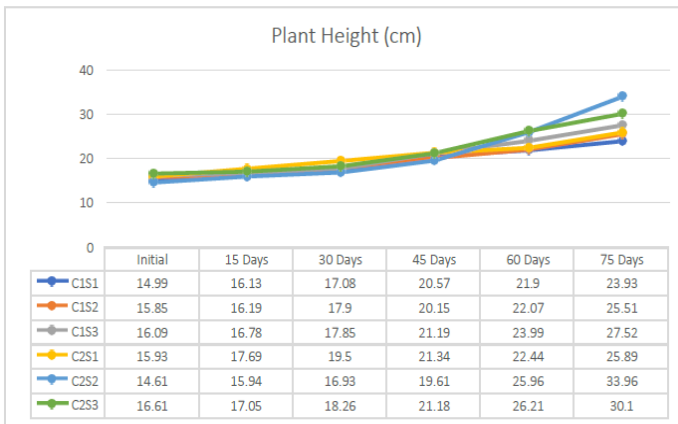


Figure 1. The Effects of Different Concentration and Frequency Periods of Coconut Water and Super Water Absorbent (SWA) On Guyabano Plant Height

Coconut water, long recognized as a natural reservoir of phytohormones such as cytokinins and auxins, appears to have stimulated cell division, elongation, and differentiation, thereby accelerating shoot development. This biochemical role has been corroborated in other species kamagong (Origenes & Lapitan, 2020) and cocoa (Rosniawaty et al., 2021) where coconut water supplementation similarly promoted seedling height. Beyond its hormonal profile, coconut water contains macronutrients, notably potassium, which regulates enzyme activation, osmotic balance, and cell expansion, all critical processes for stem elongation. In parallel, SWA polymers contributed by maintaining soil moisture and ensuring sustained nutrient uptake, a mechanism previously demonstrated in maize (Yang et al., 2020).

The combined effect of coconut water and SWA was evident in the superior height increments recorded, with seedlings in C2S2 and C2S3 reaching 25.96 cm and 26.21 cm at day 60, and 33.96 cm and 30.10 cm at day 75, respectively. These gains can also be linked to the phosphorus content of coconut water, which supports ATP synthesis, fueling cellular enlargement and elongation. The consistency of these results with earlier studies (Karunaratna et al., 2016; Setiawati et al., 2010) underscores the dual contribution of biochemical stimulation and moisture regulation in driving vegetative growth. Conversely, the lowest mean height observed in treatment C1S1 (23.93 cm) highlights the constraints imposed by reduced irrigation and nutrient availability, reaffirming plant height as a reliable indicator of resource sufficiency (Keshavarz & Farahbaksh, 2012).

The analysis of stem diameter revealed clear treatment effects, with the lowest mean recorded under C1S1 (3.99 mm) and the highest under C2S2 (5.44 mm). Stem diameter is a critical growth parameter, reflecting both structural integrity and treatment efficacy, and the combination of coconut water with 10 g of SWA proved most effective in promoting stem thickening. This outcome resonates with the findings of Ramadhani (2023), who demonstrated that coconut water concentrations significantly influenced stem diameter, particularly during later growth stages. The biochemical composition of coconut water provides a plausible explanation: its phytohormones, notably cytokinins and auxins, regulate cell division and

elongation, while its macronutrient profile nitrogen, phosphorus, and potassium supports energy metabolism and osmotic regulation. Phosphorus contributes to ATP synthesis, fueling cellular enlargement and elongation, whereas potassium enhances turgor maintenance and mechanical strength, thereby preventing lodging and accelerating stem thickening (Hawkesford et al., 2012; Ragel et al., 2019).

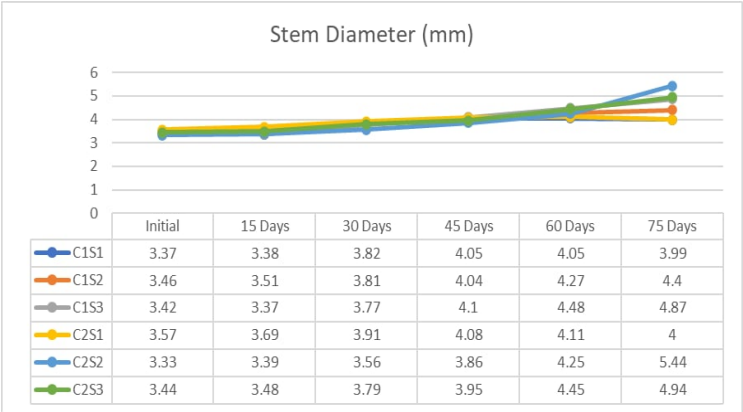


Figure 2. The Effect of Different Concentration and Frequency Periods of Coconut Water and Super Water Absorbent (SWA) Guyabano's Stem Diameter

Similar to this biochemical stimulation, SWA polymers played a complementary role by maintaining soil moisture and nutrient availability. Their capacity to absorb and gradually release water into the rhizosphere ensured sustained hydration, even under limited irrigation, thereby supporting continuous stem growth. Islam et al. (2011a) documented a 10.1% increase in stem diameter with higher rates of superabsorbent polymer application, while Salavati et al. (2018) confirmed that the interaction of sowing depth, cultivar, and SWA significantly enhanced stem diameter in arid conditions. In the present study, the synergistic interaction between coconut water and SWA was evident: coconut water provided the biochemical drivers of growth, while SWA stabilized the soil environment, together producing superior stem diameter increments in *A. muricata* seedlings. The contrast between C2S2 and C1S1 underscores the importance of integrated treatments, demonstrating that untreated seedlings are constrained by limited nutrient and water availability, whereas combined interventions unlock the physiological potential for robust stem development.

The results on leaf length revealed distinct treatment effects, with C2S2 producing the longest leaves (8.62 cm), closely followed by C2S3 (8.52 cm), while the control treatment C1S1 recorded the shortest (7.18 cm). This disparity underscores the importance of coconut water and SWA in promoting leaf development. Seedlings under the control treatment, deprived of both inputs, exhibited reduced leaf length, further exacerbated by limited irrigation on days 60 and 75, which led to leaf curling and diminished growth. These findings align with Medyouni et al. (2021), who reported that water deficit reduced leaf and fruit size by up to 37%, accompanied

by declines in fluorescence, highlighting the critical role of irrigation frequency and water availability in vegetative organ development.

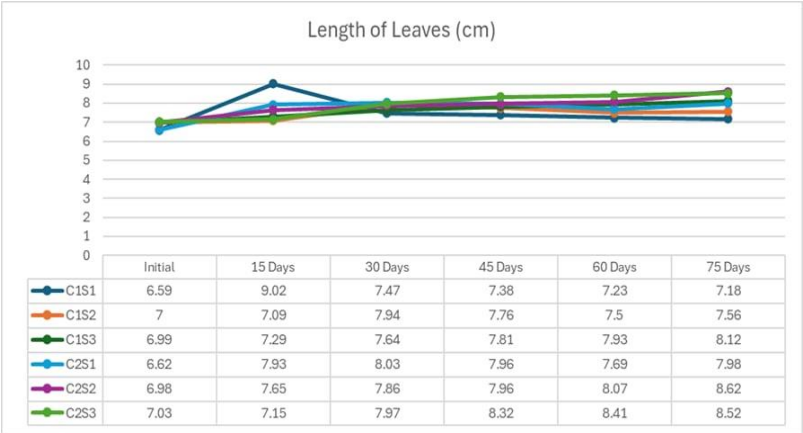


Figure 3. The Effect of Different Concentration and Frequency Periods of Coconut Water and Super Water Absorbent (SWA) Guyabano's Leaves Length

The stimulatory effect of coconut water can be attributed to its phytohormonal composition, particularly auxins, cytokinins, and gibberellins, which regulate cell division, enlargement, and differentiation.

Cytokinins accelerate leaf formation and promote protein synthesis, chloroplast development, and lateral bud release, thereby enhancing shoot and leaf growth (Wulandari & Mukalina, 2013). Gibberellins, likewise present in coconut water, contribute to shoot elongation and leaf expansion, producing seedlings that are more robust and physiologically active (Origenes & Lapitan, 2020). In addition to growth regulators, coconut water provides macronutrients such as nitrogen, phosphorus, and potassium, which collectively support energy metabolism, osmotic regulation, and turgor maintenance, all of which are essential for leaf elongation.

Complementing this biochemical stimulation, SWA polymers enhanced leaf length by maintaining soil moisture and nutrient availability. Their capacity to absorb and gradually release water reduced the physiological stress associated with drought, thereby sustaining leaf expansion. Yang et al. (2020) observed similar outcomes in maize, where dry matter accumulation and leaf growth increased linearly with SAP application. Other studies (Rahmani et al., 2009; Islam et al., 2011b; Pouresmaeil et al., 2013; Fallahi et al., 2015) further demonstrated that SAP use under drought stress mitigates cellular damage, reduces leakage of cell contents, and suppresses the production of reactive oxygen species by enhancing antioxidant enzyme activity. In the present study, the synergistic interaction of coconut water

and SWA was evident in the superior leaf length observed under C2S2 and C2S3, confirming that biochemical stimulation and sustained hydration together drive enhanced vegetative growth in *A. muricata* seedlings.

The results revealed that plant mortality occurred only under treatment C1S3, which involved the application of 20 g of SWA. This outcome is most plausibly explained by excessive water retention in the root zone, creating anoxic conditions that led to root rot. Super absorbent polymers are known to store water up to 400 times their dry weight, and recommended application rates typically range between 2–8 g per kilogram of soil (Rafiei & Noormohammadi, 2013). The concentration used in C1S3 clearly exceeded this threshold, resulting in detrimental effects on seedling survival. It was similarly observed in Hüttermann et al. (1999) that water stored in hydrogel particles was not fully available to plants, and under high soil moisture conditions, mortality ensued. Li et al. (2014) further reported that hydrogel-absorbed water was inaccessible to wheat roots, underscoring the variability in plant responses depending on species, environmental conditions, and polymer type or concentration.

While moderate SWA application enhanced soil moisture and promoted continuous growth under drought and limited irrigation, the excessive concentration in C1S3 created a substrate that retained too much water, depriving the root system of oxygen. This observation is consistent with Sarvaš et al. (2007), who documented high mortality rates associated with hydrogel overdosage. Taken together, these findings highlight the dual nature of SWA: when applied judiciously, it sustains plant growth under water-limited conditions, but when applied excessively, it can induce waterlogging, oxygen deficiency, and ultimately seedling death.

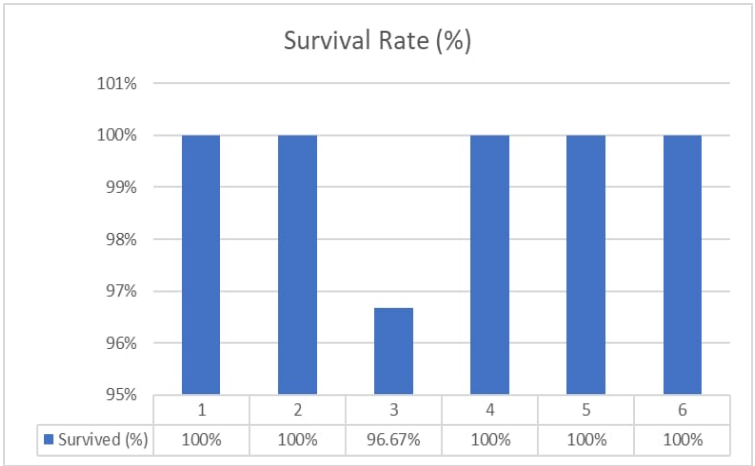


Figure 4. The Effect of Different Concentration and Frequency Periods of Coconut Water and Super Water Absorbent (SWA) on Survival Rate (%)

DISCUSSION

Plant Height

The interaction between coconut water and SWA produced a synergistic effect on the apical growth of *A. muricata* seedlings. Treatments C2S2 and C2S3 consistently outperformed the control, demonstrating that biochemical stimulation from coconut water combined with sustained hydration from SWA enhanced shoot elongation. Coconut water supplied phytohormones such as auxins and cytokinins, which regulate cell division and elongation (Setiawat et al., 2010), while SWA polymers-maintained soil moisture, ensuring continuous nutrient uptake (Hüttermann et al., 1999). The superior height increments highlight how hormonal stimulation and water retention directly translated into improved vegetative growth. Conversely, the lowest mean height in C1S1 reflected the limitations of reduced irrigation and nutrient availability, underscoring the critical role of treatment interaction in determining growth outcomes (Keshavarz & Farahbaksh, 2012).

Stem Diameter

Stem thickening was most pronounced under C2S2, where coconut water and SWA interacted to reinforce mechanical strength. Coconut water contributed phytohormones and macronutrients, particularly potassium and phosphorus, which support osmotic regulation and ATP synthesis (Hawkesford et al., 2012; Ragel et al., 2019). These biochemical drivers were complemented by SWA's ability to stabilize soil moisture, preventing stress-induced reductions in stem growth (Islam et al., 2011c; Salavati et al., 2018). The interaction of these treatments yielded a stem diameter of 5.44 mm, significantly higher than the 3.99 mm observed in the untreated control. This contrast illustrates how the combined treatment not only stimulated cellular expansion but also ensured the structural resilience of seedlings, confirming that stem diameter is a reliable indicator of treatment efficacy (Rosniawaty et al., 2021).

Leaf Length

Leaf development was similarly enhanced by the interaction of coconut water and SWA, with C2S2 and C2S3 producing the longest leaves (8.62 cm and 8.52 cm, respectively). Coconut water provided phytohormones such as cytokinins and gibberellins, which stimulated protein synthesis, chloroplast development, and cell enlargement (Wulandari & Mukalina, 2013). Gibberellins contributed to shoot elongation and leaf expansion, producing seedlings that were more robust and physiologically active (Origenes & Lapitan, 2020). In parallel, SWA polymers enhanced leaf length by maintaining soil moisture and nutrient availability, reducing stress-induced leaf curling. Yang et al. (2020) observed similar outcomes in maize, where leaf growth increased linearly with SAP application. Other studies confirm that SAP use under drought stress mitigates cellular damage and reduces reactive oxygen species by enhancing antioxidant enzyme activity (Rahmani et al., 2009; Islam et al., 2011a; Pouresmaeil et al., 2013; Fallahi et al., 2015). The superior leaf length observed under C2S2 and C2S3 confirms that biochemical stimulation and sustained hydration together drive enhanced vegetative growth.

Survival Rate

The interaction of treatments also revealed the risks of imbalance, as mortality occurred only under C1S3, where 20 g of SWA was applied without coconut water. Excessive water retention in the root zone created anoxic conditions, leading to root rot. Super absorbent polymers can store water up to 400 times their dry weight, and recommended application rates typically range between 2–8 g per kilogram of soil (Rafiei & Noormohammadi, 2013). The concentration used in C1S3 clearly exceeded this threshold, resulting in detrimental effects on seedling survival. Hüttermann et al. (1999) observed that water stored in hydrogel particles was not fully available to plants, and under high soil moisture conditions, mortality ensued. Li et al. (2014) further reported that hydrogel-absorbed water was inaccessible to wheat roots, underscoring the variability in plant responses depending on species, environmental conditions, and polymer type or concentration. Sarvaš et al. (2007) similarly documented high mortality rates associated with hydrogel overdosage. Taken together, these findings highlight the dual nature of SWA: when applied judiciously, it sustains plant growth under water-limited conditions, but when applied excessively, it can induce waterlogging, anoxic soil, and seedling mortality.

Conclusion

Through monitoring the effects of coconut water and Super water absorbent (SWA) on the growth parameters of Guyabano seedlings, the main conclusions of the study include the following:

1. The Plant Height was affected by the coconut water and Super Water Absorbent (SWA). The increments are evident on the treatments C2S2 and C2S3 and it was concluded to be statistically significant.

2. The Stem diameter was affected by the coconut water and Super Water Absorbent (SWA). The increments are evident on the treatments C2S2 and C2S3 and it was concluded to be statistically significant.

3. The length was not affected by the coconut water and Super Water Absorbent (SWA). Based on the ANOVA results, there was no significant effect on all treatments.

4. Based on plant survival rate, all treatments with coconut water and SWA had an outstanding rate of 100% except for C1S3 which had a mortality.

Recommendations

Based on the findings and conclusions, the following recommendations are hereby presented:

1. Treatment C2S2 (Coconut water + 10g Super Water Absorbent)

- To utilize the treatment C2C2. This treatment has been found to be effective in increasing the height and diameter of Guyabano seedlings.
- To apply treatment C2S2. This treatment has been found to be highly significant in keeping the soil moist.

- To utilize treatment C2S2. This treatment has been found to be highly significant in maintaining the leaves of the Guyabano seedlings intact and less discolored.

2. Super Water Absorbent with Coconut water

- Study and apply the treatment to other valuable fruit-bearing species like pomelos, jackfruit, and rambutan.
- Research on native tree species that can benefit from the technology of Super Water Absorbent (SWA) to help improve biodiversity.
- Conduct further studies on the length of leaves and leaf area.

3. Introduce Super Water Absorbent (SWA) to farmers to raise awareness and gather more relevant field data.

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REFERENCES

- Beeby, J., Moore, S., Taylor, L., & Nderitu, S. (2020). Effects of a one-time organic fertilizer application on long-term crop and residue yields, and soil quality measurements using biointensive agriculture. *Frontiers in Sustainable Food Systems*, 4, Article 67. <https://doi.org/10.3389/fsufs.2020.00067>
- Darmawan, R., Dewi, V. G. P., Rizaldi, M. A., Juliastuti, S. R., Gunawan, S., Aparamarta, H. W., & Wiguno, A. (2020). Production of liquid bio-fertilizer from old coconut water and molasses using consortium microbes. *IOP Conference Series: Materials Science and Engineering*, 845(1), Article 012007. <https://doi.org/10.1088/1757-899X/845/1/012007>
- Fallahi, H.-R., Taherpour Kalantari, R., Aghhavani-Shajari, M., & Soltanzadeh, M.-G. (2015). Effect of super absorbent polymer and irrigation deficit on water use efficiency, growth and yield of cotton. *Notulae Scientia Biologicae*, 7(3), 326–332.
- Fernando, T. N., Aruggoda, A. G. B., Disanayaka, C. K., & Kulathunge, S. (2013). Effect of super water absorbent polymer and watering capacity on growth of tomato (*Lycopersicon esculentum* Mill.). *Journal of Engineering and Technology of the Open University of Sri Lanka*, 1(2).
- Hawkesford, M., Horst, W., Kichey, T. M. R., Lambers, H., Schjørring, J. K., Møller, I. S., & White, P. (2012). Functions of macronutrients. In P. Marschner (Ed.), *Marschner's mineral nutrition of higher plants* (3rd ed., pp. 135–189). Academic Press. <https://doi.org/10.1016/B978-0-12-384905-2.00006-6>

- Hüttermann, A., Zomporodi, M., & Reise, K. (1999). Addition of hydrogels to soil for prolonging the survival of *Pinus halepensis* seedlings subjected to drought. *Soil and Tillage Research*, 50(3–4), 295–304. [https://doi.org/10.1016/S0167-1987\(99\)00023-9](https://doi.org/10.1016/S0167-1987(99)00023-9)
- Islam, M. R., Hu, Y., Mao, S., Mao, J., Eneji, A. E., & Xue, X. (2011a). Effectiveness of a water-saving super-absorbent polymer in soil water conservation for corn (*Zea mays* L.) based on eco-physiological parameters. *Journal of the Science of Food and Agriculture*, 91(11), 1998–2005. <https://doi.org/10.1002/jsfa.4408>
- Islam, M. R., Xue, X., Mao, S., Ren, C., Eneji, A. E., & Hu, Y. (2011c). Effects of water-saving super absorbent polymer on antioxidant enzyme activities and lipid peroxidation in oat (*Avena sativa* L.) under drought stress. *Journal of the Science of Food and Agriculture*, 91(4), 680–686.
- Islam, M. R., Zeng, Z., Mao, J., Eneji, A. E., Xue, X., & Hu, Y. (2011b). Feasibility of summer corn (*Zea mays* L.) production in drought affected areas of northern China using water-saving superabsorbent polymer. *Plant, Soil and Environment*, 57(6), 279–285. <https://doi.org/10.17221/101/2011-PSE>
- Karunarathna, B., & Harris, K. D. (2016). Effect of coconut water on the cutting establishment of *Ixora* (*Ixora coccinea* L.). *International Journal of Advance Research and Review*, 1(11), 27–33.
- Keshavarz, L., & Farahbakhsh, H. (2012). Effect of superabsorbent on physio-morphological traits and forage yield of millet (*Pennisetum americanum* L.) under different irrigation treatments. *International Journal of Plant, Animal and Environmental Sciences*, 2(3), 149–156.
- Lazim, M. I. M., Badruzaman, N. A., Peng, K. S., & Long, K. (2015). Quantification of cytokinins in coconut water from different maturation stages of Malaysia's coconut (*Cocos nucifera* L.) varieties. *Journal of Food Processing & Technology*, 6(11), Article 515. <https://doi.org/10.4172/2157-7110.1000515>
- Lertsarawut, P., Rattanawongwiboon, T., Tangthong, T., Laksee, S., Kwamman, T., Phuttharak, B., Romruensukharom, P., Suwanmala, P., & Hemvichian, K. (2021). Starch-based super water absorbent: A promising and sustainable way to increase survival rate of trees planted in arid areas. *Polymers*, 13(8), Article 1314. <https://doi.org/10.3390/polym13081314>
- Li, X., He, J.-Z., Hughes, J. M., Liu, Y.-R., & Zheng, Y.-M. (2014). Effects of super-absorbent polymers on a soil-wheat (*Triticum aestivum* L.) system in the field. *Applied Soil Ecology*, 73, 58–63. <https://doi.org/10.1016/j.apsoil.2013.08.005>
- Medyouni, I., Zouaoui, R., Rubio, E., Serino, S., Ahmed, H. B., & Bertin, N. (2021). Effects of water deficit on leaves and fruit quality during the development period in tomato plant. *Food Science & Nutrition*, 9(4), 1949–1960. <https://doi.org/10.1002/fsn3.2160>

- Mintah, L. O., Arhin, L., Ofosu-Anim, J., & Nkansah, G. O. (2018). Effect of coconut (*Cocos nucifera* L.) water of different fruit maturity stages on axillary bud initiation, growth and development of plantain (*Musa AAB*). *Journal of Applied Horticulture*, 20(1), 42–47.
- Ndunge Benard, D., Obiero, J. P. O., & Mbugu, D. O. (2022). Contribution of superabsorbent polymers to growth and yield of African leafy vegetables. *Advances in Agriculture*, 2022, Article 8020938. <https://doi.org/10.1155/2022/8020938>
- Origenes, M. G., & Lapitan, R. L. (2020). Effect of coconut water on pre-sowing treatments additive on seed germination and initial seedlings growth performance of Kamagong (*Diospyros discolor*). *Asian Journal of Research in Agriculture and Forestry*, 6(4), 58–71. <https://doi.org/10.9734/ajraf/2020/v6i430116>
- Ostrand, M. S., DeSutter, T. M., Daigh, A. L., Limb, R. F., & Steele, D. D. (2020). Superabsorbent polymer characteristics, properties, and applications. *Agrosystems, Geosciences & Environment*, 3(1), Article e20074. <https://doi.org/10.1002/agg2.20074>
- Pahalvi, H. N., Rafiyya, L., Rashid, S., Nisar, B., & Kamili, A. N. (2021). Chemical fertilizers and their impact on soil health. In G. H. Dar, R. A. Bhat, M. A. Mehmood, & K. R. Hakeem (Eds.), *Microbiota and biofertilizers: Vol. 2. Essential plant nutrients* (pp. 1–20). Springer. https://doi.org/10.1007/978-3-030-61010-4_1
- Pouresmaeil, P., Habibi, D., Boojar, M. M. A., & Tarighaleslami, M. (2013). Effect of super absorbent polymer application on chemical and biochemical activities in red bean (*Phaseolus vulgaris* L.) cultivars under drought stress. *European Journal of Experimental Biology*, 3(3), 261–266.
- Prades, A., Dornier, M., Dio, N., & Pain, J.-P. (2012). Coconut water uses, composition and properties: A review. *Fruits*, 67(2), 87–107. <https://doi.org/10.1051/fruits/2012002>
- Prando, M. A. S., Chiavazza, P. M., Faggio, A., & Contessa, C. (2014). Effect of coconut water and growth regulator supplements on in vitro propagation of *Corylus avellana* L. *Scientia Horticulturae*, 171, 91–94. <https://doi.org/10.1016/j.scienta.2014.03.052>
- Rafiei, F., Nourmohammadi, G., Chokan, R., Kashani, A., & Haidari, H. (2013). Investigation of superabsorbent polymer usage on maize under water stress. *Global Journal of Medicinal Plant Research*, 1, 82–87.
- Ragel, P., Raddatz, N., Leidi, E. O., Quintero, F. J., & Pardo, J. M. (2019). Regulation of K⁺ nutrition in plants. *Frontiers in Plant Science*, 10, Article 281. <https://doi.org/10.3389/fpls.2019.00281>
- Rahmani, M., Habibi, D., Daneshian, J., Valadabadi, S., Mashhadi, A. B. M., & Khalatbari, A. (2009). The effect of super absorbent polymer on yield and antioxidant enzymes activities of mustard (*Sinapis alba* L.) under drought stress condition. *Journal of Crop Production Research*, 1(1), 23–38.

- Ramadhani, M. F., Prihatiningrum, A. E., & Abror, M. (2023). Optimization of mustard pakcoy growth: The influence of media composition and coconut water concentration. *IOP Conference Series: Earth and Environmental Science*, 1242(1), 012004. <https://doi.org/10.1088/1755-1315/1242/1/012004>
- Rosniawaty, S., Ariyanti, M., Suherman, C., Sudirja, R., & Fitria, S. (2021). Utilization of coconut water waste to increase cocoa growth seedling by different application methods and intervals. *IOP Conference Series: Earth and Environmental Science*, 653(1), Article 012081. <https://doi.org/10.1088/1755-1315/653/1/012081>
- Salavati, S., Valadabadi, S. A., Parvizi, K. H., Sayfzadeh, S., & Hadidi Masouleh, E. (2018). The effect of super-absorbent polymer and sowing depth on growth and yield indices of potato (*Solanum tuberosum* L.) in Hamedan Province, Iran. *Applied Ecology and Environmental Research*, 16(5), 7063–7078. https://doi.org/10.15666/aeer/1605_70637078
- Sarvaš, M., Pavlenda, P., & Takáčová, E. (2007). Effect of hydrogel application on survival and growth of pine seedlings in reclamations. *Journal of Forest Science*, 53(5), 203–209. <https://doi.org/10.17221/2178-JFS>
- Setiawati, T., Salamah, S., & Siti, M. (2010). Leaf and coconut fertilizers as an alternative medium for induction of *Dendrobium* 'Whom Leng' buds in vitro. *Journal of Bioethics*, 8(1), 4–16.
- Tiwery, R. R. (2014). Pengaruh penggunaan air kelapa (*Cocos nucifera*) terhadap pertumbuhan tanaman sawi (*Brassica juncea* L.). *Biopendix: Jurnal Biologi, Pendidikan dan Terapan*, 1(1), 86–94. <https://doi.org/10.30598/biopendixvol1issue1page86-94>
- Trisnaningsih, U., & Wahyuni, S. (2020). The effect of coconut water and planting media to the growth of Christmas palm (*Veitchia merillii*). *Proceedings of the International Conference on Agriculture, Social Sciences, Education, Technology and Health (ICASSETH 2019)*, 79–82. <https://doi.org/10.2991/assehr.k.200402.018>
- UNICEF. (2025). *Assessing the impact of climate change on food and nutrition security in India*. UNICEF India.
- Winarto, B., & da Silva, J. A. T. (2015). Use of coconut water and fertilizer for in vitro proliferation and plantlet production of *Dendrobium* 'Gradita 31'. *In Vitro Cellular & Developmental Biology—Plant*, 51, 303–314.
- Wulandari, R. C., & Mukalina, R. L. (2013). Pertumbuhan stek melati putih (*Jasminum sambac* (L.) W. Ait.) dengan pemberian air kelapa dan IBA (indole butyric acid). *Protobiont*, 2(2), 39–43.
- Yang, F., Cen, R., Feng, W., Liu, J., Qu, Z., & Miao, Q. (2020). Effects of super-absorbent polymer on soil remediation and crop growth in arid and semi-arid areas. *Sustainability*, 12(18), Article 7825. <https://doi.org/10.3390/su12187825>

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INTRODUCTION

The increasing frequency of natural disasters is driven by population growth, industrialization, climate change, and rapid development. These factors have heightened exposure and vulnerability, compelling communities to inhabit high-risk areas and further degrading the environment in their efforts to survive (Blaikie et al., 2005). The United Nations Office for Disaster Risk Reduction (UNISDR) defines disaster management as the planning, organization, and implementation of strategies for preparedness, response, and recovery. While disaster risk reduction initiatives cannot fully eliminate risks, they aim to minimize damages, protect critical infrastructure, and ensure the continuity of essential services by addressing hazards, exposure, and vulnerability in a holistic manner (Eltinay & Egbu, 2017).

In Europe, disaster risk reduction faces challenges due to the complexity of managing diverse and unpredictable threats. Although international standards and guidelines have been developed to encourage consistency and strengthen cross-border collaboration, implementation remains uneven (Aven & Zio, 2021). More broadly, the integration of disaster risk reduction into long-term development planning is essential, as resilience is strengthened when social, economic, and environmental considerations are systematically incorporated (Shi et al., 2020).

In the Philippines, Republic Act 10121, or the Philippine Disaster Risk Reduction and Management Act of 2010, established a comprehensive framework for disaster management. The law emphasizes proactive, community-based strategies and institutional coordination to safeguard disaster-prone areas (De Leon & Pittock, 2017). However, local implementation often encounters limitations, including resource constraints, fragmented coordination, and varying degrees of community participation. This underscores the need for localized assessments of disaster preparedness and resilience at the barangay level.

This research aims to learn about the strengths and shortcomings of Barangay Maniki's present risk-reduction initiatives. This study will provide vital information to local governments, community stakeholders, and relevant organizations, allowing them to make educated decisions and implement appropriate safety measures. The evaluation will concentrate on essential components of risk reduction methods such as disaster risk reduction and management, climate change adaptation, occupational health and safety, and public health emergency preparedness and response. This can better evaluate the effectiveness of the programs and find potential for further growth by studying these areas.

Although prior studies have provided frameworks and policies for disaster risk reduction, many fall short of evaluating their effectiveness at the grassroots level, where the immediate impacts of disasters are most strongly felt. Evidence on how community-based programs translate into actual resilience remains limited. Addressing this gap is essential, as resilience is shaped not only by institutional policies but also by local capacities, practices, and community cohesion. This study responds to these limitations by assessing the strengths and weaknesses of current disaster risk reduction initiatives in Barangay Maniki.

The study helped improve disaster resilience in Barangay Maniki by evaluating the effectiveness of adopted risk reduction methods, providing findings and recommendations that

guide future initiatives and strengthen safety measures and community preparedness. It offered significant information to Maniki's decision-makers, legislators, and local authorities, enabling informed decisions on resource allocation, policy development, and program implementation through evidence-based assessments. The research also examined the efficacy of local programs and institutional frameworks, emphasizing the importance of coordination mechanisms, stakeholder collaboration, and capacity-building to enhance community resilience and improve governance structures for more efficient risk reduction efforts. By identifying gaps in participation, training, and preparedness activities, the study supports the creation of targeted interventions and encourages proactive community involvement, while the participatory approach further empowered residents by increasing their engagement and ownership of disaster reduction initiatives. Additionally, the research contributed valuable insights to the broader field of disaster risk reduction, offering context-specific knowledge that can be shared with other barangays and organizations. By analyzing how risk-reduction strategies align with development planning, infrastructure design, and land-use management, the study highlighted opportunities to integrate disaster mitigation into long-term development processes in Maniki, Kapalong, ensuring safer and more sustainable community growth.

The following study objectives led to the relationship of disaster risk reduction and management programs with the resilience of the community in Barangay Maniki:

1. to determine the level of disaster risk reduction and management in terms of:
 - 1.1 effectiveness of early warning systems;
 - 1.2 community preparedness and resilience;
 - 1.3 infrastructure and structural measures;
 - 1.4 risk communication and community engagement; and
 - 1.5 data and monitoring systems.
2. to determine the level of community resilience in terms of:
 - 2.1 connection and caring;
 - 2.2 resources;
 - 2.3 transformative potential;
 - 2.4 disaster management; and
 - 2.5 information and communication.
3. to determine the significant relationship between disaster risk reduction and management and community resilience.
4. to determine the significant influence of disaster risk reduction and management on community resilience.

Guided by these objectives, the research tested the null hypothesis at a 0.05 level of significance, stating that there is no significant relationship between DRRM and community resilience. Likewise, it was hypothesized that no specific domains of DRRM significantly influence community resilience.

This study was anchored on the theory of Pelling's (2012) Resilience Theory, which emphasizes the ability of communities to recover and thrive in the face of disruptions like disasters. Disaster risk reduction and management (DRRM) programs are pivotal in strengthening community resilience by addressing vulnerabilities and enhancing adaptive

capacity. Through programs such as early warning systems, infrastructure enhancements, capacity building, and livelihood support, DRRM programs empower communities to withstand and recover from disasters more effectively. By reducing risks and enhancing preparedness, DRRM programs build resilient communities capable of navigating and recovering from various challenges. Eventually, by establishing DRRM programs, societies can encourage the growth of communities that can remain resilient and develop in the face of adversity, supporting long-term development and well-being for all residents.

In the context of this study, communities' crucial ability to recover and thrive despite facing disruptions like disasters. The Disaster Risk Reduction and Management (DRRM) programs emerge as essential mechanisms for enhancing community resilience by addressing weaknesses and helping communities become more flexible. DRRM programs help communities to withstand and recover from disasters more effectively, such as early warning systems, infrastructure improvements, capacity-building exercises, and livelihood support. These programs mitigate risks and enhance preparedness, ultimately contributing to the development of resilient communities capable of navigating and recovering from various challenges. Through resilience theory to DRRM, communities can build resilience that extends beyond mere recovery, enabling them to adapt and prosper in the face of adversity. Setting up DRRM programs helps communities stay strong, grow, and thrive despite challenges, ensuring everyone's well-being and long-term development.

Theoretically, this study was also supported by Ostrom's (2009) Social-Ecological Systems (SES) Framework, this study recognizes that disaster risk reduction and management and the resilience of the community are complex processes influenced by interactions between social and ecological systems and how they respond to and recover from disasters. It emphasizes the interconnection of disaster risk reduction and management and the importance of integrated approaches to community resilience. The framework aids in analyzing how the disaster risk reduction and management programs employed in local communities consider the socio-cultural environment, ecological considerations, and community dynamics to improve community resilience.

In the context of disaster risk reduction and management and community resilience, the application of Ostrom's SES Framework suggests a recognition of the intricate interdependencies between human communities and the ecosystems they inhabit. Also, by promoting integrated approaches to resilience-building, the SES Framework contributes to more effective and sustainable disaster risk reduction and management practices. This approach acknowledges that disasters are not solely the result of environmental factors or human actions but often emerge from the dynamic interactions between social and ecological systems. By fostering community engagement, promoting sustainable resource management, and tailoring interventions to the unique socio-ecological context of each community, Ostrom's framework facilitates the development of more effective and sustainable disaster risk reduction and management practices, ultimately contributing to enhanced community resilience in the face of disasters.

This study was also supported by Bankoff's (1999) Community-Based Disaster Risk Management (CBDRM), which emphasizes the ability of communities to recover from disasters. It also raises people's understanding of disaster risks by using local knowledge and considering

the local capacities and institutions already existing. This approach helps people who are vulnerable or have been hurt by a disaster that contributes to their situation and recognizes the fundamental right of these individuals to take part in the decision-making processes that affect their lives. By engaging communities in DRRM programs, CBDRM fosters community-level resilience and promotes sustainable resilience by recognizing and addressing the needs and rights of vulnerable individuals, thereby fostering stronger and more resilient communities.

In the context of this study, it provides a distinct perspective on disaster resilience by emphasizing the communities' capacities to recover from disasters. This approach shifts the focus from a top-down, externally driven model to one that empowers local communities to take charge of their disaster risk reduction and recovery efforts. In essence, CBDRM is rooted in the idea that the people who live in a community possess valuable local knowledge that can be harnessed for effective disaster risk reduction and management. This ensures a more accurate and nuanced understanding of the potential threats and fosters a sense of community ownership and responsibility in addressing these risks.

This study was also supported by the Disaster Resilience Cycle of Gilbert's (2010) theory, which focuses on how the different parts depend on each other and how they are linked. Building and keeping disaster resilience requires a number of things, such as the effectiveness of early warning systems, community preparation and resilience, infrastructure and structural measures, risk communication and community engagement, and data and monitoring systems. This theory shows how important it is to take a whole-systems approach to lowering the risk of natural disasters. This way calls for everyone involved to work together and coordinate their efforts to make a community more resilient.

In context, the disaster resilience cycle looks at how different parts connect and rely on each other to strengthen communities against disasters. Also, it gives a thorough and organized way to determine how well disaster risk reduction and management work to keep and build disaster resilience in Barangay Maniki. This theory looks at the many different parts of disaster risk reduction and highlights how important it is for all parties to work together in a coordinated way. Thus, the researcher can thoroughly review disaster risk reduction and management strategies, find their strengths and places where they could be improved, and make communities safer and more resilient.

Using these theoretical frameworks, the extensiveness of disaster risk reduction measures applied in Barangay Maniki can consider the socio-ecological systems, community-based disaster risk management, resilience, and disaster resilience cycle. This comprehensive approach improves understanding of how implemented programs contribute to community resilience and offers insights for future interventions and improvements in disaster risk reduction and management initiatives.

Conceptually speaking, this study seeks to define the relationship between the two variables: disaster risk reduction and management and community resilience. As such, the connection between the variables mentioned is depicted in Figure 1. The researcher assessed the effectiveness of risk reduction strategies given by Lal et al. (2020), which requires taking into account the interactions between early warning system effectiveness refers to the capacity of the system to detect and decide on the existence of a threat, community preparedness and

resilience provides mutual benefits to disaster planners and local communities and also had an impact on national disaster-related initiatives, infrastructure and structural measures emphasizes buildings and infrastructure that continue to function during and after natural disasters, risk communication and community engagement involves getting people in the community involved in making decisions about reducing disaster risk, and data and monitoring systems monitors and evaluate risk-reduction methods.

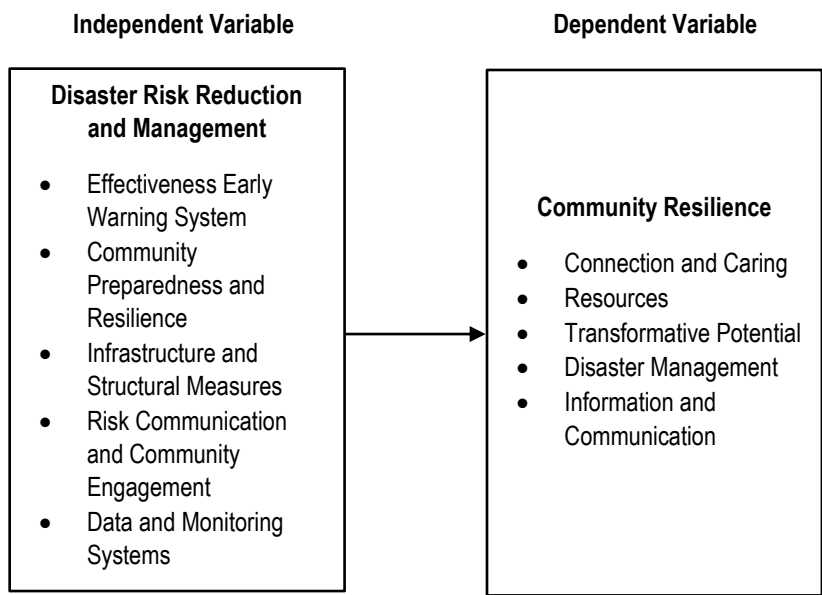


Figure 1. Paradigm of the Study

On the other hand, as defined by Pfefferbaum et al. (2015), analyzing the community resilience of residents in Barangay with the indicators which includes the Five-Factor Model of community resilience regarding specific domains such as connection and caring encompasses actions that foster civic engagement, respect for diversity, and facilitate a sense of community, resources refer to the various forms of financial and physical capital a community holds, transformative potential pertains to communities' ability to reflect and grow from disasters critically, disaster management consists of policies and procedures intended to prevent or mitigate harm across disaster phases, information, and communication includes community capacity to find and use the information to help keep community members safe.

The framework gives a comprehensive perspective on how disaster risk reduction and management programs contribute to community resilience and informs future interventions and improvements in Barangay Maniki disaster risk reduction initiatives. This study aligns with SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action) by examining how local

disaster risk reduction and management (DRRM) initiatives actively strengthen community resilience and reduce vulnerability to hazards. It advances SDG 11 by evaluating whether Barangay Maniki's DRRM programs create safer, more adaptive, and more sustainable settlements through effective preparedness, response, and mitigation strategies. By assessing institutional capacity, community participation, and risk governance, the study shows how resilience-building measures contribute to safer public spaces, organized settlements, and improved disaster readiness—core targets of SDG 11. Meanwhile, the study supports SDG 13 by analyzing how local DRRM practices translate into climate adaptation actions, such as hazard awareness, risk-informed planning, and capacity-building. Through these assessments, the research highlights how communities adopt climate-responsive strategies, adjust to environmental threats, and strengthen adaptive capacity, which aligns with SDG 13's call for urgent climate action at the local level.

The study maintains conceptual clarity by presenting community resilience as an outcome shaped by the effectiveness of DRRM programs, including preparedness activities, mitigation efforts, institutional coordination, and community engagement. These concepts directly correspond to the research questions, which examine how DRRM initiatives function, how community participation influences resilience, and how institutional systems support risk reduction. Each construct is linked to SDG indicators: resilient infrastructure, inclusive planning, and enhanced adaptive capacities. In doing so, the study positions DRRM not only as a disaster management tool but also as a framework for sustainable, climate-responsive development.

This integrated framework guides the study's overall design by determining the specific variables to be measured, the evaluation methods to be used, and the indicators that define community resilience. It also directs data interpretation by linking findings to SDG 11 and SDG 13 targets, allowing the results to show where programs are effective, where gaps exist, and how resilience can be strengthened. Ultimately, the framework informs policy recommendations and community-level interventions by identifying the DRRM components that most directly support sustainable settlements and climate adaptation. In doing so, the study contributes to local planning, empowers community stakeholders, and supports the achievement of the SDG targets for safer, more resilient, and climate-adaptive communities.

METHODOLOGY

This study's research design employed descriptive-correlational quantitative. This design was examined to see and collect quantifiable information from the population sample, analyze the established disaster risk reduction and management methods, and determine if there is a significant relationship with the community's resilience in Barangay Maniki. Quantitative research employed a number of methodologies that employed statistical or numerical data to explore social issues in a methodical manner. As a result, quantitative research was based on measurement and assumed that the phenomena under study could be quantified. Its goal was to look for patterns and relationships in data while also validating measures (Zook & Pearce, 2018).

The descriptive-correlational method investigated potential links or relationships between variables without manipulating them. Data were gathered using a questionnaire with an established structure to determine the connection between the independent and dependent variables (Bhandari, 2021).

A descriptive-correlational approach was used since this study aimed to provide a significant relationship between disaster risk reduction and management programs and the community's resilience in Barangay Maniki. The dependent and independent variables were the variables of interest in the descriptive-correlational research design. Survey questionnaires were circulated to collect data for the study, and small discrepancies between the population samples were assessed to arrive at a likely outcome.

This study was conducted in Barangay Maniki, situated in the Municipality of Kapalong, in the northwestern part of Davao del Norte Province in Mindanao, Philippines. It is approximately 24 kilometers away from Tagum City, the capital of the province and 72 kilometers from Davao City. Meanwhile, the Maniki had 16 purok and a population of 18,485 in the 2020 census. The population of Maniki had grown from 8,264 in 1990 to 18,485 in 2020, representing an increase of 10,221 people over the course of 30 years. It was headed by Hon. Romy C. Estrada, the Barangay Captain of Maniki.

The study involved Barangay Maniki, Kapalong, Davao del Norte residents, specifically those aged 17 to 75 years old, generally between under 18 years old and above 60 years old. They were chosen as the respondents because they were expected to have experience with recent disasters and apply disaster risk reduction and management strategies, particularly during and after disasters. The researcher assessed the disaster preparedness and resilience level in a diverse community prone to natural disasters like earthquakes, floods, and wildfires. Additionally, the researcher requested the list of residents from the office of Barangay Hall of Maniki to determine the total number of respondents. Further, to establish more reliable data and maintain the criteria in the study, quota random sampling was chosen.

The study employed stratified random sampling to select respondents from the target population. The population was first divided into relevant strata, in this case by age, to ensure adequate representation of all segments of the community. Respondents were then randomly selected from each stratum using a random selection method. This sampling technique was chosen because it enhances the representativeness of the sample, minimizes sampling bias, and provides more precise estimates of the relationship between disaster risk reduction and management programs and community resilience. Since different groups within the community may have varying experiences, levels of preparedness, and access to DRRM programs, stratified random sampling ensures that these differences are reflected in the study's findings, thereby improving the validity and generalizability of the results.

Stratified random sampling is a probability sampling technique in which the population is first divided into distinct groups or strata based on shared characteristics (e.g., age, sex, barangay, occupation, or socioeconomic status). After dividing the population into these strata, respondents are randomly selected from each group in proportion to their size or based on a predetermined number. This ensures that every subgroup of the population is adequately represented in the sample (Singh & Mangat, 1996).

Table 1
Likert Scale Interpretation

Range of Means	Descriptive Equivalent	Description
4.30 – 5.00	Very High	The measure describes disaster risk reduction and management program, and community resilience are always manifested.
3.50 – 4.30	High	The measure describes disaster risk reduction and management program, and community resilience are oftentimes manifested.
2.70 – 3.50	Moderate	The measure describes disaster risk reduction and management program, and community resilience are sometimes manifested.
1.90 – 2.70	Low	The measure describes disaster risk reduction and management program, and community resilience are seldom manifested.
1.00 – 1.90	Very Low	The measure describes disaster risk reduction and management program, and community resilience are rarely manifested.

The researchers used an adapted questionnaire to collect the necessary data to provide appropriate answers to the previously specified study problems. The questionnaires used the Likert Scale, a quantitative value that allows for statistical analysis. A numerical value was assigned to each potential choice, and a mean figure was generated at the end of the assessment or survey. The final average score represents the whole degree of perceptions as manifested (Zohrabi, 2013).

The five orderable gradations of communal perceptions towards disaster risk reduction and management programs and community resilience with their respective means are presented in Table 1. In order to collect the necessary data for the study, the researchers followed the methods outlined below.

Crafting the Questionnaires. The researcher created the questionnaire by adapting it from another author who was also involved in the project. Questionnaires were written in plain and concise sentences so that respondents could understand all of the questions posed in a questionnaire.

Submitting and Revising Questionnaires for Validation. After the questionnaires had been modified, they were sent to the research validator for final approval.

Seeking Permission to Conduct the Study. The researcher was asking permission from the office of Barangay Hall of Maniki.

Distribution of Questionnaires. After seeking approval from the office of Barangay Hall of Maniki, questionnaires were distributed among the random sample respondents who resided in Barangay Maniki.

Collection and Tabulation of Results. The handling and collecting of questionnaires were done personally by the researcher and were facilitated by the retrieval of response. All the survey data were collected for the tabulation of data.

Moreover, ethical considerations were addressed and taken into account to ensure the study's integrity. These concerns were preserved the subjects' dignity or the sensitivity of the participants' information, and in order to publish well the material that is investigated, the ethical standards that are respected and applied in this activity were given consideration. These were informed consent, risk of harm, anonymity and confidentiality, and conflict of interest.

RESULTS

Table 2 presents the overall level of disaster risk reduction and management (DRRM) in Barangay Maniki across five dimensions: effectiveness of early warning systems, community preparedness and resilience, infrastructure and structural measures, risk communication and community engagement, and data and monitoring systems. The findings yielded an overall mean score of 4.06, interpreted as high, indicating that DRRM practices in the community are frequently demonstrated. Among the dimensions, the effectiveness of early warning systems obtained the highest mean score ($M = 4.17$, high), suggesting that this component is the most consistently manifested. In contrast, data and monitoring systems registered the lowest mean score ($M = 3.95$, high), signifying that although this aspect is still evident, it lags behind other dimensions and may require further strengthening.

Table 2
Level of Disaster Risk Reduction and Management

Indicators	Mean	Description
Effectiveness of Early Warning Systems	4.17	High
Community Preparedness and Resilience	4.02	High
Infrastructure and Structural Measures	4.04	High
Risk Communication and Community Engagement	4.10	High
Data and Monitoring Systems	3.95	High
Overall	4.06	High

Table 3 presents the overall level of community resilience in Barangay Maniki across five dimensions: connection and caring, resources, transformative potential, disaster management, and information and communication. The results show an overall mean score of 4.07, described as high, indicating that resilience is frequently manifested in the community. Among the dimensions, disaster management obtained the highest mean ($M = 4.17$, high), reflecting strong investments in preparedness activities such as planning, drills, and emergency resource mobilization. In contrast, resources received the lowest mean ($M = 4.00$, high), suggesting that while material and organizational assets are present, they remain relatively limited compared to other resilience factors.

Table 3

Level of Community Resilience

Indicators	Mean	Description
Connection and Caring	4.07	High
Resources	4.00	High
Transformative Potential	4.07	High
Disaster Management	4.17	High
Information and Communication	4.02	High
Overall	4.07	High

Presented in Table 4 was the result of the significant relationship between disaster risk reduction and management and community resilience, r -value = .474, p -value<.001. At 0.05 level of significance, the null hypothesis is rejected. This means that there is a moderate, positive, and significant relationship between disaster risk reduction and management and community resilience.

Table 4

Significant Relationship Between Disaster Risk Reduction and Management and Community Resilience

Variables	Mean	r-value	p-value	Decision $\alpha=0.05$
Disaster Risk Reduction and Management Programs	4.06			
		.474	<.001	H_0 Rejected
Community Resilience	4.07			

Presented in Table 5 is the significant influence of the domains or indicators of disaster risk reduction and management towards the level of the community resilience among residents in Barangay Maniki. The results showed that risk communication and community engagement, a domain of disaster risk reduction and management, appear to be a statistically significant of the level of the community resilience among residents in Barangay Maniki, risk communication and community engagement ($\beta=0.241$, $p<0.05$). At 0.05 level of significance, the null hypothesis is rejected. The beta value $\beta=.241$ indicates that for every unit increase of disaster risk reduction and management programs, level of the community resilience among residents in Barangay Maniki will also increase by 0.241 units. Therefore, this leads to the rejection of the null hypothesis which states that there is no indicator of disaster risk reduction and management that can significantly influence the community resilience among residents in Barangay Maniki.

These are the P-values for the remaining four domains, effectiveness of early warning systems ($\beta=-0.186$, $p<.143$), community preparedness and resilience ($\beta=0.035$, $p<.795$), infrastructure and structural measures ($\beta=0.047$, $p<.714$), and data and monitoring systems ($\beta=0.054$, $p<.578$). At 0.05 level of significance, the p-values of the four domains exceeded

0.05. This suggests that the four domains do not have a significant influence on community resilience.

Table 5

Domain/s of Disaster Risk Reduction and Management that Significantly Influence Community Resilience

Independent Variable	Unstandardized Coefficients		Standardized Coefficients	P-Value	Decision @=0.05
	Beta	Std. Error	Beta		
(Constant)	4.067	0.045			
Effectiveness of Early Warning Systems	0.186	0.126	0.186	.143	H ₀ Accepted
Community Preparedness and Resilience	0.035	0.135	0.031	.795	H ₀ Accepted
Infrastructure and Structural Measures	0.047	0.128	0.047	.714	H ₀ Accepted
Risk Communication and Community Engagement	0.241	0.122	0.218	0.05	H ₀ Rejected
Data and Monitoring Systems	0.054	0.097	0.065	.578	H ₀ Accepted

Dependent Variable: Community Resilience

Note: R= 0.481, $R^2=0.231$, F-ratio= 10.759 P-value= < .001

The R square of 0.231 shows that the model predicts 23.1% of the statistical variation observed in the level of community resilience among the respondents. The coefficient of alienation which is 76.9% points to the extent at which other indicators or domains not included in the study may explain the variance observed in the level of community resilience among Barangay Maniki residents.

DISCUSSION

The findings indicate that residents of Barangay Maniki perceive the overall level of disaster risk reduction and management (DRRM) in their community as high. This perception suggests that DRRM is recognized not only as a mechanism for reducing vulnerabilities but also as a means of strengthening preparedness and safeguarding lives, livelihoods, and infrastructure. Contributing to this recognition are community awareness, local participation, and adaptive capacities that enable households to effectively cope with and recover from disaster impacts.

These results are consistent with previous studies which emphasized that DRRM involves risk identification, hazard assessment, resilient infrastructure, preparedness training, and integrated prevention, response, and rehabilitation measures (Lambert & Scott, 2019; Shah et al., 2019). The alignment highlights that Barangay Maniki's practices are reflective of globally recognized DRRM principles, albeit localized to the specific context of a rural community.

Among the dimensions, early warning systems were rated as most effective. Residents reported that timely warnings enabled them to secure assets, fortify homes, and evacuate when necessary. This supports findings that timely and trusted warning mechanisms enhance readiness at both household and institutional levels, particularly when feedback and continuous learning are embedded into the system (Muhammad et al., 2018; Piciullo et al., 2018).

Preparedness and resilience were likewise evaluated highly, with respondents citing livelihood diversification, strong social networks, and reduced dependence on external aid as critical to faster recovery. This is consistent with research emphasizing that collective capacity-building, psychosocial support, and community solidarity are vital enablers of resilience in disaster-prone areas (Sharifi & Yamagata, 2018; Cui et al., 2018).

Infrastructure and structural measures also received positive assessments, reflecting satisfaction with localized engineering interventions that mitigate disaster impacts. Prior studies reinforce the importance of resilient design, retrofitting, and drainage improvements as fundamental components of effective DRRM (Rehak et al., 2019; Rus et al., 2018). Barangay Maniki's experience demonstrates how tailored structural solutions complement broader risk-reduction strategies.

Risk communication and community engagement were similarly rated high, with respondents commending the clarity, accessibility, and cultural relevance of hazard information. This finding echoes literature asserting that inclusive, participatory, and context-sensitive communication fosters trust and strengthens decision-making (Gilmore et al., 2020; Gonah & Kobie, 2021). The active involvement of Barangay Maniki residents illustrates that DRRM initiatives in the area are both top-down and community-driven.

Finally, data and monitoring systems were also found to be effective, supporting hazard identification and evidence-based decision-making. This aligns with arguments that data-driven mechanisms are indispensable for informed risk assessment and sustained public education (Hopkin, 2018; Hubbard, 2020). The presence of such systems in Barangay Maniki highlights a significant step toward institutionalizing evidence-based DRRM at the grassroots level.

Overall, the findings demonstrate that Barangay Maniki has developed a robust, multi-dimensional DRRM program encompassing early warning, preparedness, infrastructure, engagement, and monitoring. While these results reinforce earlier international and national studies, the contribution of this research lies in showing how a rural Philippine community has operationalized DRRM frameworks into effective grassroots practices. This underscores the potential of localized resilience-building as a model for other disaster-prone areas.

The respondents' level of community resilience is generally perceived to be high, as indicated by the residents. This suggests that the residents' high level of community resilience in disasters results from a combination of social, economic, and environmental factors, as well as proactive efforts by residents and community leaders to prepare for and respond to adverse events. They feel requires ongoing collaboration and commitment from all members of the

community. The high level of community resilience demonstrates the residents' ability to prepare for, respond to, recover from, and adapt to adverse situations.

Respondents emphasized the role of solidarity and mutual support in sustaining resilience during crises. The capacity of residents to care for one another reinforces collective coping, echoing Imperiale and Vancley's (2019) view that resilience is built through everyday interactions and shared responsibilities. Similarly, Banwell (2022) highlighted that social infrastructure and community networks not only foster preparedness but also enhance well-being, a pattern clearly observable in Barangay Maniki.

The findings also underscore the importance of resources and governance structures in enabling resilience. Respondents noted the availability and mobilization of local resources, which aligns with Harahap's (2020) argument that community competence is a cornerstone of adaptive capacity and Kruse et al.'s (2017) observation that resource-based management practices strengthen resilience. However, consistent with Kruse et al., the results also suggest that while internal resources are strong, external shocks such as national policy limitations and global disruptions remain vulnerabilities for the community.

Adaptability emerged as another key dimension. Residents demonstrated flexibility in navigating socio-political and environmental changes, consistent with Fedele et al.'s (2019) assertion that resilience requires moving beyond short-term coping to transformative action. While the findings indicate that Barangay Maniki, like many communities, tends to prioritize immediate resilience over systemic reforms, residents also recognized the potential of locally embedded systems (e.g., dashboards and community data tools) to support long-term resilience, echoing Praharaj and Wentz's (2022) call for technology-driven decision support mechanisms.

Disaster preparedness was the highest-rated dimension ($M = 4.17$), underscoring the community's recognition of preparedness as the first line of defense in disasters. This resonates with Zhuang et al. (2020), who identified community-level preparedness as crucial in disaster response, and Naik and Murari (2023), who emphasized the value of localized, community-based risk reduction approaches.

Finally, information and communication systems were also highly rated. Residents reported access to timely and accurate information, which fosters trust, encourages participation, and empowers decision-making. This finding is consistent with Patin (2020) and Paripurno et al. (2021), who highlighted the role of effective communication and ICT in enhancing awareness and proactive capacities at the local level.

Taken together, the findings affirm that community resilience in Barangay Maniki is multidimensional, integrating social connectedness, resources, adaptability, disaster management, and communication. While these results reinforce earlier scholarship (Rapaport et al., 2018; Faulkner et al., 2018), they extend the literature by illustrating how these dimensions intersect in the context of a Philippine barangay, where collectivist values and local governance strongly shape resilience practices.

The study revealed that the p-value is lower than the alpha level of significance, leading to the rejection of the null hypothesis. This indicates a significant relationship between disaster risk

reduction and management (DRRM) and the community resilience of Barangay Maniki residents, demonstrating that effective DRRM implementation strengthens the community's ability to prepare for, withstand, and recover from disasters.

These findings support Pelling's (2012) Resilience Theory, which highlights the community's capacity not only to recover but also to adapt and thrive despite disruptions. DRRM programs—such as early warning systems, infrastructure enhancements, capacity-building activities, and livelihood support—serve as key mechanisms for reducing vulnerabilities and promoting long-term resilience.

The results also align with the argument of Cui et al. (2018), who emphasized that disaster-related knowledge, drills, and community engagement improve residents' perception of resilience, particularly among socioeconomically prepared individuals. This underscores the importance of continued research and community involvement in strengthening disaster readiness.

Furthermore, the findings reinforce Scherzer et al.'s (2019) view that assessing resilience through structured indicators helps identify vulnerabilities and guide targeted interventions. Such assessments enhance DRRM strategies by enabling institutions to design programs that directly address community needs and improve overall resilience. Overall, the study confirms that strong DRRM efforts play a critical role in shaping resilient communities capable of adapting, responding, and recovering effectively from disasters.

Moreover, the results of the study show that among the five domains of disaster risk reduction and management, only risk communication and community engagement significantly influence community resilience. The other domains—early warning systems, community preparedness and resilience, infrastructure and structural measures, and data and monitoring systems—were found to have no significant influence.

The significant effect of risk communication and community engagement supports the findings of Koliou et al. (2020), who emphasized that clear information-sharing and active community involvement strengthen a community's ability to prepare, adapt, and recover from hazards. Transparent communication and participatory engagement empower residents to act appropriately during emergencies, contributing directly to stronger resilience.

In contrast, early warning systems were found to have no significant influence on resilience, contradicting Marchezini et al. (2017), who argued that early warnings are only effective when communities have the capacity and resources to respond. This suggests that warnings alone are insufficient without adequate awareness and adaptive capabilities.

Similarly, community preparedness and resilience did not significantly influence overall resilience, opposing Ryan et al. (2020), who noted that preparedness must be complemented by broader factors such as social cohesion, infrastructure quality, and adaptability. Preparedness may strengthen specific response actions, but true resilience requires a more holistic combination of social, structural, and organizational elements.

Infrastructure and structural measures also showed no significant influence, aligning with Cimellaro et al. (2017), who stated that a community's functionality during and after

disasters depends on diverse factors beyond physical structures, including governance, social relationships, economic stability, and cultural systems.

Finally, data and monitoring systems were found to have no significant influence, contradicting Garzón-Galvis et al. (2020), who argued that improved data management yields benefit only when communities actively participate in generating and using information. Without community involvement and coordinated action, data systems alone cannot meaningfully strengthen resilience.

Overall, the findings highlight that community-centered approaches, particularly communication and engagement, play the most critical role in shaping resilience, while technical systems and structural measures require stronger integration with social and participatory processes to become more impactful.

Conclusion

Based on the study's findings, conclusions were drawn to answer questions raised in the previous chapter. The respondents reported a high level of disaster risk reduction and management, meaning that the residents often observe the variable. Moreover, based on the result of the community resilience of the residents, it can also be drawn that the level of community resilience among residents in Barangay Maniki was high. This means that the residents are oftentimes manifested in the variable.

Furthermore, the correlation between disaster risk reduction and management and community resilience revealed a significant relationship between the two variables. The study shows that disaster risk reduction and management have a moderate, positive, and significant relationship with community resilience among residents in Barangay Maniki, which means that the null hypothesis proposed in the study is rejected.

Based on the regression analysis results, in disaster risk reduction and management, one domain has shown a significant influence on community resilience. This means that risk communication and community engagement are significant predictors of community resilience. This also indicates the rejection of the null hypothesis proposed in the study. Accordingly, the model describes 23.1% of the statistical variation with an $F = 10.759$ and $p < .001$ in the level of community resilience of the respondents, while remaining 76.9 refers to other variables that have not been included in the study that may also affect the community resilience of the respondents.

Recommendations

The study conducted in Barangay Maniki reveals that residents actively practice disaster risk reduction and management, leading to high community resilience. The study proves that there is a clear link between disaster risk reduction and community resilience, leading to the rejection of the null hypothesis. Additionally, the study highlights that effective communication about risks and community involvement plays a big role, suggesting that focusing on these aspects can help make the community even more resilient.

Given the strong performance of the disaster risk reduction and management (DRRM) programs, it is recommended that local authorities sustain and further strengthen these initiatives. Continued implementation of awareness campaigns, enhancement of early warning systems, and maintenance of resilient infrastructure are essential to ensuring long-term community preparedness. Regular drills, public education activities, and proactive infrastructure upkeep should also be institutionalized.

Although the majority of DRRM indicators performed well, data and monitoring systems received the lowest rating. It is therefore recommended that local authorities improve data collection methods through the use of modern technologies, strengthen real-time monitoring capabilities, and provide personnel with appropriate training. Integrating data from various agencies and upgrading analytical tools will facilitate more accurate risk assessments and informed decision-making.

Community resilience indicators also recorded high results, particularly in connection and caring, transformative potential, and disaster management. To preserve and enhance these strengths, local authorities should continue promoting community participation, maintaining strong communication channels, and supporting capacity-building programs that enhance adaptability and emergency readiness. Since the resources dimension obtained the lowest resilience rating, efforts should focus on improving resource allocation, encouraging sustainable resource management, and strengthening collaboration among community members, organizations, and government units.

Overall, given the demonstrated correlation between DRRM implementation and community resilience, it is recommended that local authorities prioritize comprehensive strategies that engage, educate, and empower residents. Strengthening communication systems, expanding community involvement, and investing in resilient infrastructure will further enhance the community's capacity to withstand and recover from disasters. Moreover, because risk communication significantly influences resilience, local authorities should conduct community forums, trainings, and participatory planning activities to ensure residents are actively involved in identifying risks, developing preparedness plans, and maintaining community-based early warning systems.

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REFERENCES

- Aven, T., & Zio, E. (2021). Globalization and global risk: How risk analysis needs to be enhanced to be effective in confronting current threats. *Reliability Engineering & System Safety*, 205, 107270. <https://doi.org/10.1016/j.ress.2020.107270>
- Bankoff, G. (1999). A history of poverty: The politics of natural disasters in the Philippines, 1985–95. *The Pacific Review*, 12(3), 381–420. <https://doi.org/10.1080/09512749908719297>
- Banwell, K. (2022, July 18). Community resilience and earthquakes: The role of neighborhood—A case study from Christchurch, Aotearoa New Zealand. *Oxford Research Encyclopedia of Global Public Health*. <https://doi.org/10.1093/acrefore/9780190632366.013.356>
- Bhandari, P. (2021, July 7). Correlational research: Definition, methods and examples. Scribbr. <https://www.scribbr.com/methodology/correlational-research/>
- Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (2005). *At risk: Natural hazards, people's vulnerability and disasters* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203974575>
- Cimellaro, G. P., Noori, A. Z., Kammouh, O., Terzic, V., & Mahin, S. A. (2017). *Resilience of critical structures, infrastructures and communities*. <https://doi.org/10.48550/arXiv.2202.09567>
- Cui, K., Han, Z., & Wang, D. (2018). Resilience of an earthquake-stricken rural community in Southwest China: Correlation with disaster risk reduction efforts. *International Journal of Environmental Research and Public Health*, 15(3), 407. <https://doi.org/10.3390/ijerph15030407>
- De Leon, E. G., & Pittock, J. (2017). Integrating climate change adaptation and climate-related disaster risk-reduction policy in developing countries: A case study in the Philippines. *Climate and Development*, 9(5), 471–478. <https://doi.org/10.1080/17565529.2016.1174659>
- Eltinay, N., & Egbu, C. (2017). Disaster risk reduction conceptual framework: Open data for building resilience in critical infrastructure. In *ARCOM 33 Conference Proceedings*. ARCOM.
- Faulkner, L., Brown, K., & Quinn, T. (2018). Analyzing community resilience as an emergent property of dynamic social-ecological systems. *Ecology and Society*, 23(1), Article 24. <https://doi.org/10.5751/ES-09784-230124>
- Fedele, G., Donatti, C. I., Harvey, C. A., Hannah, L., & Hole, D. G. (2019). Transformative adaptation to climate change for sustainable social-ecological systems. *Environmental Science & Policy*, 101, 116–125. <https://doi.org/10.1016/j.envsci.2019.07.001>

- Garzón-Galvis, C., Richardson, M. J., & Solomon, G. M. (2020). Tracking environmental and health disparities to strengthen resilience before the next crisis. *Environmental Justice*. <https://doi.org/10.1089/env.2020.0025>
- Gilbert, S. (2010). *Disaster resilience: A guide to the literature*. National Institute of Standards and Technology. <https://doi.org/10.6028/NIST.SP.1117>
- Gilmore, B., Ndejjo, R., Tchetchia, A., de Claro, V., Mago, E., Diallo, A. A., Lopes, C., & Bhattacharyya, S. (2020). Community engagement for COVID-19 prevention and control: A rapid evidence synthesis. *BMJ Global Health*, 5(10), e003188. <https://doi.org/10.1136/bmjgh-2020-003188>
- Gonah, L., & Kobie, A. G. (2021). Framework for risk communication and community engagement to improve vaccine uptake for COVID-19 and other vaccine-preventable diseases in low- and middle-income countries (LMIC). *Annals of Global Health*, 87(1), 123. <https://doi.org/10.5334/aogh.3483>
- Harahap, G. Y. (2020). Instilling participatory planning in disaster resilience measures: Recovery of tsunami-affected communities in Banda Aceh, Indonesia. *Budapest International Research in Exact Sciences (BirEx) Journal*, 2(3), 394–404. <https://doi.org/10.33258/birex.v2i3.1085>
- Hopkin, P. (2018). *Fundamentals of risk management: Understanding, evaluating and implementing effective risk management*. Kogan Page.
- Hubbard, D. W. (2020). *The failure of risk management*. John Wiley & Sons. <https://doi.org/10.1002/9781119521914>
- Imperiale, A. J., & Vanday, F. (2019). Reflections on the L'Aquila trial and the social dimensions of disaster risk. *Disaster Prevention and Management: An International Journal*, 28(4), 434–445. <https://doi.org/10.1108/DPM-01-2018-0030>
- Koliou, M., van de Lindt, J. W., McAllister, T. P., Ellingwood, B. R., Dillard, M., & Cutler, H. (2020). State of the research in community resilience: Progress and challenges. *Sustainable and Resilient Infrastructure*, 5(3), 131–151. <https://doi.org/10.1080/23789689.2017.1418547>
- Kruse, S., Abeling, T., Deeming, H., Fordham, M., Forrester, J., Jülich, S., Karanci, A. N., Kuhlicke, C., Pelling, M., Pedoth, L., & Schneiderbauer, S. (2017). Conceptualizing community resilience to natural hazards—The emBRACE framework. *Natural Hazards and Earth System Sciences*, 17(12), 2321–2333. <https://doi.org/10.5194/nhess-17-2321-2017>
- Lal, A., Ashworth, H. C., Dada, S., Hoemeke, L., & Tambo, E. (2020). Optimizing pandemic preparedness and response through health information systems: Lessons learned from Ebola to COVID-19. *Disaster Medicine and Public Health Preparedness*, 16(1), 1–25. <https://doi.org/10.1017/dmp.2020.361>

- Lambert, S. J., & Scott, J. C. (2019). International disaster risk reduction strategies and Indigenous peoples. *The International Indigenous Policy Journal*, 10(2). <https://doi.org/10.18584/iipj.2019.10.2.2>
- Marchezini, V., Trajber, R., Olivato, D., Muñoz, V. A., de Oliveira Pereira, F., & Oliveira Luz, A. E. (2017). Participatory early warning systems: Youth, citizen science, and intergenerational dialogues on disaster risk reduction in Brazil. *International Journal of Disaster Risk Science*, 8(4), 390–401. <https://doi.org/10.1007/s13753-017-0150-9>
- Muhammad, K., Ahmad, J., & Baik, S. W. (2018). Early fire detection using convolutional neural networks during surveillance for effective disaster management. *Neurocomputing*, 288, 30–42. <https://doi.org/10.1016/j.neucom.2017.04.083>
- Naik, R., & Murari, K. K. (2023). Agriculture risk management and resilience building through community-based disaster risk reduction: A case study of Talmala Village in Kalahandi District. In *Lecture Notes in Civil Engineering* (pp. 145–157). Springer. https://doi.org/10.1007/978-981-99-1388-6_11
- Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. *Science*, 325(5939), 419–422. <https://doi.org/10.1126/science.1172133>
- Paripurno, E. T., Pratomo, A. H., & Mahendra, S. T. (2021). Application of information and communication technology for community-based landslide risk management. *AIP Conference Proceedings*, 2363, 050019. <https://doi.org/10.1063/5.0061518>
- Patin, B. (2020). What is essential?: Understanding community resilience and public libraries in the United States during disasters. *Proceedings of the Association for Information Science and Technology*, 57(1). <https://doi.org/10.1002/pra2.269>
- Pelling, M. (2012). *The vulnerability of cities*. Routledge. <https://doi.org/10.4324/9781849773379>
- Pfefferbaum, R. L., Pfefferbaum, B., Nitiéma, P., Houston, J. B., & Van Horn, R. L. (2015). Assessing community resilience: An application of the expanded CART survey instrument with affiliated volunteer responders. *American Behavioral Scientist*, 59(2), 181–199. <https://doi.org/10.1177/0002764214550295>
- Piciullo, L., Calvello, M., & Cepeda, J. (2018). Territorial early warning systems for rainfall-induced landslides. *Earth-Science Reviews*, 179, 228–247. <https://doi.org/10.1016/j.earscirev.2018.02.013>
- Praharaj, S., & Wentz, E. (2022). Building community resilience through geospatial information dashboards. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLVIII-4/W5-2022, 151–157. <https://doi.org/10.5194/isprs-archives-xxviii-4-w5-2022-151-2022>
- Rapaport, C., Hornik-Lurie, T., Cohen, O., Lahad, M., Leykin, D., & Aharonson-Daniel, L. (2018). The relationship between community type and community resilience. *International*

- Rehak, D., Senovsky, P., Hromada, M., & Lovecek, T. (2019). Complex approach to assessing resilience of critical infrastructure elements. *International Journal of Critical Infrastructure Protection*, 25, 125–138. <https://doi.org/10.1016/j.ijcip.2019.03.003>
- Rus, K., Kilar, V., & Koren, D. (2018). Resilience assessment of complex urban systems to natural disasters: A new literature review. *International Journal of Disaster Risk Reduction*, 31, 311–330. <https://doi.org/10.1016/j.ijdr.2018.05.015>
- Ryan, B., Johnston, K. A., Taylor, M., & McAndrew, R. (2020). Community engagement for disaster preparedness: A systematic literature review. *International Journal of Disaster Risk Reduction*, 49, 101655. <https://doi.org/10.1016/j.ijdr.2020.101655>
- Scherzer, S., Lujala, P., & Rød, J. K. (2019). A community resilience index for Norway: An adaptation of the baseline resilience indicators for communities (BRIC). *International Journal of Disaster Risk Reduction*, 36, 101107. <https://doi.org/10.1016/j.ijdr.2019.101107>
- Shah, A. A., Shaw, R., Ye, J., Abid, M., Amir, S. M., Kanak Pervez, A. K. M., & Naz, S. (2019). Current capacities, preparedness and needs of local institutions in dealing with disaster risk reduction in Khyber Pakhtunkhwa, Pakistan. *International Journal of Disaster Risk Reduction*, 34, 165–172. <https://doi.org/10.1016/j.ijdr.2018.11.014>
- Sharifi, A., & Yamagata, Y. (2018). *Resilience-oriented urban planning*. In *Resilience-oriented urban planning* (pp. 3–27). Springer. https://doi.org/10.1007/978-3-319-75798-8_1
- Shi, P., Ye, T., Wang, Y., et al. (2020). Disaster risk science: A geographical perspective and a research framework. *International Journal of Disaster Risk Science*, 11, 426–440. <https://doi.org/10.1007/s13753-020-00296-5>
- Singh, R., & Mangat, N. S. (1996). Stratified sampling. In *Elements of survey sampling* (pp. 197–214). Springer. https://doi.org/10.1007/978-94-017-1404-4_5
- Zhuang, L., He, J., Yong, Z., Deng, X., & Xu, D. (2020). Disaster information acquisition by residents of China's earthquake-stricken areas. *International Journal of Disaster Risk Reduction*, 51, 101908. <https://doi.org/10.1016/j.ijdr.2020.101908>
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, 3(2), 254–262. <https://doi.org/10.4304/tpls.3.2.254-262>
- Zook, K. L., & Pearce, J. H. (2018). Quantitative descriptive analysis. In *Applied sensory analysis of foods* (pp. 43–71). CRC Press. <https://doi.org/10.1201/9781315137681-3>

EXPLORING THE DIMENSIONS OF ELECTORAL PARTICIPATION IN SANGGUNIAN KABATAAN ELECTION

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SDGs: **Goal 16 (Peace, Justice, and Strong Institutions)**

ABSTRACT

Electoral participation, particularly through voting, is recognized as a central component of democratic engagement, yet youth involvement in local governance remains limited due to persistent institutional and structural barriers. This study examined the underlying dimensions shaping youth electoral participation in the Sangguniang Kabataan elections in Panabo City. Using an exploratory sequential mixed-methods design, the research began with a qualitative phase involving in-depth interviews with eight purposely selected youth participants to generate meaningful insights into their experiences and motivations. The thematic analysis produced forty-two unique statements that informed the development of a structured survey instrument. The quantitative phase then surveyed 220 respondents across four barangays through quota sampling, employing a forty-two-item questionnaire to assess the factors influencing youth engagement in local elections. Exploratory Factor Analysis conducted using SPSS identified five primary latent constructs: Perceived Institutional Effectiveness, Youth Leadership Motivation, Civic Voice, Civic Responsibility, and Community Attachment. The study concluded that enhancing civic education, promoting youth leadership development, and improving institutional responsiveness are essential strategies to encourage greater youth participation in democratic processes. These insights provide valuable guidance for policymakers seeking to strengthen inclusive and meaningful youth political engagement in communities.

Keywords: ***Youth, Electoral Participation; Sangguniang Kabataan Election; Exploratory Mixed Methods Study; Panabo City***

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INTRODUCTION

Electoral participation is the active involvement of people or groups in political processes, especially through voting, and it is a key part of democratic engagement. Voting is the main way citizens express their preferences and shape government decisions (Alanazi, 2025). However, despite this essential role, systemic barriers continue to hinder full participation among many sectors, especially the youth, creating a persistent need for reforms that empower young people and ensure their voices are meaningfully represented in governance.

In the Philippines, the Sangguniang Kabataan (SK) represents a significant institutional mechanism that enables youth involvement in local governance. Established by the Local Government Code of 1991, the SK provides persons between 15 and 30 years of age with opportunities to engage in community decision-making (Atanoza-Megriño, 2024). As a developmental platform, it prepares future leaders by cultivating civic responsibility, governance awareness, and citizenship values (Mascara, 2024). Furthermore, Article V of the 1987 Philippine Constitution guarantees the right of all citizens, including the youth, to vote, highlighting the importance of their participation in fostering an inclusive democratic system.

Demographic statistics further illustrate the potential influence of youth voters. According to the Commission on Elections [COMELEC] (2023), 52% of registered voters nationwide are aged 18 to 40, with 1.6 million classified as new voters aged 15–30. In the 2022 national elections, youth constituted 33% of the electorate, with particularly high representation among individuals aged 18–24 (University of the Philippines Population Institute, 2022). These numbers underscore the significant electoral impact of young citizens. Despite this, youth engagement especially in SK elections remains limited, indicating a persistent challenge in transforming numerical potential into meaningful political participation.

Poor civic training, difficulties in participation, and adult manipulation within youth institutions hinder effective engagement and weaken trust in democratic processes (Flores et al., 2021). Studies also show uneven opportunities for participation, with SK leaders generally being more politically involved than ordinary youth constituents, reflecting clear gaps in political knowledge and engagement (Flores et al., 2021). Broader analyses laid emphasis on the notion that that civic awareness, legal frameworks, and social support systems collectively influence youth electoral behaviors.

Worldwide, youths have continued to engage more in informal political participation as opposed to formal political participation via elections. The information from the data indicates that youth aged between 18 and 29 years showed low levels of engagement as compared to other age groups in terms of voting, contacting their representatives, and participating in consultations, but had higher rates of sharing political posts on social media platforms and demonstrating in 2023 (Organisation for Economic Co-operation and Development, 2025). Such trends indicate that youth are not politically apathetic but tend to channel their political energy into informal forms of political participation (International Institute for Democracy and Electoral Assistance, 2020).

The structural challenges faced by youths in formal political participation include low level of trust in the system, lack of political agency, and disparities in participation opportunities.

Findings from research on youth disengagement indicate that institutional challenges and political inefficacy remain key factors that explain youth's decreased participation, especially where youths find themselves detached from the mainstream political system (Zhang, 2022). Further, studies examining barriers to youth voting reveal barriers such as voter registration problems, weak civic knowledge, and poor political responsiveness, which affect youths' electoral participation (University of California, Davis, 2024).

From these findings, youth political apathy cannot be seen as only an individual problem, but a structural democratic issue. The recent international studies point out that low youth political participation decreases representational inclusion and limits democratic institutions from reflecting the issues and priorities of the younger generation (International Institute for Democracy and Electoral Assistance, 2020). Therefore, there is a need for more local research to produce context-relevant information for guiding reform policies and increasing youth inclusion in the governance process (International Foundation for Electoral Systems [IFES], 2025).

Although much academic work is being done in regard to youth political participation, little studies have been done in regard to the political engagement of youths in SK elections specifically in Panabo City. This is crucial since Panabo City has become a relevant site in looking into youth political participation due to its urbanization, large population of youth, and barangay governance structure (Open Space Centre, 2025).

This study is anchored on two complementary theoretical perspectives: the Civic Volunteerism Model (CVM) and Social Capital Theory, both of which explain why individuals choose to participate or abstain from political activities such as voting.

The Civic Volunteerism Model proposes that political participation is shaped by resources (such as skills and knowledge), psychological engagement (including interest and motivation), and mobilization from family, peers, or institutions (Verba et al., 1995). In the context of SK elections, this model suggests that youth participation is influenced by their level of civic preparation, motivation to engage, and the extent to which institutions encourage their involvement.

Social Capital Theory emphasizes the importance of networks, trust, community attachment, and shared norms in shaping civic behaviors (Putnam, 1995). Strong community ties and supportive relationships within local institutions enhance youths' likelihood of actively participating in elections and local governance. In SK elections, factors such as community attachment, positive peer influence, and supportive social structures become crucial predictors of youth engagement.

Together, these theories provide a coherent framework for analyzing youth electoral participation. They support the study's identified dimensions such as civic voice, civic responsibility, youth motivation, institutional effectiveness, and community attachment which emerged as central constructs through exploratory factor analysis.

Figure 1 shows the conceptual framework of the study, which is to investigate the significant factors of electoral participation in the elections of Sangguniang Kabataan (SK). In this model, various variables, expressed as Factor 1, Factor 2, and Factor 3 indicate various

dimensions of participation in voting. The research examined and provided meaning to these variables with the view to discovering the different circumstances that defined the participation of young people in the local elections.

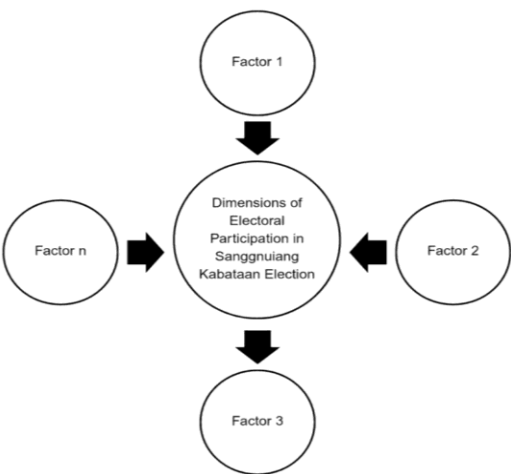


Figure 1. Conceptual Framework of the Study

While youth voter participation has been widely studied, there remains a noticeable lack of research focused specifically on the SK elections. In particular, few studies have investigated the challenges, motivations, and contributing factors that impact the political engagement of young people at the local level, especially in the context of Panabo City.

Identifying the factors that motivate or discourage youth from participating in Sangguniang Kabataan (SK) elections is essential to understanding their civic experiences. Such insights are particularly valuable to policymakers, local leaders, and civil society organizations who aim to promote active youth citizenship and meaningful participation in governance. To address this need, the study employed exploratory factor analysis (EFA) to determine and cluster the main variables influencing youth involvement in SK elections.

The research specifically focused on the experiences of young voters in Panabo City, examining not only motivations and barriers but also the lessons they learned throughout the electoral process. These findings aim to guide local governments and civic leaders in designing youth engagement strategies that strengthen participation in local governance.

Grounded in the Civic Volunteerism Model (CVM) and Social Capital Theory, the study highlights the interplay of personal motivation, institutional support, and community attachment in shaping youth civic engagement. The results offer practical insights for improving youth leadership programs, enhancing SK official training, and tailoring COMELEC voter

education campaigns. However, the study is limited to selected barangays in Panabo City, which may affect the generalizability of its findings.

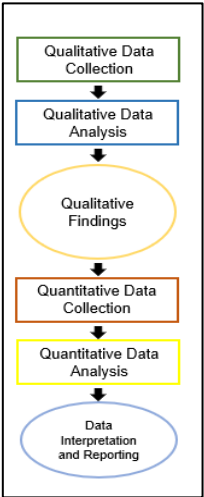


Figure 2. Exploratory Sequential Mixed-Methods Process (Patel & Moitra, 2021)

Moreover, this conforms to SDG 16, which focuses on establishing peaceful, inclusive societies and the establishment of transparent and accountable institutions. A key part of this goal is understanding what drives or hinders youth participation in elections. Factors such as knowledge of one’s rights, access to civic education, and community encouragement all play important roles. Equally important is ensuring that the voices of marginalized youth are heard and valued. Delving into these aspects helps uncover both obstacles and opportunities for improving youth engagement in SK elections. In doing so, we not only empower the next generation of leaders but also contribute to building a more representative and democratic society, where diverse perspectives are respected in the decision-making process.

.METHODOLOGY

Research Design

The type of mixed method used in the study was an exploratory sequential research design as depicted in Figure 1. Branum (2019) differentiates between three main types of mixed-method research, and one of them is the exploratory sequential approach. This design starts with qualitative study to identify a phenomenon in depth, which is followed by the introduction of quantitative study to measure or test the patterns or themes observed in the qualitative study. As a result, empirical observations can be used to formulate hypotheses, thus improving the validity and reliability of the ensuing quantitative measures. Besides, this method allows the determination of the variables and constructs of interest that would not be identified in quantitative research only. Moreover, combining the qualitative and quantitative results will

enable a holistic interpretation of the research problem, as the qualitative data will give the quantitative results a context and depth. Thus, this sequential integration helps to create a coherent and detailed framework, which results in a more subtle and correct interpretation of the participants and phenomena studied.

Table 1
Distribution of Research Participants

Barangay	Qualitative Phase	Quantitative Phase
Gredu	2	55
New Visayas	2	55
San Francisco	2	55
San Vicente	2	55
Total	8	220

Research Locale and Participants

The study was conducted in the most populated barangays of Panabo City, specifically Barangay New Visayas, Barangay San Francisco, Barangay Gredu, and Barangay San Vicente. These locations were determined based on voter population data from the Commission on Elections (COMELEC) and the Philippine Statistics Authority (2020). Participants in both phases were 18–30-year-old youth registered as SK voters in the selected barangays. They were also required to be active members of youth organizations or have documented involvement in community affairs to ensure relevance to the research objectives.

Qualitative Phase Participants. Eight participants took part in the in-depth interviews. This number aligned with the recommendation of Guest et al. (2006), who stated that 8–12 participants are generally sufficient to reach data saturation in qualitative studies. A purposive sampling technique was used (Etikan et al., 2016), allowing the selection of individuals who could provide rich, relevant insights into electoral participation in the SK elections.

Quantitative Phase Participants. The sample size was found adequate for the generation of reliable quantitative data and representation of each barangay in the study. In order to minimize sampling bias and to be able to obtain a representative finding, respondents were proportionally allocated according to the population size of each barangay. Respondents had to be registered Sangguniang Kabataan (SK) voters on election period and residents of the selected barangays to participate. The sample size met the minimum recommendation of 200 participants for accurate factor recovery in Exploratory Factor Analysis (De Winter, 2009; Watkins, 2021). The Kaiser-Meyer-Olkin (KMO) measure was later applied to assess data suitability for factor analysis, with higher values indicating adequacy for EFA.

Data Gathering Instruments

Qualitative Instrument. An open-ended interview guide served as the instrument for the qualitative phase. It consisted of three main sections including the topic, three core interview

questions, and six probing questions. The interview guide was reviewed by a panel of evaluators to ensure clarity and appropriateness. It was also translated into the local language to avoid misunderstandings and ensure participant comprehension.

Quantitative Instrument. A 42-item survey questionnaire was used for the quantitative phase. The items were developed directly from the themes generated during qualitative analysis. Responses were measured using a 7-point Likert scale, ranging from “Strongly Disagree” (1) to “Strongly Agree” (7). Instrument reliability was ensured through a pilot test involving 30 respondents. Results yielded a Cronbach’s alpha of 0.991, indicating excellent internal consistency (Tavakol & Dennick, 2011).

Data Gathering Procedure

Prior to data collection, the researchers sought approval from the Dean of the Institute of Leadership, Entrepreneurship, and Good Governance at Davao del Norte State College, as well as the research adviser. Letters were delivered to barangay offices to obtain permission to conduct community-based research.

Qualitative Phase Procedure. After approval, qualified participants were invited through official barangay coordination. During interviews, participants were given informed consent forms detailing the purpose of the study, data privacy measures, and voluntary participation. Audio recordings were made with permission. After transcription, all audio files were permanently deleted to protect confidentiality. The qualitative findings were analyzed and used to construct the survey questionnaire for the quantitative phase.

Quantitative Phase Procedure. After validating the survey tool through pilot testing, the questionnaire was distributed to the participants across the four barangays. Respondents were informed that participation was voluntary and that responses would be used solely for research. Completed questionnaires were retrieved immediately to ensure integrity and completeness of the data.

Data Analysis

Qualitative Analysis. The qualitative data were analyzed using thematic analysis. Interview transcripts were coded to identify recurring patterns and extract themes relevant to youth electoral participation, following the methodological guidance of Braun and Clarke (2006). Coding was performed carefully to avoid duplication and ensure reliability, allowing the researchers to isolate the most significant factors affecting engagement in SK elections.

Quantitative Analysis. Quantitative data from the survey were tabulated and subjected to Exploratory Factor Analysis (EFA). Principal Component Analysis (PCA) was used with an eigenvalue cut-off of 1.0 or higher. Factor loadings of at least +0.40 were considered meaningful, consistent with Kaiser’s (1958) recommendations. Varimax rotation was applied to determine the underlying latent constructs. This process allowed the researchers to identify the structural dimensions influencing youth electoral participation.

Ethical Considerations

Before interviewing all the respondents, they were informed about the objectives and methods of the study. They maintained their rights as responses were confidential meaning privacy and anonymity. The identities of the youths were not related with any political activity. Participation was not forced or pressured as it ensured that the choices taken by the participants were free and voluntary. There were strict ethical guidelines considered that encouraged fair playing as well as inspired the respondents to be responsible throughout the study process. These guidelines guaranteed that participants were comfortable and esteemed during the procedure. Through these codes of conduct, the study maximized trust, integrity, and credibility in data collection process, and the welfare, rights, and dignity of the entire youth respondents involved.

RESULTS

Findings of Qualitative Phase

The in-depth interview (IDI) provided qualitative insights into the factors influencing youth participation in the Sangguniang Kabataan (SK) elections. Eight transcripts were analyzed, resulting in forty-two key statements reflecting personal, social, and institutional experiences of young voters. These statements were organized as indicators of SK electoral participation (Table 2) and summarized into five broad dimensions highlighting common themes and features that shape youth involvement in the electoral process.

Table 2
Conceptual Themes of Youth Participation in Sangguniang Kabataan Elections

Conceptual Themes of Youth Participation in Sangguniang Kabataan Elections	
1.	There is a clear promotion of youth voices in local governance.
2.	There is an opportunity to contribute to shaping the future of my barangay.
3.	It allows the youth to influence leadership decisions.
4.	It gives meaning to my civic responsibilities.
5.	There is a space for meaningful democratic engagement among the youth.
6.	It shows my commitment to being a responsible citizen.
7.	There is a belief that my vote can make a significant impact on the community.
8.	There is a sense of political empowerment gained from participating in elections.
9.	I have a strong interest in the outcomes of SK elections.
10.	I believe young people have the capacity to lead effectively.
11.	I feel responsible for promoting good governance by voting.
12.	I am aware of the qualifications of SK candidates before voting.
13.	There is an opportunity to learn about the importance of voting through seminars and other educational activities.
14.	There is encouragement from my family to participate in the SK elections.
15.	There is motivation from community leaders to engage in the electoral process.

16. There is influence from my peers to be politically active.
 17. There is support from youth organizations in my barangay.
 18. There is a strong sense of community when engaging in electoral activities.
 19. There is inspiration to become a future leader by participating in elections.
 20. There is a belief that voting is an act of service to my community.
 21. There is a personal interest in running for the SK office in the future.
 22. There is an opportunity to contribute to the development of my barangay.
 23. There is fulfillment in participating in youth civic activities.
 24. There is the belief that civic duty should be instilled from an early age.
 25. There is a rising awareness about the importance of elections, strengthening youth engagement.
 26. I can contribute to strengthening trust in the electoral system by voting.
 27. Accurate information empowers youth to participate actively in elections.
 28. An increasingly responsive SK system addresses real youth concerns.
 29. There is improved financial support that enables more youth to run for office.
 30. There is a connection between my community experiences and my interest in politics.
 31. There is motivation to vote based on the positive impact of previous SK initiatives.
 32. There is inspiration drawn from witnessing youth leaders create meaningful change.
 33. There is growing involvement after attending community meetings or forums.
 34. There is increased trust in SK elections due to positive campaign experiences.
 35. There is a notable role for digital campaigns in raising awareness about voting.
 36. Vote manipulation can be prevented with greater youth participation in elections.
 37. There is a belief that SK elections should be managed more professionally.
 38. There is measurable improvement in governance within the barangay as a result of my participation.
 39. There is evidence that youth engagement leads to better barangay programs.
 40. There is potential for real community change when the right youth leaders are elected.
 41. There is a significant contribution from SK officials to youth development projects.
 42. There is greater inclusivity in local governance due to higher youth participation.
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Findings of Quantitative Phase

Statistical measures confirmed the suitability of treating electoral participation as a construct for factor analysis. The study used the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett's test of sphericity, eigenvalues analysis, Cattell's scree plot, and principal component analysis (PCA) with a rotated component matrix. These methods together empirically verified the factorability of the 42 variables related to youth electoral participation.

The KMO measure yielded a value of .945 (Table 3), which Kaiser (1960) classifies as "marvelous." This indicates that the variance among the survey items is sufficiently high, partial correlations are minimal, and the dataset is well-suited to identify underlying latent structures through factor analysis.

Table 3*KMO and Bartlett's Test*

Measures		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.945
Bartlett's Test of Sphericity	Approx. Chi-Square	10253.114
	Df	861
	Sig.	.000

Bartlett's Test of Sphericity produced a highly significant result (Chi-Square = 10,253.114, df = 861, $p < .001$), indicating that the correlation matrix is not an identity matrix and the variables are sufficiently interrelated for factor extraction. These results confirm the factorability of the dataset and support conducting exploratory factor analysis (EFA) on the 42 items measuring youth electoral participation.

Using the latent roots criterion (eigenvalues > 1.0), five factors were extracted (Table 4) based on the Kaiser criterion (Kaiser, 1960). The first factor had an eigenvalue of 24.464, explaining 58.247% of the total variance. Factor 2 had an eigenvalue of 2.221 (5.288% variance), Factor 3 = 1.471 (3.502%), Factor 4 = 1.149 (2.737%), and Factor 5 = 1.139 (2.712%). These results indicate that a substantial portion of variance is accounted for by the first dominant construct, with the remaining factors contributing incrementally, supporting the identification of interpretable and reliable latent dimensions.

Table 4*Latent Roots Criterion*

	Eigenvalues	Proportion Variance	Cumulative Variance
Factor 1	24.464	58.247	58.247
Factor 2	2.221	5.288	63.534
Factor 3	1.471	3.502	67.037
Factor 4	1.149	2.737	69.774
Factor 5	1.139	2.712	72.485

Cumulatively, the five factors accounted for 72.485% of the total variance, exceeding the commonly recommended 60% threshold for exploratory factor analysis in social sciences (Tabachnick & Fidell, 2013). This indicates a strong factor solution with sufficient explanatory power and construct validity. Factor 1, with the largest share of variance, likely represents intrinsic motivational and attitudinal dimensions of electoral participation, encompassing civic engagement, youth voice in governance, and democratic participation.

The remaining factors capture additional meaningful dimensions: Factor 2 reflects structural or informational enablers such as voter education and access to electoral platforms; Factor 3 represents leadership aspirations and role modeling; Factor 4 embodies community

and peer influences; and Factor 5 signifies institutional trust and perceptions of governance outcomes (Torney-Purta et al., 2001).

These findings align with existing literature on political socialization and youth civic engagement, highlighting the importance of civic efficacy, access to information, community support, and trust in institutions as predictors of youth electoral behavior (Flanagan & Levine, 2010). They underscore the need for responsive frameworks like the Sangguniang Kabataan to cultivate political consciousness and meaningful participation.

Catell's Scree Plot. The scree plot shown in Figure 3 is the result of principal component analysis executed on the 42-item scale meant to explore factors that affect electoral participation in the Sangguniang Kabataan (SK) election. It is this graphical pictorial display of the eigenvalues versus the number of components that is used in determining the optimal number of components to retain. As shown in the figure, there is a distinct inflection point or "elbow" occurring between the fifth and sixth components, indicating a natural break in the data. This graphical pattern supports the retention of five components, which is consistent with the findings from the latent root criterion (Table 4), where five components had eigenvalues greater than 1.0

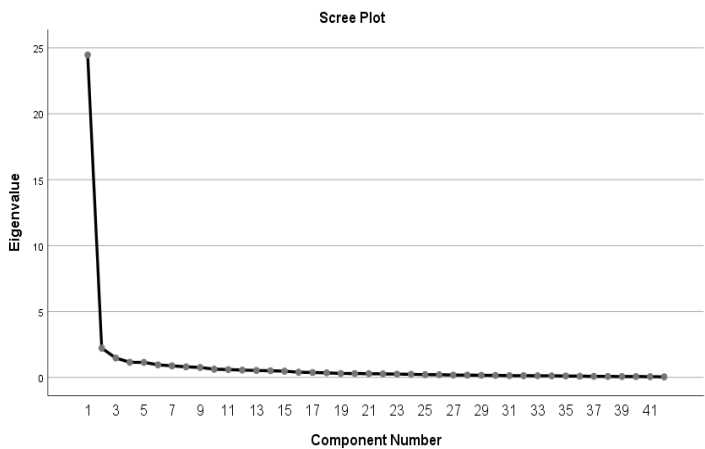


Figure 3. Catell's Scree Plot

The steep drop in eigenvalues after the first component, from approximately 24.464 to just above two, followed by a gradual leveling off, indicates that the first five components account for most of the variance, while subsequent factors contribute minimally and may reflect random error or less interpretable dimensions (Cattell, 1966). The scree test, as proposed by Cattell (1966), is a reliable method for determining the number of factors to retain, especially when used alongside the Kaiser criterion, reinforcing the five-factor solution.

Retaining five factors aligns with psychometric best practices that balance parsimony and interpretability (Costello & Osborne, 2005). These factors likely correspond to civic motivation, community influence, access to electoral information, leadership aspirations, and institutional trust.

The Rotated Component Matrix (Table 5), obtained using Varimax rotation with Kaiser normalization, shows the factor loadings of each item on the five components. Only loadings above 0.50 were interpreted, consistent with standard guidelines (Tabachnick & Fidell, 2013), confirming the multidimensional structure of youth electoral participation.

Table 5
Rotated Component Matrix for the Dimension of Electoral Participation in Sangguniang Kabataan Election

Item Number	Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5
39	0.829				
40	0.768				
37	0.761				
42	0.75				
41	0.689				
8	0.487				
21		0.767			
19		0.627			
17		0.621			
14		0.62			
28		0.544			
1			0.754		
2			0.749		
5			0.697		
3			0.618		
11				0.684	
10				0.56	
26				0.532	
20					0.762
18					0.618
30					0.591

The rotated solution demonstrates construct validity and conceptual coherence, confirming the multidimensional nature of electoral participation among Filipino youth. Each factor exhibits thematic unity, with no significant cross-loadings above 0.40, thus supporting discriminant validity among constructs (Costello & Osborne, 2005). These results support the continued use and further refinement of the survey instrument to assess youth participation and inform SK electoral reforms.

Dimension 1: Perceived Institutional Effectiveness. This yielded six items from the factor extraction process. The coefficient pattern for these items ranges from 0.487 to 0.829, as

shown in Table 6. This variation reflects a cohesive yet multi-faceted grouping of indicators that collectively highlight the perceived effectiveness and democratic responsiveness of SK institutions. The high loading values suggest meaningful contributions from each item to the construct, affirming the internal consistency of the dimension. Notably, Item 8 posted the lowest coefficient loading at 0.487, while Item 39 reached the highest at 0.829. Nevertheless, all loadings exceed the minimum threshold of ± 0.40 , indicating statistical adequacy and conceptual alignment.

Table 6
Constructs and Loadings under Dimension 1

Dimension	Description	Items	Constructs	Loadings
Perceived Institutional Effectiveness	<i>It revolves around how youth perceive the SK's institutional impact, particularly in areas of program quality, inclusivity, and leadership accountability.</i>	39	There is evidence that youth engagement leads to better barangay programs.	0.829
		40	There is potential for real community change when the right youth leaders are elected.	0.768
		37	There is a belief that SK elections should be managed more professionally.	0.761
		42	There is greater inclusivity in local governance due to higher youth participation.	0.75
		41	There is a significant contribution from SK officials to youth development projects.	0.689
		8	There is a sense of political empowerment gained from participating in elections.	0.487

These items reflect the sentiment that youth participation in governance results in tangible community outcomes. The presence of Item 8, which touches on political empowerment, further emphasizes that electoral engagement among youth is seen not as tokenistic but as substantively impactful, which is supported by Gaventa's (2006) framework on participatory governance and civic agency. The consistently high factor loadings in this dimension reinforce the idea that youth empowerment and civic efficacy are crucial drivers of SK electoral participation. This affirms the findings of Flanagan and Levine (2010), who observed that young individuals are more likely to sustain political involvement when their participation yields observable and meaningful change in their communities.

Table 7
Constructs and Loadings under Dimension 2

Dimension	Description	Items	Constructs	Loadings
Youth Leadership Motivation	<i>It encapsulates how leadership aspirations and external encouragement from families, peer groups, and youth organizations influence young people to either vote or run for SK office.</i>	21	There is a personal interest in running for the SK office in the future	0.767
		19	There is inspiration to become a future leader by participating in elections	0.627
		17	There is support from youth organizations in my barangay.	0.621
		14	There is encouragement from my family to participate in the SK elections	0.62
		28	An increasingly responsive SK system addresses real youth concerns.	0.544

The findings illustrate that when youth perceive clear pathways to leadership and receive positive reinforcement from their social environments, their civic motivations are strengthened. This aligns with Bandura's (2001) social cognitive theory, which argues that self-efficacy, when nurtured through supportive contexts, increases the likelihood of intentional civic actions. Moreover, this factor supports the social context model of political behavior (Verba et al., 1995), which posits that political engagement is significantly shaped by an individual's embeddedness in affirming social networks. The convergence of leadership ambition with social motivation underscores the role of collective validation in sustaining youth participation in democratic processes.

Dimension 3: Civic Voice. This dimension comprises four items with factor loadings ranging from 0.618 to 0.754, as detailed in Table 8. The highest coefficient was recorded in Item 1 (0.754), followed closely by Item 2 (0.749), while Item 3 had the lowest at 0.618. All items surpass the acceptable threshold of ±0.40, reflecting strong statistical significance and alignment with the construct. These loadings indicate a consistent and coherent pattern related to youth perceptions of civic participation, voice, and influence in governance.

The themes represented here resonate with the normative ideals of participatory democracy, where elections are viewed not merely as symbolic exercises but as active venues for deliberative inclusion (Dahl, 1998). This factor also ties into the framework of political socialization, which explains how individuals develop civic attitudes and identities, especially during adolescence (Torney-Purta et al., 2001). The responses suggest that SK elections play a formative role in nurturing civic responsibility, as young people begin to see themselves as

active agents capable of influencing leadership and governance decisions. The consistent loading of items on this component affirms the internal coherence of the construct and highlights the importance of democratic voice in youth political engagement.

Table 8
Constructs and Loadings under Dimension 3

Dimension	Description	Items	Constructs	Loadings
Civic Voice	<i>It reflects a shared belief among youth that electoral participation, particularly in the SK context, is a legitimate platform for expressing concerns, contributing to decisions, and shaping the trajectory of their communities.</i>	1	There is a clear promotion of youth voices in local governance	0.754
		2	There is an opportunity to contribute to shaping the future of my barangay.	0.749
		5	There is a space for meaningful democratic engagement among the youth.	0.697
		3	It allows the youth to influence leadership decisions.	0.618

Dimension 4: Civic Responsibility. This dimension was defined by three items with factor loadings ranging from 0.532 to 0.684, as outlined in Table 9. The highest loading emerged from Item 11 (0.684), followed by Item 10 (0.560) and Item 26 (0.532). Despite the smaller number of items, the loadings indicate a cohesive pattern centered on internalized civic responsibility and institutional trust, with all coefficients exceeding the ±0.40 threshold for statistical significance.

Table 9
Constructs and Loadings under Dimension 4

Dimension	Description	Items	Constructs	Loadings
Civic Responsibility	<i>It reflects normative attitudes that frame voting as both a moral obligation and a means of reinforcing public trust in democratic institutions.</i>	11	I feel responsible for promoting good governance by voting.	0.684
		10	I believe young people have the capacity to lead effectively.	0.560
		26	I can contribute to strengthening trust in the electoral system by voting.	0.532

The sentiments captured in this dimension suggest that for many youth, electoral participation is not just strategic or interest-based but deeply rooted in a sense of ethical responsibility and institutional faith. This highlights the importance of strengthening civic education and public trust as foundational elements in cultivating an engaged and accountable electorate.

Table 10
Constructs and Loadings under Dimension 5

Dimension	Description	Items	Constructs	Loadings
Community Attachment	<i>It emphasized an emotional and experiential bond between the youth and their local communities.</i>	20	There is a belief that voting is an act of service to my community.	0.762
		18	There is a strong sense of community when engaging in electoral activities.	0.618
		30	There is a connection between my community experiences and my interest in politics	0.591

Dimension 5: Community Attachment. This final dimension emerged from three items with factor loadings ranging from 0.591 to 0.762, as detailed in Table 10. Item 20 had the highest loading at 0.762, followed by Item 18 (0.618) and Item 30 (0.591). While this component includes fewer items, its statistically significant loadings indicate a robust conceptual alignment, highlighting how youth participation in elections is shaped by community attachment and civic-minded service.

Youth respondents expressed that participating in SK elections is not just a political act but a form of community service, rooted in solidarity and shared local experiences. This perspective aligns with communitarian theories of civic life (Etzioni, 1993), which posit that civic engagement is strengthened by collective identity and moral obligations to the community.

Furthermore, this dimension resonates with place-based models of civic participation (Checkoway & Aldana, 2013), which emphasize the role of localized experiences in fostering youth political involvement. The presence of this factor suggests that personal identification with the barangay and a sense of belonging are key motivators for electoral participation, particularly when voting is seen as a means to uphold and contribute to community well-being.

DISCUSSION

Framework for Dimensions of Electoral Participation

Figure 4 illustrates the framework of this study. The exploratory factor analysis identified five key dimensions influencing electoral participation in the Sangguniang Kabataan Election. These dimensions are (1) Perceived Institutional Effectiveness, (2) Youth Leadership Motivation, (3) Civic Voice, (4) Civic Responsibility, and (5) Community Attachment. These factors explain why employees in local government contemplate leaving their positions.

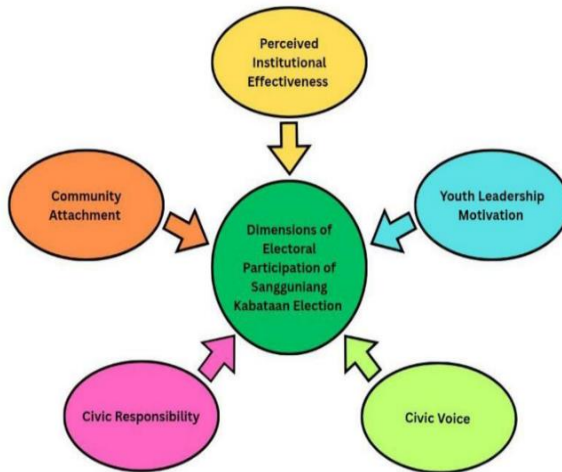


Figure 4. The Framework of Dimensions of Electoral Participation

Dimension 1: Perceived Institutional Effectiveness. Perceived Institutional Effectiveness is key in local governance. When institutions are seen as ineffective or unaccountable, many young people disengage, avoiding the Sangguniang Kabataan (SK) elections. They believe involvement will not produce measurable change. Youth apathy is reinforced by weak governance where poor service delivery and lack of transparency persist.

This dimension aligns with the Civic Volunteerism Model (CVM), which holds that individuals who view institutions as trustworthy and responsive are more likely to participate. When young people observe government programs addressing urgent needs such as disaster preparedness and healthcare, they gain confidence that their voices and efforts can bring improvements. Perceived effectiveness builds trust and motivation for civic engagement.

Balanon (2005) argues that meaningful youth involvement fosters civic responsibility and institutional trust. Yet many local government units still fail to institutionalize mechanisms such as the Local Youth Development Councils (LYDCs), mandated to engage youth in planning (Flores et al., 2022). Weak institutional support reinforces the belief that politics is

closed to innovation and leadership. The rebuilding of youth confidence in the political framework will hinge on reforms in governance, continued investment in youth involvement, and the institutionalization of youth input in the formulation of responsive public policy.

Dimension 2: Youth Leadership Motivation. Youth leadership motivation results from the interaction of internal motives and external influences. Internal factors include personal values and leadership role models, while external determinants involve community influence and available resources. When young people feel supported and guided, they are more likely to assume formal roles such as positions in the Sangguniang Kabataan (SK). Conversely, limited mentorship, political education, and inclusive spaces restrict their leadership aspirations.

The Civic Volunteerism Model (CVM) highlights psychological involvement as essential, and youth motivation reflects this. Although external factors such as campaigns or political events can spark engagement, long-term motivation is shaped internally through values, beliefs, and exposure to supportive environments. Youth who grow up in communities where civic involvement is modeled by parents, schools, youth leaders, or mentors develop a stronger sense of purpose and responsibility. This drives them to volunteer, lead school or barangay activities, or participate in governance programs like SK elections.

Santos and Dela Cruz (2024) stress that mentorship and community inclusion build leadership confidence, enabling youth to pursue leadership roles. The International Institute for Democracy and Electoral Assistance (2020), likewise, underscores that youth engagement strengthens democratic participation and civic values. However, without accessible platforms and institutional support, many motivated youths hesitate due to fears of tokenism and limited opportunities. Strengthening collaboration among schools, civil society, and government is essential to nurture meaningful youth leadership.

Dimension 3: Civic Voice. The findings highlight that youth respondents view the SK elections as an important platform for expressing concerns, participating in decision-making, and influencing community direction. This aligns with Dahl's (1998) principle that democracy requires substantive discussion, and the SK elections provide a legitimate channel for youth to engage in governance and develop a sense of collective responsibility. Verba et al. (1995) further argue that political participation extends beyond voting to include discussions and involvement in community decisions, which the SK elections make possible.

The Civic Volunteerism Model (CVM) emphasizes civic voice, which involves expressing opinions, questioning institutions, and holding leaders accountable. Civic voice develops through experiences such as attending forums or joining youth groups and encourages the transition from passive to active participation.

Digital governance tools also enhance participation. Lagura (2017) notes that these tools improve access to information and support youth engagement, while Boulianne (2015) finds that digital media reduces participation barriers and creates new spaces for political discussion. Social media enables youth to influence decisions and promote transparency.

Lagura (2025) similarly shows that LGU e-governance platforms strengthen civic voice, accountability, and youth involvement in local governance.

Dimension 4. Civic Responsibility. Civic responsibility is essential to an active democracy. Responsive governance, where institutions listen and act on citizen concerns, strengthens participation. When people see their votes and voices recognized, their sense of civic duty and trust in government increases. Social capital, closely tied to civic responsibility, refers to networks, shared norms, and trust that promote collective action for the common good. Civic responsibility develops in environments where cooperation and reciprocity are evident. Youth involved in school or organizational groups experience collective responsibility firsthand, learning how activities such as volunteering, attending consultations, and voting contribute to broader societal goals. Participation in barangay SK elections demonstrates youth civic responsibility and their readiness to influence community development.

Civic responsibility also includes commitment to voting, civic discussions, and community decision-making. Campbell (2006) explains that civic duty is learned through socialization, trust in institutions, and positive participation experiences, which thrive when the government is responsive. Electoral trust, the belief that elections are fair and produce accountable leaders, is strengthened by clean procedures and official responsiveness (Norris, 2014). Levi and Stoker (2000) similarly argue that trust grows from performance and results. Public consultations, participatory budgeting, and digital civic platforms sustain engagement between elections.

Dimension 5. Community Attachment. Political participation is significant to the youth's identity and sense of belonging. Their involvement in the Sangguniang Kabataan (SK) elections is driven not only by civic duty but also by emotional and experiential ties to their barangay. Youth view participation as service and solidarity, affirming their role in shaping the community. High levels of community membership strengthen belonging, which supports long-term civic engagement and contributes to Social Capital. When youth feel included and recognized as part of the community, they are motivated to invest time and effort into building a caring and active environment. Daily interactions, local events, and cultural or sports activities help create identity and discourage disengagement. This sense of belonging fuels motivation to vote, participate in discussions, or volunteer, as youth who are proud of their barangay join SK efforts out of genuine interest in its growth.

This dimension is based on communitarian perspectives, where collective identity and social connectedness amplify civic responsibility. The barangay is a political and cultural environment in which people can form emotional attachment and sense of belonging that can facilitate active engagement. Research has shown that community attachment enhances civic responsibility by enhancing the strength of shared values, trust, and identity (Dang et al., 2022). In addition, emotionally engaged youth are more willing to participate in civic and political life, since the strength of social bonds has a strong impact on participation (Ballard et al., 2019). Participation in SK elections becomes an opportunity to influence decisions and contribute to welfare. Service-oriented involvement in SK initiatives builds leadership skills and civic values (Catapang, 2024), fostering agency and sustained commitment to public service.

Youth participation in local governance is shaped by institutional performance, personal motivation, emotional connection, and trust in democratic processes. Young people are more likely to engage when their involvement produces tangible change. Motivation stems not only from recognition or leadership aspirations but also from a sense of responsibility and the desire to contribute to their communities. Participation is most meaningful when youth feel included, heard, and supported by accountable systems that respond to their expectations.

Conversely, institutional failures and elections that ignore youth voices reduce credibility and trust, discouraging engagement. When young people perceive that their input is unacknowledged, they may regard politics as irrelevant or inaccessible. In contrast, those who feel a strong connection and belonging to their community participate because it aligns with their identity and values.

Civic action requires an enabling environment in which governance is participatory, leadership is promoted, communication is open, and all feel they contribute. Such environments foster active, empowered citizens who view governance not as distant or abstract but as a shared responsibility. When youth are included meaningfully, civic engagement becomes a pathway for developing committed and service-oriented members of society, who see their participation as both impactful and integral to their identity.

Although these five dimensions are distinct, they interact in meaningful ways, forming a complex network that sustains youth civic engagement. A young person with strong Community Attachment (Dang et al., 2022; Ballard et al., 2019) may assume civic responsibilities driven by belonging and shared identity, which reinforces Youth Leadership Motivation (Santos & Dela Cruz, 2024) and encourages participation in volunteering, advocacy, or voting. Motivation alone is insufficient without confidence that actions are impactful, highlighting the role of Perceived Institutional Effectiveness (Balanon, 2005; Flores et al., 2022). Responsive and trustworthy institutions empower youth to assert Civic Voice (CVM), knowing their perspectives are valued, while ineffective institutions disrupt engagement.

Thus, the dimensions reinforce each other in a self-sustaining system. Holistic strategies that address multiple dimensions simultaneously are crucial for fostering a deeply rooted culture of youth civic participation, ensuring engagement is consistent, meaningful, and long-lasting.

Conclusion

This study examines the causal sources driving the target reality that youth voters contribute to electoral participation in the Sangguniang Kabataan (SK) elections in Panabo City using an exploratory sequential mixed-methods design. The study started with the qualitative interviews, which provided in-depth, personal information to the young interviewees. The above findings were then used to derive the structured survey, which was applied in the quantitative component to statistically prove conclusions in the central motivators of youth engagement.

Based on the data, five core dimensions were identified as key to interpreting youth in the electoral political process: Perceived Institutional Effectiveness; Youth Leadership

Motivation; Civic Voice; Civic Responsibility and Community Attachment. These dimensions, in concert, portray a broad variety of how and why youth are motivated and their experiences in that, whether involving individual ambition and democratic citizenship, or institutional confidence and a strong emotional attachment to their communities.

The qualitative results indicated the existence of diverse civic experiences and expectations among young people, which were later verified and confirmed by the application of exploratory factor analysis (EFA) in the quantitative stage. Of great importance, the findings indicate that youth engagement is not motivated only by leadership aspiration or confidence in political governance. Instead, a great feeling of devotion and belonging to the community is another vital factor. These findings confirm the need to study electoral activities in a multidimensional way and not to focus on demographic criteria.

The research was grounded on two major theories, namely the Civic Voluntarism Model and Social Capital Theory. Such models offered the basis of carrying out an inquiry into the role of access to civic resources, psychological preparedness, and community-based networks in fostering youth engagement. The results indicate that enhancing these spheres by responsive institutions, participatory platforms of the youth, and conducive civic cultures can significantly increase participation in local democratic activities.

In addition to adding to the local discourse, this study fills a very interesting gap in the literature relative to youth involvement in municipality barangay-level elections in the Philippines. While global studies on youth political engagement offer valuable insights, this study adds a localized perspective, grounding those broader concepts in the specific context of Philippine grassroots governance. The findings not only affirm trends seen in international literature but also highlight the unique experiences and challenges faced by Filipino youth in participating meaningfully in governance at the community level.

The study's framework and dimensions found in this study are essential for future program implementation and policy development that aims to increase youth participation. It also acts as a basis for a confirmed mixed-methods study, in which a larger and more varied youth population from different cities or regions can be used to test and further refine these validated dimensions.

Recommendations

The following recommendations were formulated based on the study's findings and conclusions, grounded in social capital theory, which emphasizes the importance of trust, networks, and shared norms in fostering civic engagement and collective action.

Local Government Units (LGUs). Findings can guide LGUs to institutionalize sustainable, youth-inclusive projects that build trust and civic accountability. Youth consultation frameworks and electoral structures should ensure genuine participation rather than merely appearing compliant (Gabriel et al., 2019).

For the SK and LYDC (Local Youth Development Council). Youth organizations are encouraged to implement leadership and mentorship programs to develop aspiring leaders.

When given real opportunities in locally owned governance, youth gain confidence, civic spirit, and a commitment to public service (Reguindin, 2023).

For Human Resource and Youth Affairs Offices. Strengthening civic education and inclusive democratic forums raises youth awareness of governance and voting. Feeling informed and heard increases participation in decision-making processes.

For Community-Based Organizations and Schools. Localized civic engagements, volunteer work, and peer-led projects strengthen community attachment. Emotional ties to the barangay foster youth participation, a sense of belonging, and shared responsibility. Programs like PAGPAKANUG model leadership development and civic duty.

For COMELEC and Policy Makers. Policies should streamline and digitalize SK registration and election information, improving accessibility and engagement (Anzar et al., 2024).

Policy Recommendation. A systematic youth participation framework for LGUs should ensure continuity, inclusivity, and authentic youth voice, emulating DILG and CSC merit-based election processes.

The following recommendations are developed from the study's findings and conclusions and rooted in Social Capital Theory, which focuses on how trust, networks, and shared norms can help to support civic engagement and collective action.

To enhance the participation of youth in strengthening trust, civic accountability, leadership development, mentorship, civic education, and meaningful involvement in local governance, sustainable and youth-inclusive programs should be implemented. Youth are given chances to participate in decision-making processes, which enhances their confidence, involvement in civic responsibilities, and commitment to public service (Gabriel et al., 2019).

In addition, policies should facilitate youth inclusion in electoral processes by simplifying and digitalizing electoral registration and electoral information, as well as ensuring continuities and inclusivity in citizen youth participation systems.

Further research should replicate the measures of youth electoral involvement through Confirmatory factor analysis and validate youth electoral participation dimensions, while mixed-methods approaches improve reliability and instrument standardization across regions. Additionally, future research is advised to explore and examine the challenges LGUs and COMELEC face in using technology to digitize elections and sustain youth mentorship programs. This can guide the development of equitable, credible, and inclusive digital electoral processes. Researchers could also explore collaborations between COMELEC, NGOs, and educational institutions to support initiatives like PAGPAKANUG, ensuring youth leaders are trained, guided, and actively involved in civic engagement for long-term impact.

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REFERENCES

- Alanazi, A. G. (2025). Digital voting and democratic culture: Examining how technology shapes electoral participation in the United States. *Journal of Cultural Analysis and Social Change*, 10(4), 1409–1418. <https://jcascc.com/index.php/jcascc/article/view/3025/1056>
- Anzar, M., Hasbullah, H., & Asraf, I. (2024). The influence of digital literacy on citizen engagement and participation in e-government services for inclusive digital governance. *Journal Social Civilecial*, 2(2), 87–98. <https://doi.org/10.71435/610495>
- Atanoza-Megriño, M. G. (2024). *Empowering the future: The Sangguniang Kabataan's role in shaping the lives of young Filipinos*. <https://doi.org/10.69569/jip.2024.0242>
- Balanon, L. G., Ong, M., Corpuz, J., & Paat, M. (2005). *The impact of youth participation in the local government process: The Sangguniang Kabataan experience*. UNICEF Manila and University of the Philippines Center for Integrative and Development Studies.
- Ballard, P. J., Hoyt, L. T., & Pachucki, M. C. (2019). Impacts of adolescent and young adult civic engagement on health and socioeconomic outcomes. *Journal of Youth and Adolescence*. <https://kids.uconn.edu/wp-content/uploads/sites/854/2018/03/cdev12998.pdf>
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26. <https://doi.org/10.1146/annurev.psych.52.1.1>

- Boulianne, S. (2015). Social media use and participation: A meta-analysis of current research. *Information, Communication & Society*, 18(5), 524–538. <https://doi.org/10.1080/1369118X.2015.1008542>
- Branum, C. (2019). *Qualitative research guide*. Gonzaga University. <https://researchguides.gonzaga.edu/qualitative/mixed-methodss>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Campbell, D. E. (2006). *Why we vote: How schools and communities shape our civic life*. Princeton University Press.
- Catapang, A. D. C. (2024). Youth participation on the holistic development and leadership skills of Sangguniang Kabataan. *International Journal of Research Publications*, 149(1), 822–841. <https://doi.org/10.47119/IJRP1001491520246526>
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1(2), 245–276. https://doi.org/10.1207/s15327906mbr0102_10
- Checkoway, B., & Aldana, A. (2013). Four forms of youth civic engagement for diverse democracy. *Children and Youth Services Review*, 35(11), 1894–1899. <https://doi.org/10.1016/j.childyouth.2013.09.005>
- Commission on Elections. (2023). Youth comprises a majority of 1.6M new voters. *Philippine News Agency*. <https://www.pna.gov.ph/articles/119399>
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, 10(7), 1–9. <https://doi.org/10.7275/jyj1-4868>
- Dahl, R. A. (1998). *On democracy*. Yale University Press.
- Dang, L., Seemann, A.-K., Lindenmeier, J., & Saliterer, I. (2022). Explaining civic engagement: The role of neighborhood ties, place attachment, and civic responsibility. *Journal of Community Psychology*, 50(3), 1736–1755. <https://doi.org/10.1002/jcop.22751>
- De Winter, J., Dodou, D., & Wieringa, P. (2009). Exploratory factor analysis with small sample sizes. *Multivariate Behavioral Research*, 44(2), 147–181. <https://doi.org/10.1080/00273170902794206>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>

- Etzioni, A. (1993). *The spirit of community: Rights, responsibilities, and the communitarian agenda*. Crown Publishers.
- Flanagan, C., & Levine, P. (2010). Civic engagement and the transition to adulthood. *The Future of Children*, 20(1), 159–179. <https://doi.org/10.1353/foc.0.0043>
- Flores, J., Mendoza, R. U., & Pano, R. A. (2021). *Advancing youth governance in the Philippines* (ASOG Working Paper No. 21-007). Ateneo de Manila University School of Government. <https://doi.org/10.2139/ssrn.3779023>
- Flores, L. G., III, Ballar, K. J. D., Yap, J. K., & Deinla, I. B. (2022). *Youth political participation and governance in the Philippines: 5 years since the ratification of the Sangguniang Kabataan (SK) Reform Law* (ASOG Working Paper 22-003). Ateneo Policy Center, Ateneo de Manila University. <https://doi.org/10.2139/ssrn.4024887>
- Gabriel, A. G., Antonio, M. A. B., Ramos, V. B., & Marasigan, J. T. (2019). Transparency and accountability in local governance: The nexus between democracy and public service delivery in the Philippines. *Public Policy and Administration Research*, 9(7), 30–36. <https://doi.org/10.7176/PPAR/9-7-04>
- Gaventa, J. (2006). Finding the spaces for change: A power analysis. *IDS Bulletin*, 37(6), 23–33.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- International Foundation for Electoral Systems. (2025). *Understanding young people's political and civic engagement as a global learning agenda*. <https://www.ifes.org/sites/default/files/2025-01/Youth%20Learning%20Agenda%20Report%202025.pdf>
- International Institute for Democracy and Electoral Assistance. (2020). *Democracy Talks in Manila: The Role of Youth Voices in Democracy*. International IDEA. <https://www.idea.int/publications/catalogue/democracy-talks-manila-role-youth-voices-democracy>
- Kaiser, H. F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 23(3), 187–200. <https://doi.org/10.1007/BF02289233>
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141–151. <https://doi.org/10.1177/001316446002000116>

- Lagura, G. B. (2017). E-governance in Davao Region: An assessment of city government websites. *Journal of Public Administration and Governance*, 7(3), 1–15. <https://doi.org/10.5296/jpag.v7i3.11515>
- Lagura, G. B. (2025). Towards digital governance divide index development: Evaluating city government websites in the Philippines. *Journal of Community Development Research (Humanities and Social Sciences)*, 18(1), 1–17. <https://doi.org/10.69650/jcdrhs.2025.715>
- Levi, M., & Stoker, L. (2000). Political trust and trustworthiness. *Annual Review of Political Science*, 3, 475–507. <https://doi.org/10.1146/annurev.polisci.3.1.475>
- Mascara, A. (2024). *Development contributions of Sangguniang Kabataan officials*. <https://doi.org/10.69569/jip.2024.0018>
- Norris, P. (2014). *Why electoral integrity matters*. Cambridge University Press. <https://doi.org/10.1017/cbo9781107280861>
- Open Space Centre. (2025). *Empowered voices? Youth participation in electoral processes*. <https://openspaceyouth.org/wp-content/uploads/2025/03/OPEN-SPACE-RESEARCH-REPORT-YOUTH-PARTICIPATION-IN-ELECTORAL-PROCESSES.pdf>
- Organisation for Economic Co-operation and Development. (2025, June 18). Youth representation in politics. In *Government at a glance 2025*. https://www.oecd.org/en/publications/2025/06/government-at-a-glance-2025_70e14c6c/full-report/youth-representation-in-politics_dfc55f4e.html
- Patel, P., & Moitra, M. (2021). Impact of COVID-19 pandemic on mental health in India: A call for research. *Asian Journal of Psychiatry*, 58, 102600. <https://doi.org/10.1016/j.ajp.2021.102600>
- Philippine Statistics Authority. (2020). *2020 Census of Population and Housing (2020 CPH): Population counts declared official by the President*. <https://psa.gov.ph/content/2020-census-population-and-housing-2020-cph-population-counts-declared-official-president>
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), 65–78.
- Reguindin, J. C. (2023). Lived experiences of Filipino young leaders on participation in community development in a municipality in Northern Negros Occidental. *The QUEST: Journal of Multidisciplinary Research and Development*, 2(1). <https://doi.org/10.60008/thequest.v2i1.77>

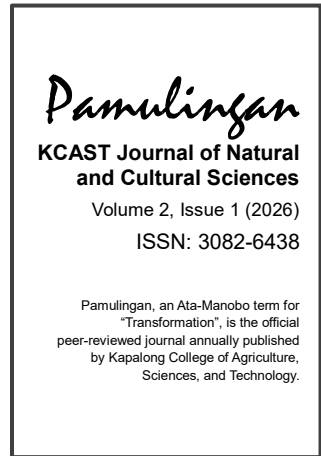
- Santos, M. C., & Dela Cruz, F. A. (2024). *The untold stories of school heads handling integrated senior high schools*. <https://www.ijfmr.com/papers/2024/4/25425.pdf>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Torney-Purta, J., Lehmann, R., Oswald, H., & Schulz, W. (2001). *Citizenship and education in twenty-eight countries: Civic knowledge and engagement at age fourteen*. International Association for the Evaluation of Educational Achievement.
- University of California, Davis. (2024). *Identifying and reducing voting barriers for young people*. <https://uccs.ucdavis.edu/sites/g/files/dgvnsk12071/files/inline-files/White%20Paper%202024%20FINAL.pdf>
- University of the Philippines Population Institute. (2022). *YAFS5 highlights*. <https://www.uppi.upd.edu.ph/news/2022/yafs5-youth-votes>
- Verba, S., Schlozman, K. L., & Brady, H. E. (1995). *Voice and equality: Civic voluntarism in American politics*. Harvard University Press.
- Watkins, M. W. (2021). *A step-by-step guide to exploratory factor analysis with SPSS*. Routledge.
- Zhang, W. (2022). Political disengagement among youth: A comparison between 2011 and 2020. *Frontiers in Psychology*, 13, Article 809432. <https://doi.org/10.3389/fpsyg.2022.809432>

THE INFLUENCE OF SOFT SKILLS AND INTERNSHIP EXPERIENCE ON WORK READINESS AMONG MARKETING GRADUATES

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SDGs: **Goal 4 (Quality Education); Goal 8 (Decent Work and Economic Growth)**

ABSTRACT

This study examined the influence of soft skills and internship experience on work readiness among marketing graduates, highlighting the importance of preparing students to meet the demands of the professional workforce. The research aimed to determine the levels of soft skills, internship experience, and work readiness, and to assess the relationship and influence of these factors on graduates' readiness for the workplace. A quantitative descriptive correlational research design was employed to address the research objectives. Using stratified random sampling, a total of 239 Bachelor of Science in Business Administration Major in Marketing Management graduates from a local college, spanning the school years 2021 to 2025, were surveyed. Correlation analysis revealed a significant positive relationship between soft skills and work readiness, as well as between internship experience and work readiness. Regression analysis further revealed that both soft skills and internship experience significantly influenced work readiness, with internship experience having a more substantial impact. Overall, the study confirms soft skills and internships improve work readiness. Future research should explore digital skills. Schools must strengthen internships, while employers provide supportive learning environments.

Keywords: ***Internship Experience; Marketing Graduates; Soft Skills; Work Readiness; Philippines***

INTRODUCTION

Work readiness refers to graduates' preparedness to meet workplace demands; however, several studies have identified persistent gaps between academic preparation and practical competence. Magallanes (2022) found that many graduates lacked practical communication and interpersonal skills due to low engagement in classroom and extracurricular activities, leading to difficulties in collaboration and idea expression in the workplace.

Similarly, Saeed et al. (2024) reported that graduates in Sindh, Pakistan, exhibited low confidence and problem-solving abilities as a result of an education system that emphasized theoretical learning over experiential and critical thinking approaches. In the Philippines, Labitad (2025) observed that limited exposure to real-world work environments and insufficient internship opportunities weakened graduates' discipline, adaptability, and overall work readiness, despite strong academic performance.

This study addresses the growing gap between academic preparation and industry expectations in the field of marketing, where employers increasingly demand strong soft skills, critical thinking, adaptability, and relevant internship experience. Its urgency lies in the need to improve curricula that better prepare marketing graduates for dynamic work environments. Socially, the study is significant as it can guide higher education institutions in designing programs that enhance graduates' employability and overall work readiness.

The study fills a clear research gap by examining the combined influence of soft skills and internship experience on the work readiness of marketing graduates an area not fully explored in previous studies. While Magallanes (2022) emphasized student engagement, Saeed et al. (2024) explored broad determinants of work readiness, and Labitad (2025) focused on academic and on-the-job training performance, none of these studies specifically investigated how soft skills and internship experience interact to influence the work readiness of marketing graduates. Most previous studies treated these variables separately or examined different predictors of employability. By focusing on marketing graduates at Kapalong College of Agriculture, Sciences, and Technology (KCAST), the study provides localized and discipline specific evidence that contributes to a deeper understanding of graduate employability and workforce preparedness. The findings are expected to support curriculum enhancement, guide institutional planning, and contribute to the achievement of SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth) by promoting the development of competent and work-ready graduates.

The study was conducted to investigate the relationship between soft skills and internship experience on work readiness among marketing graduates. Specifically, it addressed the following:

1. To determine the level of soft skills among marketing graduates in terms of:
 - 1.1. teamwork;
 - 1.2. project management;
 - 1.3. communication skills;
 - 1.4. interpersonal skills; and
 - 1.5. problem solving.

2. To determine the level of internship experience among marketing graduates in terms of:
 - 2.1. positive internship experience;
 - 2.2. positive work environment;
 - 2.3. improved job prospects;
 - 2.4. new skills;
 - 2.5. comfort with work environment; and
 - 2.6. communication skills.
3. To determine the level of work readiness among marketing graduates in terms of:
 - 3.1. social intelligence;
 - 3.2. organizational acumen;
 - 3.3. personal characteristics; and
 - 3.4. work competence.
4. To determine the significant relationship between:
 - 4.1. soft skills on work readiness; and
 - 4.2. internship experience on work readiness.
5. To determine which variable, namely soft skills and internship experience, can significantly influence work readiness among marketing graduates.

This study is anchored on three key theories that explain how soft skills and internship experiences contribute to the work readiness of marketing graduates. First, the Human Capital Theory (Strober, 1990) posits that investments in education, skills development, and practical experience enhance an individual's productivity, employability, and economic value. Within this framework, soft skills and internship experiences are considered essential forms of human capital that prepare graduates for the demands of the workforce. Second, the Experiential Learning Theory (Kolb, 1984) emphasizes that learning is most effective when individuals acquire knowledge through direct experience, reflection, and application. Internships provide students with opportunities to bridge classroom learning and workplace practice, enabling them to develop critical soft skills, gain industry exposure, and strengthen their professional competence.

Also, the Career Readiness Theory (Parsons, 1909) highlights the importance of aligning an individual's skills, interests, and abilities with the requirements of a chosen career. In this context, soft skills enhance graduates' personal and professional competencies, while internship experiences offer valuable insights into workplace expectations and industry standards, helping them make informed career decisions. Collectively, these theories provide a strong theoretical foundation for understanding how the development of soft skills and participation in internship programs enhance the work readiness of marketing graduates and facilitate their successful transition into the professional workforce.

This study aligns with the United Nations Sustainable Development Goals, particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth), by examining how soft skills and internship experiences enhance the work readiness of marketing graduates. Grounded in Human Capital, Experiential Learning, and Career Readiness theories, the study emphasizes the development of key competencies and real-world exposure that support employability. Its findings can inform curriculum enhancement, strengthen internship programs,

and improve school industry collaboration, thereby promoting youth employment and economic inclusion in support of SDG 4 and SDG 8.

METHODOLOGY

This study has several limitations that should be considered when interpreting the findings. First, the study focuses solely on marketing graduates of Kapalong College of Agriculture, Sciences, and Technology (KCAST), which may limit the generalizability of the results to graduates from other academic programs or institutions. Second, the study relies on self-reported data gathered through survey questionnaires, which may be subject to response bias, social desirability bias, or inaccuracies in participants' perceptions. Third, the study examines only soft skills and internship experience as predictors of work-readiness and does not account for other factors that may influence employment preparedness, such as academic achievement, technical skills, socioeconomic background, or labor market conditions. Despite these limitations, the study provides valuable insights into the factors contributing to the work-readiness of marketing graduates and serves as a basis for future research in this area.

The research design used was a quantitative research design, where numerical data is gathered and measured by objective processes using methodologies such as surveys to determine trends, test hypothesis, and project conclusions (Bloomfield & Fisher, 2019). Using validated survey questionnaires and statistical analysis, the study assessed the extent to which soft skills and internship experience contribute to graduates' work-readiness and provided empirical evidence to address the research objectives.

The research also used a descriptive correlational method to define the features of the respondents and test the associations between the variables without control (Seeram, 2019). By using this approach, the researchers could establish the connection between stronger soft skills and more meaningful internship experiences and the levels of work-readiness, which can be used in academic and career development programs.

This study utilized a predictive correlation design to examine the relationships between soft skills, internship experience, and the work-readiness of marketing graduates. Using correlation and regression techniques without manipulating variables, the approach focused on identifying which predictors most strongly explain graduates' readiness for employment rather than establishing causation (Efe, 2024). This method is appropriate for determining the key competencies and experiential factors that significantly influence work-readiness among marketing graduates.

The research was carried out at the KCAST which is a community college that focuses on transformative education, leadership, and development of practical skills. KCAST offers an appropriate setting for this study because its marketing program integrates both academic instruction and internship experiences, enabling students to develop the knowledge, technical competencies, and soft skills required in the workplace. Furthermore, as the institution produces marketing graduates who have completed internship training, it provides a relevant population for examining how soft skills and internship experiences contribute to work-readiness. The

findings of this study may also provide valuable insights for the institution in enhancing its curriculum and internship programs to better prepare future graduates for professional employment.

The sample was comprised of 596 BSBA Marketing Management graduates 2022-2025. The inclusion criteria are (1) graduates of BSBA-MM from KCAST, (2) between school years 2021 to 2025, and (3) who voluntarily agree to participate in the survey. The exclusion criteria include graduates of the BSBA major in Financial Management (BSBA-FM), graduates from other schools, and those who completed their studies in the 2020 school year or earlier. This selection process ensures that only qualified respondents with relevant and recent academic and internship experiences are included in the study.

The sample of 239 respondents (40.16) was chosen based on the formula by Slovin and stratified random sampling to make it representable. The study employed stratified random sampling to ensure that all relevant subgroups within the target population were adequately represented. This sampling technique was considered appropriate because the population of marketing graduates may vary in characteristics such as graduation year, employment status, or other demographic factors that could influence work-readiness. By dividing the population into homogeneous strata and randomly selecting respondents from each group, the study minimized sampling bias and increased the representativeness of the sample. Consequently, stratified random sampling enhanced the reliability and accuracy of the findings regarding the influence of soft skills and internship experience on the work-readiness of marketing graduates.

Adapted questionnaires were used to fill in the data: Soft Skills: 25 points that comprised teamwork, communication, problem-solving, and interpersonal skills (Musa et al., 2012). In addition to that, Internship Experience: 30 questions evaluating work exposure, skill building, and job preparedness (Gupta et al., 2010). Finally, Work-Ready: 20 questions assessing social intelligence, organizational acumen, personal characteristics, and working competence (Abuhussain et al., 2021). Every instrument had a 5-point Likert scale with descriptive equivalents ranging between the terms: Very Low to Very High. Prior to administration, the adapted instruments were subjected to expert validation to ensure their relevance, clarity, and appropriateness to the context of the study.

Crafting of the Questionnaires. The data collection process of this study begins with the careful crafting of the survey questionnaire. The researchers adapted existing and validated items from previous studies, specifically the 25-item Soft Skills Questionnaire from Musa et al. (2012), the 30-item Internship Experience Questionnaire from Gupta et al. (2010), and the 20-item Work-Readiness Questionnaire from Abuhussain et al. (2021). These instruments were revised to fit the local context of the study and aligned with the research objectives.

Approval and Validation of the Questionnaires. Following the crafting of the instrument, the questionnaire was submitted to the research adviser for initial review. After incorporating feedback, the revised version was presented to a panel of evaluators for technical review and further validation. Once finalized, the questionnaire is submitted to the KCAST Research Office for formal approval and endorsement. This step ensures that the instrument is academically sound, ethically compliant, and aligned with institutional standards and policies.

Only after securing full approval, the researchers proceed to the next stage of the data collection process.

Consent from Respondents. Before distribution, the researchers seek informed consent from all respondents. A consent form was attached to each questionnaire, clearly stating the purpose of the study, the voluntary nature of participation, and the confidentiality of responses. Respondents assured that their identities would remain anonymous and that they could withdraw from the study at any time without consequence—only those who met the inclusion criteria and agreed to the terms included in the final survey sample.

Distribution and Collection of the Survey Questionnaires. The approved and consented questionnaires were distributed using digital platforms to reach the respondents. The researchers ensure that all respondents complete the survey fully and accurately by monitoring the digital submissions. Clear instructions were provided, and follow-ups were made to ensure a high response rate. After the survey period, all completed questionnaires were reviewed for completeness before proceeding to data processing.

Tabulation of Results. Once data collection was completed, the researchers tabulated the survey responses and organized them according to each variable and its corresponding indicators. The compiled data was submitted to the KCAST statistician for analysis. The statistician computed the level of soft skills, internship experience, and work-readiness using appropriate statistical techniques. Additionally, significant relationships among the variables and the substantial influence of soft skills and internship experience on work readiness were identified. The statistical findings are crucial in interpreting the results and drawing evidence-based conclusions.

The mean was used to analyze the data in order to establish the levels of soft skills, internship experience, and work-readiness. Pearson-r correlation was used to evaluate the relationship between variables and multiple regression was used to establish the non-negligible role of soft skills and internship in work-readiness.

The research conformed to the best ethical practices, such as informed consent, minimizing risk, anonymity, confidentiality, and conflict of interest (Denzin & Lincoln, 2011; Nijhawan et al., 2013; Wiles et al., 2008; MacKenzie & Cronstein, 2006). The integrity and credibility of the research process ensured that the participants agreed to participate willingly and on a voluntary basis, data were handled correctly, and the final results of the study were obtained only through an objective analysis.

RESULTS

The results of the data on the influence of soft skills and internship experience on work-readiness among marketing graduates are presented in the section below, along with the significant relationships and influences of all variables.

Summary on the Level of Soft Skills

The results of the study regarding the summary on the level of soft skills, as shown in Table 1, were measured through a survey questionnaire. The responses of the respondents on each indicator were presented and analyzed below. The overall mean score for the soft skills was 4.44, described as very high. The measure indicates soft skills among marketing graduates was always observed.

Table 1
Summary on The Level of Soft Skills

Indicators	Mean	Description
Teamwork	4.53	Very High
Project management	4.41	Very High
Communication skills	4.43	Very High
Interpersonal skills	4.41	Very High
Problem solving	4.40	Very High
Overall	4.44	Very High

The indicator with the highest mean is teamwork, achieved the mean score of 4.53, with a descriptive equivalent of very high. The measure indicates soft skills among marketing graduates in terms of teamwork was always observed. Conversely, the indicator with the lowest mean is problem solving, had a mean score of 4.40, categorized as very high. The measure indicates soft skills among marketing graduates in terms of problem solving was always observed.

Additionally, the indicator with second to the highest mean is communication skills, achieved the mean score of 4.43, with a descriptive equivalent of very high. The measure indicates soft skills among marketing graduates in terms of communication skills was always observed. Moreover, the indicator with third to the highest mean are project management and interpersonal skills, both had a mean score of 4.41, with a descriptive equivalent of very high. The measure indicates soft skills among marketing graduates in terms of project management and interpersonal skills are always observed.

Summary on the Level of Internship Experience

The results of the study regarding the summary on the level of internship experience, as shown in Table 2, were measured through a survey questionnaire. The responses of the respondents on each indicator were presented and analyzed below.

The overall mean score for the internship experience was 4.46, described as very high. The measure indicates internship experience among marketing graduates was always observed. The indicator with the highest mean is communication skills, achieved the mean score of 4.53, with a descriptive equivalent of very high. The measure indicates internship

experience among marketing graduates in terms of communication skills was always observed. Conversely, the indicator with the lowest mean is comfort with work environment, had a mean score of 4.41, categorized as very high. The measure indicates internship experience among marketing graduates in terms of comfort with work environment was always observed.

Table 2
Summary on The Level of Internship Experience

Indicators	Mean	Description
Positive Internship Experience	4.48	Very High
Positive Work Environment	4.46	Very High
Improved Job Prospects	4.47	Very High
New Skills	4.43	Very High
Comfort With Work Environment	4.41	Very High
Communication Skills	4.53	Very High
Overall	4.46	Very High

Additionally, the indicator with second to the highest mean is positive internship experience, achieve a mean score of 4.48, with a descriptive equivalent of very high. The measure indicates internship experience among marketing graduates in terms of positive internship experience was always observed. Furthermore, the indicator with third to the highest mean is improved job prospects, achieve a mean score of 4.47, with a descriptive equivalent of very high. The measure indicates internship experience among marketing graduates in terms of improved job prospects was always observed.

Also, the indicator with fourth to the highest mean is positive work environment, had a mean score of 4.46, with a descriptive equivalent of very high. The measure indicates internship experience in terms of positive work environment was always observed. Moreover, the indicator with the fifth to the highest mean is new skills, had a mean score of 4.43, with a descriptive equivalent of very high. The measure indicates internship experience in terms of new skills was always observed.

Summary on the Level of Work-Readiness

The results of the study regarding the summary on the level of work-readiness, as shown in Table 3, were measured through a survey questionnaire. The responses of the respondents on each indicator were presented and analyzed below. The overall mean score for the work-readiness was 4.44, described as very high. The measure indicates work-readiness among marketing graduates was always observed.

The indicator with the highest mean is personal characteristics, achieved the mean score of 4.48, with a descriptive equivalent of very high. The measure indicates work-readiness among marketing graduates in terms of personal characteristics was always observed. Meanwhile, the indicator with the lowest mean is work competence, which had a mean score of

4.36, categorized as very high. The measure indicates that work-readiness among marketing graduates in terms of work competence was always observed.

Table 3
Summary on The Level of Work-Readiness

Indicators	Mean	Description
Social Intelligence	4.46	Very High
Organizational Acumen	4.45	Very High
Personal Characteristics	4.48	Very High
Work Competence	4.36	Very High
Overall	4.44	Very High

among marketing graduates in terms of personal characteristics was always observed. Meanwhile, the indicator with the lowest mean is work competence, which had a mean score of 4.36, categorized as very high. The measure indicates that work-readiness among marketing graduates in terms of work competence was always observed.

Additionally, the indicator with second to the highest mean is social intelligence, achieve a mean score of 4.46, with a descriptive equivalent of very high. The measure indicates work-readiness among marketing graduates in terms of social intelligence was always observed. Moreover, the indicator with third to the highest mean is organizational acumen, had a mean score of 4.45, with a descriptive equivalent of very high. The measure indicates work-readiness among marketing graduates in terms of organizational acumen was always observed.

Significant Relationship between Soft Skills and Work-Readiness

Presented in Table 4, the study's results regarding the significant relationship between soft skills and work readiness were measured through a survey questionnaire. The responses of the respondents on each variable were presented and analyzed below.

Table 4
Significant Relationship Between Soft Skills and Work-Readiness

Variables Correlated	Mean	R	p-value	Decision
Soft Skills	4.44	0.552	<.001	H_o Rejected
Work-Readiness	4.44			

The study revealed a strong positive correlation between soft skills and work readiness among marketing graduates. The mean scores for both soft skills and work-readiness were identical at 4.44, indicating that, on average, students rated themselves highly in both areas. The correlation coefficient ($r = 0.552$) suggested a moderate to strong positive correlation, meaning that students with higher soft skills tended to exhibit higher levels of work-

readiness. This finding emphasized the importance of interpersonal, communication, and problem-solving skills in preparing students for the professional environment. The statistically significant p-value ($<.001$) further confirmed that the observed relationship was not due to chance, reinforcing the reliability of the results

Based on the results, the null hypothesis (H_0), which stated that there is no significant relationship between soft skills and work-readiness, was rejected. This indicated that soft skills were a meaningful predictor of work-readiness among the participants. The study highlighted that developing soft skills, such as teamwork, adaptability, and effective communication, could enhance the students' ability to meet workplace demands successfully. These findings suggest that educational programs in business administration should emphasize the development of soft skills as a crucial component in preparing students for future careers.

Significant Relationship between Internship Experience and Work-Readiness

Presented in Table 5, the study's results regarding the significant relationship between internship experience and work readiness were measured through a survey questionnaire. The responses of the respondents on each variable were presented and analyzed below.

The study revealed a strong positive correlation between internship experience and work readiness among marketing graduates. The mean score for internship experience was 4.46, slightly higher than the mean score for work-readiness, which was 4.44, indicating that students generally reported high engagement in internships and perceived themselves as prepared for the workplace. The correlation coefficient ($r = 0.673$) indicated a strong positive correlation, suggesting that students who had more substantial or meaningful internship experiences tended to exhibit higher levels of work-readiness. The p-value of less than .001 demonstrated that this relationship was statistically significant, confirming that the findings were unlikely to have occurred by chance.

Table 5
Significant Relationship Between Internship Experience and Work-Readiness

Variables Correlated	Mean	r	p-value	Decision
Internship Experience	4.46	0.673	<.001	H_0 Rejected
Work-Readiness	4.44			

As a result, the null hypothesis (H_0), which posited that there is no significant relationship between internship experience and work-readiness, was rejected. This indicated that internship experience played a crucial role in enhancing students' readiness for professional responsibilities. The findings highlighted that hands-on exposure to real-world workplace environments, practical tasks, and professional interactions contributed to the development of essential skills, confidence, and adaptability among students. The study emphasized the value of internship programs as an integral component of business administration education, effectively preparing students for their future careers.

Significant Influence of Soft Skills and Internship Experience towards Work-Readiness

Presented in Table 6, the study's results regarding the significant influence of soft skills and internship experience on work-readiness were measured through a survey questionnaire. The responses of the respondents on each variable were presented and analyzed below.

Table 6
Significant Influence of Soft Skills and Internship Experience Towards Work-Readiness

Predictors	Work-Readiness			
	B	T	P	Decision
Soft Skills	0.335	5.145	<.001	H_o Rejected
Internship Experience	0.609	9.894	<.001	H_o Rejected
R = 0.713		$R^2 = 0.508$		

The study demonstrated that both soft skills and internship experience have a significant influence on work readiness among marketing graduates. The regression analysis showed that soft skills had a beta coefficient (β) of 0.335 with a t-value of 5.145 and a p-value of less than .001, indicating that it was a significant predictor of work-readiness. Similarly, internship experience had a higher beta coefficient ($\beta = 0.609$) with a t-value of 9.894 and a p-value of less than .001, suggesting an even more substantial influence on students' preparedness for the workplace. These results suggest that while both factors contributed positively to work-readiness, internship experience had a more substantial impact than soft skills.

The overall model had an R-value of 0.713 and an R^2 of 0.508, indicating that approximately 50.8% of the variance in work-readiness could be collectively explained by the combination of soft skills and internship experience. This finding highlighted that more than half of the students' work-readiness was accounted for by these two predictors. At the same time, the remaining variance could be attributed to other factors not included in the study. The significance of both predictors emphasized the importance of combining skill development with practical experience in preparing marketing graduates for professional roles. Consequently, the study supported the integration of soft skills training and structured internship programs as key strategies to enhance students' work-readiness.

DISCUSSION

Level of Soft Skills

The study reveals that the level of soft skills among marketing graduates is very high, with strong competencies in teamwork, project management, communication skills, interpersonal skills and problem-solving which enhance their work-readiness and workplace performance. These findings supported by Bunyamin et al. (2022), who emphasized that such

skills improve productivity and collaboration, and Jardim et al. (2022), who highlighted that group work strengthens communication, adaptability, and teamwork in real-world settings.

The study found that teamwork is the highest-rated soft skill among marketing graduates, reflecting their strong ability to collaborate, communicate, and contribute effectively to group settings, which enhances their work-readiness. This is supported by Zapata et al. (2022), who emphasized that teamwork improves problem-solving and productivity, and Tayco et al. (2022), who highlighted that cooperation, communication, and shared responsibility lead to better outcomes and accountability in professional environments.

Additionally, the study shows that problem-solving was the lowest among soft skills indicators, is still rated very high among marketing graduates, reflecting their strong critical thinking, analytical reasoning, and ability to implement effective solutions. This is supported by Descartin et al. (2023), who emphasized that problem-solving enables graduates to adapt and make informed decisions in dynamic business environments, and Cantus et al. (2023), who highlighted that evaluating solutions and integrating diverse insights enhances decision quality and fosters collaboration, confirming that marketing programs effectively develop essential analytical and professional competencies.

Meanwhile the marketing graduates possess very high in project management skills, demonstrating strong planning, organization, and execution in group projects, reflecting their readiness for professional responsibilities. This is supported by Gruber et al. (2022), who emphasized that practical project management enhances teamwork, accountability, and professional outcomes, and Hwang (2022), who highlighted that project-based academic activities improve planning, organization, and collaboration, fostering confidence and competence in managing tasks effectively.

The study also shows that marketing graduates possess very high in communication skills, demonstrating strong oral and written proficiency essential for professional settings. This is supported by Ngo and Thuy (2024), who emphasized that habitual academic communication enhances clarity and professionalism, and Casali et al. (2024), who highlighted that mastering formal email formats and styles improves confidence and effectiveness in professional written communication.

The study additionally reveals that marketing graduates possess very high in interpersonal skills, demonstrating strong ability to build relationships, understand social cues, and interact effectively in professional and social settings. This is supported by Lamberti et al. (2023), who emphasized that such skills foster collaboration and inclusivity, and Bernardo et al. (2023), who highlighted that adapting communication style to context enhances respectful and effective interactions across diverse environments.

Level of Internship Experience

The level of internship experience among marketing graduates was likewise found to be very high, reflecting meaningful engagement in practical workplace activities. Internships enhanced students' communication skills, job prospects, and acquisition of new competencies. These findings are supported by Reyes (2023) and Lobo (2022), who emphasize that internships bridge theory and practice and increase employability.

The study revealed that communication skills are the highest-rated internship experience indicator among marketing graduates, reflecting their ability to convey information clearly, collaborate, and build professional relationships. This is supported by Elsisura et al. (2022), who emphasized that internships develop communication for collaboration, conflict resolution, and team contribution, and Hingpit (2024), who highlighted that strong communication during internships fosters leadership, teamwork, and professional competence.

Meanwhile the study shows that comfort with the work environment is the lowest-rated, though still very high, internship indicator among marketing graduates, suggesting a slight need to enhance adaptability and confidence. This is supported by Guiamalon (2022), who emphasized that familiarity with the work environment maximizes learning and performance, and Comia et al. (2023), who highlighted that consistent exposure to workplace routines and professional etiquette fosters confidence, belonging, and readiness for employment.

Additionally, the study finds that marketing graduates report very high in positive internship experiences, indicating meaningful engagement and professional growth. This is supported by Pascua et al. (2022), who emphasized that significant tasks enhance learning, confidence, and professional attitude, and Malbuyo et al. (2024), who highlighted that task alignment with skills and academics increases motivation, performance, and ownership of learning.

The study also shows that marketing graduates rate their internship positive work environment as very high, perceiving it as supportive, inclusive, and conducive to learning. This is supported by Guiamalon (2022), who emphasized that welcoming and guided settings enhance confidence, motivation, and skill development, and Solis et al. (2024), who highlighted that respect and recognition from colleagues foster engagement, personal growth, and professional development.

Furthermore, the study finds that marketing graduates rate their internship experience in improving job prospects as very high, reflecting enhanced employability through practical skills and professional exposure. This is supported by Lobo (2023), who emphasized that internships boost employment opportunities by demonstrating professional competence, and who highlighted that internship experience can improve starting salaries and reduce employer training needs, providing graduates a professional and financial advantage.

Moreover, the study reveals that marketing graduates rate the acquisition of new skills during internships as very high, reflecting enhanced professional development and readiness for future careers. This is supported by Valderama (2023), who emphasized that internships foster personal growth, networking, and professional communication, and Magnaye (2022), who highlighted that internships enable students to gain technical and non-technical skills, adaptability, and confidence, preparing them for future work roles.

Level of Work-Readiness

The level of work-readiness among marketing graduates was found to be very high, supported by indicators such as personal characteristics, social intelligence, organizational acumen, and work competence that enable effective performance in professional settings. This is supported by Sidiq et al. (2022), who emphasized that work-readiness reflects preparedness

to meet workplace demands and navigate social dynamics, and Fauzan et al. (2023), who highlighted that combining social intelligence, organizational acumen, and work-related skills enhances graduates' transition to the workforce and long-term career success.

The study revealed that personal characteristics are the highest-rated work-readiness indicator among marketing graduates, reflecting responsibility, adaptability, self-motivation, and professionalism. This is supported by Sartika and Nengsi (2022), who emphasized that strong personal traits enhance employability, resilience, and workplace relationships, and Saeed et al. (2024), who highlighted that remaining calm under pressure improves problem-solving, professional performance, and preparedness for real-world work environments.

Meanwhile the study finds that work competence, while the lowest-rated work-readiness indicator, is still very high among marketing graduates, indicating solid job-related skills with room for further technical and practical development. This is supported by Inderanata and Sukardi (2023), who emphasized that task proficiency and job-specific knowledge are crucial for performance and career success, and Labitad (2025), who highlighted that motivated and responsible graduates develop reliability and quality outcomes through active classroom and internship experiences, enhancing readiness for professional roles.

Additionally, the study finds that social intelligence is rated very high among marketing graduates, reflecting their ability to understand, manage, and interact effectively with others in professional settings. This is supported by Orr et al. (2023), who emphasized that group projects and school activities build teamwork, trust, and communication skills, and Nugroho et al. (2024), who highlighted that clear articulation, active listening, and constructive feedback enhance confidence and collaborative competence in the workplace.

Furthermore, the study reveals that organizational acumen is very high among marketing graduates, reflecting their ability to understand workplace dynamics, align with company goals, and contribute effectively. This is supported by Letigio and Balijon (2022), who emphasized that proactive engagement in assignments and group activities develops structured workplace readiness, and Lucero (2024), who highlighted that effective time management and task prioritization foster productivity, balance, and professional success.

Significant Relationship between Soft Skills and Internship Experience on Work-Readiness

The study reveals that soft skills and internship experience significantly and positively influence work-readiness among marketing graduates. Developing interpersonal, communication, and problem-solving abilities alongside hands-on internship experiences prepares students to meet workplace demands and adapt effectively, highlighting the complementary role of both in business administration education.

The study supported by Human Capital Theory (Strober, 1990), showing that developing soft skills such as teamwork, adaptability, and communication enhances employability and work-readiness. It also aligns with Kolb's Experiential Learning Theory (Kolb, 1984), as internship experiences allow students to apply theoretical knowledge, engage in problem-solving, and gain professional insights, confirming that experiential learning strengthens competencies and prepares graduates for workplace challenges.

Integrating Parsons' Career Readiness Theory (Parsons, 1909), the study highlights that soft skills and internship experiences together develop attributes essential for career decision-making and employability. Combining personal competencies with practical experience enhances graduates' preparedness and adaptability, confirming that the joint development of soft skills and internships significantly improves work-readiness and complements the frameworks of human capital and experiential learning.

Significant Influence of Soft Skills and Internship Experience on Work-Readiness

The study revealed that soft skills and internship experience significantly impact work-readiness among marketing graduates, with internship experience having a stronger effect. Developing interpersonal, communication, and problem-solving skills alongside practical hands-on exposure better prepares students for effective performance in professional environments.

The study is grounded in the Human Capital Theory (Strober, 1990), confirming that soft skills serve as valuable personal assets that enhance productivity, employability, and work-readiness, validating the importance of competency development in human capital formation. Findings on internship experience align with Kolb's Experiential Learning Theory (Kolb, 1984), showing that hands-on engagement allows students to apply theory, develop practical skills, and improve problem-solving, demonstrating that experiential learning effectively prepares graduates for real-world workplace challenges.

Viewed through Parsons' Career Readiness Theory (Parsons, 1909), the study shows that soft skills and internship experience together develop attributes vital for career success, including adaptability, confidence, and professional judgment. By combining interpersonal competencies with practical exposure, graduates are better equipped to navigate the workplace, make informed career decisions, and perform effectively, confirming that integrating skill development with structured internships enhances work-readiness and complements human capital and experiential learning frameworks.

Conclusion

The study concludes that marketing graduates demonstrate a very high level of soft skills, including teamwork, project management, communication, interpersonal skills, and problem-solving. These competencies are consistently evident in their ability to collaborate effectively, communicate clearly, manage tasks efficiently, and address workplace challenges strategically. The findings indicate that marketing programs successfully develop essential soft skills that enhance graduates' professional competence and preparedness for workplace demands.

Similarly, the level of internship experience and work-readiness among marketing graduates is found to be very high. Internship programs provide meaningful exposure to real-world work environments, allowing students to apply theoretical knowledge, acquire new skills, and improve job prospects. Graduates exhibit strong social intelligence, organizational acumen, personal characteristics, and work competence, suggesting they are well-equipped to adapt to organizational settings and perform effectively in professional roles.

Furthermore, the study reveals a significant positive relationship and influence between soft skills, internship experience, and work-readiness, with internship experience showing a stronger impact. These findings support Human Capital Theory, Experiential Learning Theory, and Career Readiness Theory, emphasizing that the integration of soft skills development and hands-on internship experiences is crucial in enhancing employability. Overall, structured internship programs and targeted skill-building initiatives play a vital role in preparing marketing graduates for successful entry into the workforce.

Recommendations

Based on the study's findings, several recommendations are proposed to enhance the work-readiness of marketing graduates by strengthening their soft skills and internship experiences. Academic institutions, particularly KCAST, may implement targeted programs such as critical thinking and problem-solving training, mentorship initiatives during internships, decision-making simulations, and communication-focused activities. These interventions aim to improve students' analytical abilities, adaptability, confidence, and professional communication through experiential and reflective learning.

In addition, institutions may adopt innovative and inclusive teaching strategies that allow students to apply theoretical knowledge in practical settings. Initiatives such as internship simulation offices, supervisor–intern partnership programs, professional identity workshops, and competence-based assessments can help students gain confidence and strengthen their marketing competencies. Providing equal access to skill-specific training for all students ensures consistent development and better preparation for real workplace environments.

Overall, the study suggests that the Commission on Higher Education (CHED) may support initiatives that help students connect theoretical knowledge with real workplace challenges. In particular, key CMOs governing internship programs and curriculum design could be revisited to encourage programs that emphasize case studies, industry scenarios, and diverse internship tasks, which may enhance practical learning and skill development. Also, KCAST may consider strategies that encourage students to expand their skill sets more comprehensively during internships. Offering a wider variety of tasks, aligned with CMO guidelines, may further enhance students' practical learning experiences. Moreover, marketing graduates are encouraged to reinforce their knowledge through continuous engagement with professional scenarios, actively applying theoretical principles in real-world contexts. Lastly, future researchers may investigate additional factors contributing to work readiness. This could include exploring soft skills development in relation to internships, contextualizing indicators based on experiential learning, and evaluating innovative methods to build problem-solving abilities, practical skills, and confidence. Longitudinal studies could also assess how sustained internship programs impact career success, providing evidence to inform future CMO revisions and curriculum enhancements.

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REFERENCES

- Abuhussain, S. S. A., Elrkkal, M. E., Salamatullah, A. K., Althobaity, A. A., Alotaibi, A. F., Almeleebia, T. M., & Alhifany, A. A. (2021). Work readiness scale for pharmacy interns and graduates: A cross-sectional study. *Saudi Pharmaceutical Journal*, 29(9), 976–980. <https://doi.org/10.1016/j.jsps.2021.07.018>
- Bernardo, A. B., Albert, J. R. G., Vizmanos, J. F. V., & Muñoz, M. S. (2023). *Toward measuring soft skills for youth development: A scoping study* (PIDS Discussion Paper Series No. 2023-28). Philippine Institute for Development Studies. <https://doi.org/10.62986/dp2023.28>
- Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27–30. <https://doi.org/10.33235/jarna.22.2.27-30>
- Bunyamin, B., Samsudi, S., & Rohman, S. (2022). Soft skill improvement strategy for vocational high school students based on career and 21st century learning oriented. *Journal of Vocational and Career Education*, 7(1). <https://doi.org/10.15294/jvce.v7i1.41103>
- Cantus, D., Cubero-Plazas, L., Botella Navas, M., Castellano-Rioja, E., & Cañabate Ros, M. (2023). Importance of soft skills in health sciences students and their repercussion after the COVID-19 epidemic: Scoping review. *International Journal of Environmental Research and Public Health*, 20(6), 4901. <https://doi.org/10.3390/ijerph20064901>
- Casali, N., Meneghetti, C., Tinti, C., Re, A. M., Sini, B., Passolunghi, M. C., & Carretti, B. (2024). Academic achievement and satisfaction among university students with specific learning disabilities: The roles of soft skills and study-related factors. *Journal of Learning Disabilities*, 57(1), 16–29. <https://doi.org/10.1177/00222194221150786>
- Comia, G., Manalo, J. E., Areglado, H. P., Rivera, Z. C., & Reyes, R. C. D. (2023). Narratives of occupational therapy students from the Philippines on virtual internship. *The Journal of Practice Teaching and Learning*, 19(3), 84–101. <https://doi.org/10.1921/JPTS.V19I3.1884>
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The SAGE handbook of qualitative research*. SAGE.

- Descartin, D. M. D., Kilag, O. K. T., Groenewald, E. S., Abella, J. L., & Jumalon, M. L. S. (2023). *Curricular insights: Exploring the impact of Philippine K to 12 on PISA 2022 reading literacy achievement*. <https://doi.org/10.5281/zenodo.10408493>
- Efe, A. (2024, January 18). *Predictive analysis: Definition, techniques & examples*. Forms.app. <https://forms.app/en/blog/what-is-predictive-analysis>
- Elsisura, M. A., Binuya, R. R., Furio, A. M., Marin, P. A., Tubice, B., Jr., & Felix, C. (2022, August). Internship learnings acquired by advertising and public relations alumni batch 2016–2019 of Polytechnic University of the Philippines. In *International Seminar Commemorating the 100th Anniversary of Tamansiswa* (Vol. 1, No. 1, pp. 92–101). <https://seminar.ustjogja.ac.id/>
- Fauzan, A., Triyono, M. B., Hardiyanta, R. A. P., Daryono, R. W., & Arifah, S. (2023). The effect of internship and work motivation on students' work readiness in vocational education: PLS-SEM approach. *Journal of Innovation in Educational and Cultural Research*, 4(1), 26–34. <https://doi.org/10.46843/jiecr.v4i1.413>
- Gruber, L., de Campos, D. E. B., Beuren, D. P. F. H., & Fagundes, A. B. (2022). Training to develop soft skills for engineering students. *Scientific Research and Essays*, 17(4), 57–72. <https://doi.org/10.5897/SRE2022.6753>
- Guiamalon, T. S. (2022). Internship in times of pandemic: A qualitative phenomenological study. *Res Militaris*, 12(6), 1039–1050. <https://resmilitaris.net/issue?issue=Issue+-6&volume=Volume+-12&year=2022>
- Gupta, P., Burns, D. J., & Schiferl, J. S. (2010). An exploration of student satisfaction with internship experiences in marketing. *Business Education & Administration*, 2(1), 27–37. <http://www.theibfr2.com/RePEc/ibf/beaccr/bea-v2n1-2010/BEA-V2N1-2010-3.pdf>
- Hingpit, S. P. (2024). The on-the-job training experiences of business administration students of Philippine Electronics and Communication Institute of Technology Butuan City. *JPAIR Multidisciplinary Research*, 57(1), 83–112. <https://doi.org/10.7719/jpair.v57i1.894>
- Hwang, S. (2022). Effects of engineering students' soft skills and empathy on their attitudes toward curricula integration. *Education Sciences*, 12(7), 452. <https://doi.org/10.3390/educsci12070452>
- Inderanata, R. N., & Sukardi, T. (2023). Investigation study of integrated vocational guidance on work readiness of mechanical engineering vocational school students. *Heliyon*, 9(2), e13403. <https://doi.org/10.1016/j.heliyon.2023.e13403>
- Jardim, J., Pereira, A., Vagos, P., Direito, I., & Galinha, S. (2022). The soft skills inventory: Developmental procedures and psychometric analysis. *Psychological Reports*, 125(1), 620–648. <https://doi.org/10.1177/0033294120979933>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.

- Labitad, J. (2025). Academic preparedness and work readiness: Linking academic and OJT performance of BSBA students. *Journal of Tertiary Education and Learning*, 3(2), 10–54536. <https://doi.org/10.54536/jtel.v3i2.4656>
- Lamberti, G., Tomas, A. B., & Laura, T. (2023). University image, hard skills or soft skills: Which matters most for which graduate students? *Quality & Quantity*, 57(Suppl. 4), 553–574. <https://doi.org/10.1007/s11135-022-01455-0>
- Letigio, C. J. S., & Balijon, D. P. (2022). Digital literacy readiness of graduates of Philippine higher education institution. *International Journal of Research Publications*, 115(1), 207–213. <https://doi.org/10.47119/IJRP1001151120224516>
- Lobo, J. (2022). Pre-service teachers' evaluation of the student internship program: Basis for design improvement. *Journal for Educators, Teachers and Trainers*, 13(5), 48–56. <https://doi.org/10.47750/jett.2022.13.05.005>
- Lobo, J. (2023). An inquiry on the effectiveness of the teaching internship program based on pre-service teachers' appraisal. *Journal of Research, Policy & Practice of Teachers & Teacher Education*, 13(1), 16–26. <https://doi.org/10.37134/jrppte.vol13.1.2.2023>
- Lucero, C. R. (2024). Investigating the relationships among the forced shift to remote learning, employability and work readiness of recent college graduates. *Education and Information Technologies*, 29(16), 21647–21672. <https://doi.org/10.1007/s10639-024-12672-5>
- MacKenzie, C. R., & Cronstein, B. N. (2006). Conflict of interest. *HSS Journal*, 2(2), 198–201. <https://doi.org/10.1007/s11420-006-9016-1>
- Magallanes, C. I. (2022). Engagement and work readiness of college students. *Technium Social Sciences Journal*, 35, 111–121. <https://doi.org/10.47577/tssj.v35i1.7163>
- Magnaye, L. A., Jr. (2022). Implementation of student internship program in the Philippines (SIPP) of Northwest Samar State University: Inputs for improvement. *American Journal of Multidisciplinary Research and Innovation*, 1(3), 72–80. <https://doi.org/10.54536/ajmri.v1i3.388>
- Malbuyo, E. J. P., Catubig, J. E. N., Maratas, R. M., Carzo, L. D. C., Cabilan, W. M. C., & Cuevas, J. F., Jr. (2024). Assessing the impact of internship experiences on skills development and career readiness among employed criminology graduates. *Mediterranean Journal of Basic and Applied Sciences*, 8(2), 195–207. <https://doi.org/10.46382/mjbas.2024.8215>
- Musa, F., Mufti, N., Latiff, R. A., & Amin, M. M. (2011). Project-based learning (PjBL): Inculcating soft skills in 21st century workplace. *Procedia - Social and Behavioral Sciences*, 59, 565–573. <https://doi.org/10.1016/j.sbspro.2012.09.315>
- Ngo, A., & Thuy, T. (2024). The importance of soft skills for academic performance and career development—From the perspective of university students. *International Journal of Engineering Pedagogy*, 14(3). <https://doi.org/10.3991/ijep.v14i3.45425>

- Nijhawan, L. P., Janodia, M. D., Muddukrishna, B. S., Bhat, K. M., Bairy, K. L., Udupa, N., & Musmade, P. B. (2013). Informed consent: Issues and challenges. *Journal of Advanced Pharmaceutical Technology & Research*, 4(3), 134–140. <https://doi.org/10.4103/2231-4040.115358>
- Nugroho, N. E., Irianto, J., & Suryanto, S. (2024). A systematic review of Indonesian higher education students' and graduates' work readiness. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, 8(1), 350–363. <https://doi.org/10.22437/jiituj.v8i1.33073>
- Orr, P., Forsyth, L., Caballero, C., Rosenberg, C., & Walker, A. (2023). A systematic review of Australian higher education students' and graduates' work readiness. *Higher Education Research & Development*, 42(7), 1714–1731. <https://doi.org/10.1080/07294360.2023.2192465>
- Parsons, F. (1909). *Choosing a vocation*. Houghton Mifflin. <https://archive.org/details/choosingvocation00parsgoog>
- Pascua, D. S., Corpuz, J. T., & Sadang, W. C. (2022). Career skills and on-the-job training performance of business administration students at a state university in Isabela, Philippines. *International Journal of Humanities and Education Development*, 4(3), 222–228. <https://doi.org/10.22161/jhed.4.3.26>
- Reyes, C. D. (2023). Lived experiences of pre-service English teachers in online teaching internship during COVID-19 pandemic. *Journal for Educators, Teachers and Trainers*, 14(2). <https://doi.org/10.47750/jett.2023.14.02.041>
- Saeed, S., Pathan, S. K., & Channa, N. (2024). Investigating factors affecting students' work readiness for the job market. *Priority—The International Business Review*, 2(2), 170–193. <https://theeyepublications.com/index.php/first/article/view/117>
- Sartika, D., & Nengsi, A. R. (2022). Work readiness of graduates responding to user needs for a “Ready to Work” workforce from university perspective. *Idarah: Jurnal Pendidikan dan Kependidikan*, 6(1), 37–50. <https://doi.org/10.47766/idarrah.v6i1.490>
- Seeram, E. (2019). An overview of correlational research. *Radiologic Technology*, 91(2), 176–179. <http://www.radiologictechnology.org/content/91/2/176.extract>
- Sidiq, S., Sudji, M., Rihab, W. D., Yayan Adrianova, E. T., Muhammad, N., & Shilmi, A. (2022). The influence of internship experience and work motivation on work readiness in vocational students: PLS-SEM analysis. *Indonesian Journal on Learning and Advanced Education*, 5(1). <https://doi.org/10.23917/ijolae.v5i1.20033>
- Solis, J. J. L., Besas, M. J., & Rodriguez, G. D. (2024). Lived experiences of criminology student interns during on-the-job training: A phenomenology of sacrifice amidst COVID-19 pandemic. *European Journal of Education Studies*, 11(6). <https://doi.org/10.46827/ejes.v11i6.5368>

- Strober, M. H. (1990). Human capital theory: Implications for HR managers. *Industrial Relations: A Journal of Economy and Society*, 29(2), 214–239. <https://doi.org/10.1111/j.1468-232X.1990.tb00752.x>
- Tayco, R. O., Supat, P. S., & Estrope, C. P. (2022). Employability of a state university graduates in the Philippines. *Asia Pacific Journal of Management and Sustainable Development*, 10(1), 61–69.
- Valderama, A. M. (2023, December). The course learning experience as a forerunner in IT internship: Assessment from the student and the host training establishment. In *International Conference on Computers in Education*. <https://doi.org/10.58459/icce.2023.1420>
- Wiles, R., Crow, G., Heath, S., & Charles, V. (2008). The management of confidentiality and anonymity in social research. *International Journal of Social Research Methodology*, 11(5), 417–428. <https://doi.org/10.1080/13645570701622231>
- Zapata, S. I., Román-Calderón, J. P., Robledo-Ardila, C., & Jaramillo-Serna, M. A. (2022). Soft skills, do we know what we are talking about? *Review of Managerial Science*, 16(4), 969–1000. <https://doi.org/10.1007/s11846-021-00474-9>

GROWTH PERFORMANCE OF MALLARD DUCKS AS INFLUENCED BY DIFFERENT LEVELS OF MMK LEAF MEAL SUPPLEMENTATION

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SDGs: **Goal 4 (Quality Education); Goal 1 (No Poverty)**

ABSTRACT

This study evaluated the growth performance of Mallard ducks (*Anas platyrhynchos*) fed commercial diets supplemented with varying levels of MMK leaf meal composed of Madre de Agua (*Trichanthera gigantea*), Moringa (*Moringa oleifera*), and Kangkong (*Ipomoea aquatica*). The research was conducted to determine the potential of MMK as an alternative, locally available feed supplement to reduce dependence on commercial feeds. A total of 180 ducklings were used in a Completely Randomized Design with six dietary treatments: 100% commercial feed, commercial feed supplemented with 5%, 10%, 15%, and 20% MMK, and 100% MMK, each replicated three times over a 90-day feeding trial. Growth parameters including final body weight, weight gain, average daily gain, feed intake, feed conversion ratio, mortality rate, and selected organ weights were measured and analyzed using analysis of variance. Results indicated that ducks fed purely commercial feed attained significantly higher final weight, weight gain, and feed efficiency compared with MMK-supplemented groups. Increasing MMK inclusion resulted in reduced growth performance, with the lowest values observed in ducks fed MMK alone. However, no significant differences were observed in internal organ weights, indicating no adverse physiological effects of MMK supplementation. The study concluded that while MMK leaf meal is safe for duck feeding and offers potential as a low-cost feed supplement, its inclusion should be limited and further optimized to improve growth efficiency and practical application in Mallard duck production.

Keywords: **Feed Conversion Efficiency; Mallard Duck; MMK Leaf Meal; Supplementation**

INTRODUCTION

Duck production plays an important role in the poultry industry, especially in developing countries, by contributing to food security, rural livelihoods, and household income. Mallard ducks (*Anas platyrhynchos*) are commonly raised due to their adaptability, disease resistance, and ability to utilize various feed resources efficiently. In the Philippines, duck farming is widespread in rural areas, valued for both meat and egg production. However, a major challenge in duck production is the high cost of commercial feeds, which forms a large part of total production expenses.

Rising prices of conventional feed ingredients, such as corn and soybean meal, have encouraged farmers and researchers to explore locally available, cost-effective, and nutritionally adequate alternatives. Plant-based supplements are promising because they are renewable, accessible, and rich in proteins, vitamins, minerals, and bioactive compounds. Among these, Madre de Agua, Moringa, and Kangkong have been identified as potential feed ingredients that support growth, feed efficiency, and overall health. Individually, these plants have shown benefits for poultry, and combining them into a single leaf meal supplement (MMK) may provide a balanced nutrient profile and enhance their complementary effects.

Tropical leaf meals such as madre de agua, provide protein content as well as structural carbohydrates and fiber that may affect digestibility and energy availability for poultry. Recent meta-analytical appraisals of fermented tropical leaf meals in broilers diets show that processing intervention (fermentation) can improve the bioavailability of nutrient and reduce its anti-nutritional factor which in turn improves growth performance and feed utilization (Ogbuewu et al., 2024; Ogbuewu & Mbajorgu, 2024). These results emphasize *T. gigantea* as a new potential sustainable local protein feed option, partly substitutive of conventional sources such as soybean meal or maize. Madre de agua is a fast-growing tropical shrub used as forage and leaf meal supplement with better nutritional characteristics and humidity adaptability. The leaves of *T. gigantea* are characterized with high crude protein (about 17% to 24% on a dry matter basis) and minerals including calcium and iron, indicating their potential as a good protein source for poultry feed. The compositional features have been described in peer-reviewed studies indexed in Scopus measuring foliage of tropical trees, making *T. gigantea* a strong candidate for potential feed ingredient (Leterme et al., 2005).

Moringa leaves have gained spreading recognition as nutrient-dense feed ingredient for poultry, which are found rich in crude protein as well some vital vitamins (A, C and E) and minerals (calcium, potassium and iron) supporting growth performance, production performance of birds and also physiological health promoting activity in birds' tissues including the liver (Zhang et al., 2023). Supplementation of broiler diets with moringa leaf powder or meal has been reported to enhance growth performance, carcass characteristics and intestinal microbiota composition (Zhang et al., 2023; Gul et al. 2024). The use of *M. oleifera* as feed in poultry diets has been extensively reviewed, and the aim is to utilize it as a functional feed supplement capable of improving production performance and also health status when incorporated into the diet (Egbu et al., 2024).

Dietary inclusion of moringa leaf meal in broiler chickens may improve growth performance, feed efficiency, and hematological parameters (Anam et al., 2025), suggesting its feasibility as an alternative protein source. Apart from being a protein source, moringa leaves also contain bioactive compounds (e.g., flavonoids, phenolic acids and antioxidants) that are shown to result in enhanced physiological responses and health status of poultry. These functional properties have been associated with improved gut health and nutrient utilization, which are supported by experimental studies that show better microbial balance and performance in broilers fed Moringa leaf meal (Zhang et al., 2023).

Another promising plant is *Ipomoea aquatica* (kangkong or water spinach), a nutrient-dense leafy aquaphyte extensively cultivated in the tropics. Leaves have been characterized biochemically and found to be moderately fibrous (14.6% DM) containing 19.6% protein DM, carbohydrates and vital minerals like potassium, calcium magnesium and iron (Saikia et al., 2023). Furthermore, kangkong leaves contain a variety of bioactive phytochemicals such as polyphenols, flavonoids, and other secondary metabolites (e.g., caffeic acid, ferulic acid, quercetin and chlorogenic acid) attributes antioxidant activity that may contribute to physiological effects. These compounds indicate that *I. aquatica* leaf meal can enhance gut health, immune action and the overall metabolic efficiency when used as a dietary supplement. While now there is certainly a scarcity of available direct feeding trials documented in the Scopus-indexed poultry literature, the existing nutrient density and bioactive composition documented coupled with their role in previous foodscapes would undoubtedly provide strong rationale for future exploration of kangkong as an alternative feed resource that holds sustainable potential in enriched poultry production systems, especially following the challenges facing tropical smallholder systems.

Despite studies on individual plant supplements, limited research has investigated their combined use in Mallard duck diets. There is insufficient information on the optimal inclusion levels of MMK leaf meal and its effects on growth performance, feed efficiency, mortality, and internal organ development. This study addresses this gap by evaluating the effects of different levels of MMK supplementation on the growth performance of Mallard ducks under local production conditions.

The findings are relevant to small-scale farmers, extension workers, and policymakers. For farmers, MMK supplementation may reduce feed costs and reliance on commercial feeds, improving farm profitability. For agricultural practitioners, it provides guidance on sustainable feeding practices using locally available resources. Academically, the study contributes to the understanding of alternative feeds and supports future research on feed formulation and nutrient optimization. This study is guided by the Animal Nutrition Theory, which states that growth and productivity depend on the quality, balance, and availability of nutrients in the diet. The conceptual framework links MMK supplementation levels (0%, 5%, 10%, 15%, 20%, and 100%) to key growth and health indicators, including body weight, weight gain, feed intake, feed conversion ratio, mortality, and internal organ development. Appropriate MMK inclusion is expected to influence nutrient utilization and physiological outcomes.

Additionally, the study aligns with the United Nations Sustainable Development Goals (SDGs), including SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 12 (Responsible Consumption and Production), by promoting sustainable, affordable, and resource-efficient feeding strategies that improve food security and community well-being. And also, SDG 4 (Quality Education) by generating knowledge that can be incorporated into training programs, extension services, and educational materials for farmers and agricultural practitioners, promoting informed, sustainable, and science-based duck farming practices.

METHODOLOGY

Research Design

This study employed a quantitative experimental research design, which involves the objective measurement and analysis of numerical data to test specific hypotheses and evaluate relationships between variables (Creswell & Creswell, 2018). Quantitative research, rooted in the empirical sciences, allows for statistical testing and precise observation of measurable outcomes. It emphasizes structured procedures, replication, and statistical validity, making it suitable for studies involving performance evaluation in animal feeding trials.

This study employed a quantitative experimental research design to evaluate the effects of varying levels of MMK (Madre de Agua, Moringa, and Kangkong leaf meals) supplementation on the growth performance of Mallard ducks (*Anas platyrhynchos*). According to Creswell and Creswell (2018), experimental research is used to examine the effects of treatments or interventions on specific outcomes under controlled conditions. This design allows researchers to collect numerical data and objectively compare treatment effects through statistical analysis.

The independent variable in this study was the level of MMK supplementation in the feed (0%, 5%, 10%, 15%, 20%, and 100% MMK), while the dependent variables included final weight (g), total weight gain (g), average daily gain (g/day), feed conversion ratio (FCR), mortality rate, and visceral organ development. The quantitative experimental approach was appropriate because the study aimed to determine the effects of different feed treatments on measurable growth and production parameters of Mallard ducks and establish cause-and-effect relationships between the treatments and observed responses.

The experiment was arranged using a Completely Randomized Design (CRD) with six treatment groups (T1–T6) and three replications per treatment, each containing ten ducks. Gomez and Gomez (1984) stated that CRD is appropriate when experimental units are relatively homogeneous, as it minimizes bias and experimental error through random assignment of treatments. Since the ducks were of similar age and were reared under uniform management and environmental conditions, the use of CRD was considered suitable for the study. Measurements were taken consistently over a 90-day rearing period, and Analysis of Variance (ANOVA) was used to determine significant differences among treatment means. This design ensured reliable comparison of treatment effects and strengthened the validity of the study findings.

Research Locale and Duration of the Study

This study was conducted in the Municipality of Kapalong, located in the first district of Davao del Norte, Philippines, from January to March 2025. Positioned in the northwestern part of the province, Kapalong is bordered by Agusan del Sur to the north, the municipalities of Asuncion and Sto. Tomas to the south and east, and the Municipality of Talaingod and Bukidnon province to the west. The study's location was selected to reflect real-world farming conditions relevant to local duck producers. Data collection and observations focused on evaluating the growth performance of Mallard ducks under different levels of MMK (Madre de Agua, Moringa, and Kangkong) supplementation, offering practical insights for improving feed strategies in the region.

Experimental Design and Treatment

This study was laid out using simple Completely Randomized Design (CRD). The birds are randomly assigned into five treatments, replication three times with seven birds in each replication. The different treatments are as follows:

- T1 - Pure Commercial Feeds
- T 2 - Commercial Feeds + 5% MMK
- T3 - Commercial Feeds + 10% MMK
- T4 - Commercial Feeds + 15% MMK
- T5 - Commercial Feeds + 20% MMK
- T6 - MMK Alone

Animal Management and Husbandry

In this study, standard cultural practices for duck rearing were strictly followed to ensure uniformity and reliability of results. During the brooding phase, ducklings were housed in a clean, well-ventilated brooding area with adequate warmth provided by heat lamps to maintain optimal body temperature. Sanitation was prioritized through daily cleaning of pens, feeders, and drinkers to prevent the spread of diseases and promote healthy growth conditions. Ducks were fed according to their assigned treatment groups, with the MMK (Madre de Agua, Moringa, and Kangkong) leaf meal air-dried, ground, and incorporated into the commercial feed at varying inclusion levels (5%, 10%, 15%, 20%, and 100%). Clean drinking water was provided at all times and regularly replenished to ensure freshness. Health management included regular monitoring of duck conditions, timely vaccination, and immediate isolation of any sick birds. Throughout the 90-day feeding trial, consistent record-keeping of feed intake, weight gain, and mortality was conducted to assess the effects of MMK supplementation on Mallard duck growth performance. The materials used in the study were one hundred eighty (180) heads of five-day-old ducklings, commercial feeds, feeding and watering troughs, net, container, brooder cage, Madre de Agua leaf meal, Moringa leaf meal, and Kangkong leaf meal, bulb, electric wire, bamboos, charcoal, nail, hammer, saw, bolo, leaf newspaper, empty sacks, weighing device, notebook, and pencil.

Preparation of Brooder

One week before the arrival of the duckling, the brooder was thoroughly cleaned and disinfected with soap and water. It was exposed to the heat of the sun for three days after rinsing them with water to eliminate harmful microorganisms. The brooder was covered with old rice straw. Empty sacks were placed around the brooder to conserve heat during the brooding period.

Securing the Ducklings

One hundred eighty (180) ducklings were sourced from a reliable supplier prior to the commencement of the study. These ducklings were selected to ensure uniformity in age and health. The source was carefully chosen to guarantee the quality and genetic consistency of the animals. Prior to the study, the ducklings were kept in a controlled environment to acclimatize. This preparation ensured that the ducks were in optimal condition for the research.

Brooding and Caring for Ducklings

The ducklings were placed in a prepared brooder upon arrival. They swallowed to pick up food particles, which was placed in preferred feeding troughs. At the *ad libitum* feeding, the watering was employed during the brooding period, which lasts for 30 days from the day of the arrival. Artificial heat was provided using an electric bulb day and night until the end of the brooding period during cold weather, and during blackout, artificial heat was provided using an improvised charcoal heater.

Rearing the Ducklings

The thirty (30) ducklings per replication in the brooding cage were transferred to the rearing cages after 30 days, in accordance with the experimental treatment and design. They were carefully monitored and provided with appropriate care throughout the rearing period. The ducks were fed according to the designated treatment groups during this time. The ducks were kept in the rearing cages until they reached the age of three months. Regular observations and maintenance were carried out to ensure their health and growth.

Feeding and Watering

Ducklings in all treatments were provided with *ad libitum* feeding, ensuring they had unrestricted access to food. The feed was weighed before being given to the birds, and the remaining feed was weighed again to determine the total amount consumed each day. This process helped accurately monitor the daily feed intake. Clean and potable drinking water was made available to the ducklings at all times throughout the experiment. The provision of fresh water ensured that the birds remained hydrated and healthy during the study period.

Treatment Application

The ducklings were fed a combination of commercial feeds and varying portions of MMK leaf meal on an *ad libitum* basis. The ratio of commercial feeds to MMK leaf meal was carefully adjusted according to the specific treatment groups outlined in the study. This feeding strategy ensured that each treatment group received the intended supplementation of MMK leaf

meal while maintaining adequate access to commercial feeds. The ad libitum feeding approach allowed the ducklings to consume feed according to their needs, promoting optimal growth conditions throughout the experiment.

Prevention of Parasites and Diseases

Strict cleanliness protocols were followed throughout the study to prevent the spread of parasites and diseases. The feeding and watering containers were cleaned daily, ensuring no contamination. Similarly, the brooding and rearing cages, along with the surrounding areas, were thoroughly cleaned each day. This consistent attention to cleanliness helped maintain a hygienic environment for the ducklings.

Sanitation

Sanitation measures were rigorously maintained in the entire experimental area throughout the study. Daily cleaning of the feeding and watering equipment, as well as the removal of droppings, ensured a clean environment, minimizing the risk of disease. These sanitation practices were essential in promoting the health and well-being of the ducklings during the experiment.

Data Gathered

The data gathered in the study were the feed consumption, gain in weight, feed conversion ratio, and return on investments.

Feed Consumption

Data on feed consumption was recorded daily from the start of the rearing period until the end of the study. His data was computed using the formula below:

$$\text{Feed Consumption} = \frac{\text{Feed Offered (g/bird)} - \text{Feed Refuse (g/bird)}}{\text{Number of Birds Per Treatment Replication}}$$

Initial Weight

Data on initial weight were taken after weeks of brooding. The weight of ducklings in each cage was added and divided by the number of chicks per cage. This data was computed using the formula below:

$$\text{Initial weight} = \frac{\text{Weight of Ducklings (g/bird) at 14th day}}{\text{Number of Birds per Treatment Replication}}$$

Final Weight

After harvesting, the individual weight of Ducklings was determined and divided by the number of Ducklings in every cage. This data was computed using the formula below:

$$\text{Final weight} = \frac{\text{Weight of Day-old Duck (g/bird) at Harvest Days}}{\text{Number of Birds per Treatment Replication}}$$

Average Daily Gain Weight

This was calculated by dividing the total gain in weight of the mallard duck by the number of feeding days (45 days). This data was computed using the formula below:

$$\text{Average Daily Gain} = \frac{\text{Weight Gain} / \text{Growing Days}}{\text{Harvest Weight} / \text{Initial Weight}}$$

Gain in Weight

This is obtained by subtracting the initial weight from the final weight in every treatment. The difference was divided by the number of mallards per cage.

$$\text{Gain in Weight} = \frac{\text{Weight Gain} / \text{Growing Days}}{\text{Harvest weight} / \text{initial weight}}$$

Feed Intake

This was calculated by dividing the total feed consumed by the mallard duck by the number of feeding days (45 days). This data was computed using the formula below:

$$\text{Feed Intake} = \frac{\text{Feed Offered (g/bird)} - \text{Feed Refused (g/bird)}}{\text{Number of Birds per Treatment Replication}}$$

Feed Conversion Efficiency

The average feed conversion efficiency of the broiler was determined by dividing the average gain in weight of the mallard. This data was computed using the formula below:

$$\text{Feed Conversion Efficiency} = \frac{\text{Weight of Feed Intake (g/bird)}}{\text{Weight Gain (g/bird)}} \times 100$$

Mortality Rate

Mortality was taken per treatment percentage of duck that does not survive or die, particularly during their growth period. This data was taken to determine the number of mortality / total number of birds.

$$\text{Mortality Rate} = \frac{\text{Number of Deaths}}{\text{Number of birds / T/Rep}} \times 100$$

Cost of Feed

The cost of feed for each treatment group was determined by multiplying the total feed consumed by the unit cost of the feed. Feed consumption was recorded daily by subtracting the feed leftovers from the amount offered. The total feed cost per bird was then computed using the formula:

$$\text{Cost of Feed (currency/bird)} = \text{Feed Consumed (g/bird)} \times \text{Unit Price of Feed (currency/g)}$$

Visceral Organs

At the end of the feeding trial, the Mallard ducks were humanely slaughtered to assess visceral organ development. The organs assessed included the heart, liver, gizzard, proventriculus, small intestine, and large intestine. Each organ was carefully excised from each individual duck, cleaned to remove any contents or blood, blotted dry, and weighed using a digital balance. Organ weights are reported in grams (g).

Statistical Tools and Analysis

All data collected in this study were subjected to analysis of variance (ANOVA) using the F-test to determine whether significant differences existed among treatments. Statistical significance was interpreted at the 5% level ($p < 0.05$). When significant differences were detected, the Honestly Significant Difference (HSD) test was employed to compare treatment means and identify which treatments differed from each other.

Data were organized and analyzed using the Statistical Tool for Agricultural Research (STAR) software, which allowed for proper handling of replicates and calculation of coefficients of variation (CV). The CV was calculated for each parameter to assess experimental precision and data reliability. All results are presented as mean values per treatment, with variability expressed through the CV and standard deviations. This approach ensured that the effects of different levels of MMK leaf meal supplementation on the growth performance, feed efficiency, mortality, and internal organ development of Mallard ducks were rigorously evaluated, and conclusions were based on statistically valid comparisons.

Ethical Considerations

The study was conducted in full adherence to ethical standards to ensure the responsible and humane treatment of all research subjects. Although the study did not involve human participants, the welfare of the Mallard ducks was given highest priority throughout the experiment. All ducklings were handled gently, housed in clean and well-ventilated facilities, and provided with sufficient food, clean water, and proper environmental conditions to support their health and comfort. Procedures were carefully designed to minimize stress, injury, and discomfort, following best practices for poultry management and animal research.

For aspects of the study involving human assistance, such as access to privately owned facilities or technical support, informed consent was obtained from all individuals involved. Participants were fully informed about the objectives, procedures, and scope of the research. Confidentiality was strictly maintained by anonymizing personal information of farm owners, suppliers, and assisting personnel, which was used solely for research purposes. Additionally, the study followed institutional and national ethical guidelines for animal research. All experimental protocols, including housing, feeding, handling, and slaughtering of the ducks, were conducted under principles of responsible animal care and scientific integrity. This ensured that the research was carried out ethically, responsibly, and with respect for both animal welfare and human contributors.

RESULTS

Final Weight, Average Daily Gain, Gain in Weight and Dressed Weight

Table 1

Final Weight, Average Daily Gain, Gain in Weight and Dressed Weight of Mallard ducks Fed Diets Supplemented with Varying Levels of MMK Leaf Meal

Treatment	Growth Performance Parameters				
	IW	FW	ADG	GW	DW
T1 - Pure Commercial Feeds	741.67	1,015.00 ^a	9.76 ^a	273.33 ^a	990.00 ^a
T2 - Commercial Feeds + 5% MMK	722.00	858.33 ^b	4.87 ^b	136.33 ^b	833.33 ^b
T3 - Commercial Feeds + 10% MMK	716.67	825.67 ^b	3.89 ^b	109.00 ^b	800.67 ^b
T4 - Commercial Feeds + 15% MMK	720.00	836.33 ^b	4.15 ^b	116.33 ^b	811.33 ^b
T5 - Commercial Feeds + 20% MMK	718.00	830.00 ^b	4.00 ^b	112.00 ^b	805.00 ^b
T6 - MMK Alone	724.33	816.67 ^b	3.30 ^b	92.33 ^b	791.67 ^b
CV (%)	2.07	2.05	16.02	16.00	2.11
F-test		**	**	**	**

Means with the same letter are not significantly different from each other (HSD 0.05)

Analysis of variance indicated that dietary treatments had a significant effect on final weight, average daily gain, total weight gain, and dressed weight (F-test, $p < 0.05$). The initial body weights of the ducks ranged from 716.67 g to 741.67 g across treatments. At the end of the feeding trial, ducks fed pure commercial feed (T1) exhibited the highest final weight (1,015.00 g), average daily gain (9.76 g/bird/day), and total weight gain (273.33 g), as well as dressed weight (990.00 g). In contrast, ducks fed diets containing MMK leaf meal, either as a partial supplement (T2-T5) or as the sole feed source (T6), showed significantly lower final weights, daily gains, and total weight gains ($p < 0.05$). Among the MMK-supplemented treatments, there were small differences in growth performance. Ducks in T2 (5% MMK supplementation) had slightly higher final weight (858.33 g) and weight gain (136.33 g) compared to other MMK treatments (T3-T6), which ranged from 816.67 g to 836.33 g in final

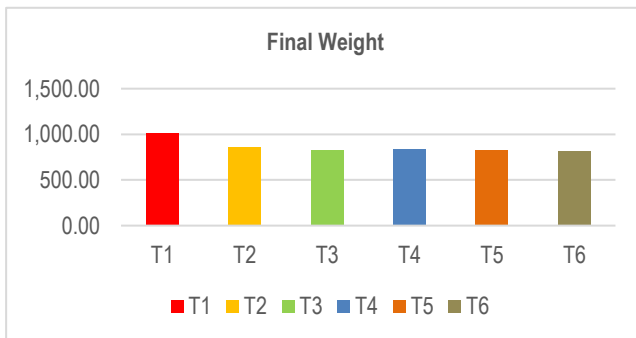


Figure 1. Final Weight of Mallard Ducks Fed Diets Supplemented with Varying Levels of MMK Leaf Meal

weight and 92.33 g to 116.33 g in total weight gain. Average daily gain in MMK-supplemented groups ranged from 3.30 to 4.87 g/bird/day. The supplementation with MMK leaf meal, particularly at levels above 5%, reduced growth performance compared to pure commercial feed, although some MMK treatments still supported moderate growth.

Feed Intake, Feed Conversion Ratio, Mortality Rate and Cost of Feed

Table 2
Feed Intake, Feed Conversion Ratio, Mortality Rate and Cost of Feed of Mallard Ducks Fed Diets Supplemented with Varying Levels of MMK Leaf Meal

Treatment	Production Efficiency Parameters			
	Feed Intake	Feed Conversion Ratio	Mortality Rate	Cost of Feed
T1 - Pure Commercial Feeds	7.00 ^a	2.59 ^b	10.00	182.00 ^c
T2 - Commercial Feeds + 5% MMK	7.16 ^{ab}	5.51 ^a	10.00	186.07 ^b
T3 - Commercial Feeds + 10% MMK	7.23 ^a	6.67 ^a	10.00	188.07 ^{ab}
T4 - Commercial Feeds + 15% MMK	7.26 ^a	6.26 ^a	10.00	188.85 ^{ab}
T5 - Commercial Feeds + 20% MMK	7.30 ^a	6.60 ^a	10.00	189.89 ^a
T6 - MMK Alone	6.27 ^c	6.81 ^a	6.33	94.00 ^d
CV (%)	0.88	13.00	16.46	0.72
F-test	**	**	ns	**

Means with the same letter are not significantly different from each other (HSD 0.05)

The production efficiency parameters of Mallard ducks fed different levels of MMK leaf meal supplementation are presented in Table 2. Analysis of variance revealed a significant difference in feed intake and FCR, but no significant difference in mortality rate. Feed intake ranged from 6.27 g/bird/day in ducks fed MMK alone (T6) to 7.30 g/bird/day in ducks fed commercial feed supplemented with 15% MMK (T5) whereas ducks in T6 exhibited the lowest feed consumption ($p < 0.05$). Ducks fed pure commercial feed (T1) had the most efficient feed utilization with an FCR of 2.59, while ducks fed MMK alone (T6) recorded the highest FCR (6.81), indicating poorer feed efficiency.

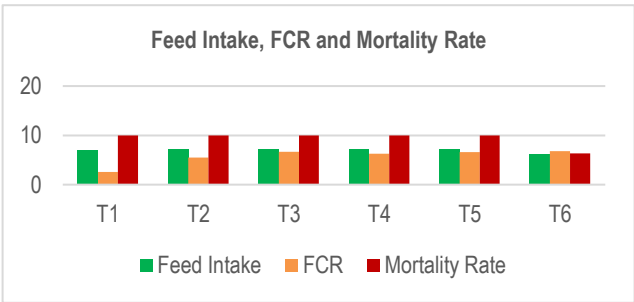


Figure 2. Feed Intake, FCR, And Mortality Rate of Mallard Ducks Fed Diets Supplemented with Varying Levels of MMK Leaf Meal

Mortality rate was not significantly different among most treatments ($p > 0.05$), with the exception of T6, which had a slightly lower mortality rate (6.33%) compared to the other treatments (10%). The cost of feed differed significantly across treatments ($p < 0.01$). Ducks fed MMK alone (T6) had the lowest feed cost (94.00), whereas ducks fed commercial feeds with 15% MMK (T5) incurred the highest feed cost (189.89).

Supplementation with MMK leaf meal increased feed consumption and cost but reduced feed efficiency compared to pure commercial feed, while MMK alone lowered feed intake and cost but led to higher FCR. These results suggest that MMK alone reduced feed intake and improved survival but led to higher FCR, whereas combination diets increased feed intake and cost while showing moderate efficiency.

Internal Organs (grams)

Table 3
Heart, Liver, Large Intestine, Small Intestine, Gizzard, and Proventriculus of Mallard Ducks Fed Diets Supplemented with Varying Levels of MMK Leaf Meal

Treatment	Visceral Organ Parameters					
	Heart	Liver	Large Intestine	Small Intestine	Gizzard	Proventriculus
T1 - Pure Commercial Feeds	11.33	40.00	37.67	55.33	29.00	13.00
T2 - Commercial Feeds + 5% MMK	12.33	38.67	36.67	54.67	29.00	13.00
T3 - Commercial Feeds + 10% MMK	10.67	40.00	37.33	54.67	28.67	12.33
T4 - Commercial Feeds + 15% MMK	11.00	39.67	36.67	56.00	29.00	13.00
T5 - Commercial Feeds + 20% MMK	11.33	39.33	37.33	54.00	29.00	12.33
T6 - MMK Alone	11.00	37.33	36.00	51.00	29.00	13.00
CV (%)	9.80	3.95	3.61	5.78	2.15	2.61
F-test	ns	ns	ns	ns	ns	ns

Means with the same letter are not significantly different from each other (HSD 0.05)

The weights of internal organs of Mallard ducks fed diets supplemented with varying levels of MMK leaf meal are presented in Table 3. Analysis of variance indicated no significant differences (ns) among treatments for any of the internal organs measured (F-test, $p > 0.05$). The organs measured included the heart, liver, large intestine, small intestine, gizzard, and proventriculus. Across all treatments, no significant differences were observed in the weights of these organs ($p > 0.05$). Heart weights ranged from 10.67 g (T3) to 12.33 g (T2), liver weights from 37.33 g (T6) to 40.00 g (T1 and T3), and large intestine weights from 36.00 g (T6) to 37.67 g (T1). Small intestine weights varied from 51.00 g (T6) to 56.00 g (T4), while gizzard weights remained relatively consistent, ranging between 28.67 g and 29.00 g. Proventriculus weights ranged from 12.33 g (T3 and T5) to 13.00 g (T1, T2, T4, T6).

The coefficients of variation (CV) ranged from 2.15% for gizzard weight to 9.80% for heart weight, indicating low to moderate variability among the experimental units. The F-test confirmed that there were no statistically significant differences (ns) for any of the internal organs measured, suggesting that the level of MMK leaf meal supplementation, whether partial (5-20%) or complete (100%), did not affect organ development. These results indicate that,

while MMK supplementation influenced growth performance and feed utilization, the physiological development of vital organs remained stable, demonstrating that the supplement does not impose adverse effects on organ health.

The consistency in organ weights across treatments suggests that Mallard ducks can maintain normal organ development even under dietary variations, emphasizing the resilience of key physiological systems such as the heart, liver, and digestive organs. This stability is important because it indicates that nutrient allocation to essential organs is preserved, even when the diet is partially or fully replaced with plant-based MMK leaf meal. Moreover, the uniformity of gizzard and proventriculus weights implies that digestive efficiency and enzymatic processing capacity are not compromised, which is essential for maintaining overall metabolic health. These findings support the use of MMK leaf meal as a safe and practical dietary supplement for Mallard ducks. It can be incorporated into feeding programs as a partial or complete alternative to conventional commercial feeds without risking organ health, making it a promising option for reducing feed costs while maintaining physiological well-being and supporting sustainable duck production.

DISCUSSION

Final Weight, Average Daily Gain, Gain in Weight, and Dressed Weight

The results demonstrated that dietary treatments significantly affected the growth performance of Mallard ducks, as indicated by the F-test showing highly significant differences ($p < 0.01$) in final weight, average daily gain (ADG), gain in weight, and dressed weight. Mallard ducks fed pure commercial feed (T1) attained the highest final body weight (1,015.00 g), whereas all MMK-supplemented treatments (T2-T6) recorded significantly lower final weights. The observed findings indicate that substituting commercial feed with MMK leaf meal could adversely influence body weight development in a direct adjustment to energy density, amino acid profiles, or anti-nutritional factors present in the MMK plant itself that limit nutrient utilization. The decreases recorded in the present study are fairly compensated by partial supplementation of commercial feed with MMK leaf meal (T2-T5) which can still add certain nutritional advantages derived from Moringa, Madre de Agua, and Kangkong leaves such as proteins, essential amino acids, vitamins, minerals, and bioactive compounds without totally sacrificing growth. Feeding the ducks MMK only (T6) provided the lowest gains in body weight, indicating that single feeding of MMK was not fulfilling all nutritional needs for Mallard ducks. These observations correlate well with reports by previous studies conducting poultry nutrition research where reduced growth performance was noted when conventional diets were partially or completely supplemented with plant-based feed ingredients devoid of sufficient digestible energy and/or nutrient balance (Abdollahi et al., 2013; Babatunde et al., 2021; Obianwuna et al., 2024). As a conclusion, Moringa, Madre de Agua and Kangkong leaf meal are better used as an additional resource for the main commercial fowl feed to improve or complement the nutritional needs of birds based on its functional properties rather than replacing all feeds with these vegetable byproducts.

Total gain in weight followed a pattern similar to final weight, with ducks in T1 achieving the highest gain (273.33 g) and MMK-fed groups exhibiting significantly lower gains. This decline in weight gain indicates reduced growth efficiency when MMK was included in the diet. The reduced growth response may reflect decreased digestibility or poorer amino acid availability associated with plant-derived feed materials. This decline in weight gain may reflect reduced nutrient digestibility and poorer amino acid availability associated with plant-derived feed materials, as many plant ingredients contain anti-nutritional factors (e.g., protease inhibitors, phytate, tannins) that can bind proteins and impair amino acid absorption, ultimately limiting nutrient utilization and growth performance in poultry (Alabi & Adedokun, 2025).

Average daily gain (ADG) was significantly affected by diet, with T1 showing the highest growth rate (9.76 g/day). All MMK-supplemented treatments exhibited lower ADG values (3.30-4.87 g/day), indicating that inclusion of plant-derived ingredients such as Moringa, Madre de Agua, and Kangkong reduced growth efficiency. Notably, increasing MMK levels did not produce a strictly proportional decline in ADG, suggesting a threshold effect in which even low levels of plant inclusion may limit nutrient utilization due to the presence of anti-nutritional factors and reduced amino acid digestibility (Jha & Mishra, 2021; Anam et al., 2025; Zhang et al., 2023).

On the other hand, dressed weight was significantly affected by dietary treatments, with ducks fed pure commercial feed exhibiting the highest dressed weight (990.00 g). Although MMK-fed ducks recorded lower dressed weights ranging from 791.67 g to 833.33 g, these values reflected the overall reduction in live body weight rather than disproportionate carcass loss. The observed decrease in dressed weight suggests that reduced nutrient intake and growth performance translated into lower carcass yield. The observed decrease in dressed weight suggests that reduced nutrient intake and growth performance translated into lower carcass yield. These findings are consistent with Olukosi et al. (2019), who demonstrated that nutritionally balanced diets improve carcass yield and growth efficiency in poultry, and with Nkukwana et al. (2014), who reported that suboptimal nutrient intake from alternative plant-based feed ingredients can lead to reduced carcass development and overall performance in broiler chickens.

Feed Intake, Feed Conversion Ratio, Mortality Rate and Cost of Feed

Feed intake was significantly influenced by dietary treatments ($p < 0.01$). Treatment 1 was significantly among all the treatments. Mallard ducks fed commercial diets supplemented with MMK at 5-20% (T2-T5) exhibited slightly higher feed intake compared with the control group (T1), while ducks fed MMK alone (T6) recorded the lowest feed intake (6.27 g/bird/day). The increased feed intake observed at partial MMK inclusion levels may reflect compensatory feeding behavior in response to reduced dietary nutrient density as MMK levels increased. In contrast, the reduced intake in ducks fed MMK alone suggests limitations in palatability and digestibility when plant components fully replace commercial feeds, consistent with observations that high dietary fiber can decrease feed intake and nutrient absorption in poultry. (Jha & Mishra, 2021).

Feed conversion ratio (FCR) differed significantly among treatments ($p < 0.01$). Ducks fed pure commercial feed (T1) exhibited the most efficient feed utilization, with the lowest FCR

value (2.59). In contrast, all MMK-supplemented treatments (T2-T6) recorded significantly higher FCR values, ranging from 5.51 to 6.81, indicating poorer feed efficiency. Notably, even the lowest MMK inclusion level (5%) resulted in a marked reduction in feed conversion efficiency, suggesting that MMK negatively affected nutrient utilization even at minimal inclusion. The decline in feed efficiency may be attributed to the presence of anti-nutritional factors, reduced protein quality, or imbalanced amino acid profiles in unconventional leaf meals like Moringa or similar plant forages (Mahfuz & Piao, 2019). Similar trends have been reported in ducks and broilers when plant leaf meals were included at moderate to high levels, emphasizing the need for careful optimization of inclusion rates to balance cost-effectiveness with feed efficiency and overall growth performance (Ngamsaeng et al., 2004).

Mortality rate was not significantly affected by dietary treatments ($p > 0.05$). Most treatments recorded a mortality rate of 10.00%, while ducks fed MMK alone (T6) showed a slightly lower mortality rate (6.33%). Although differences were not statistically significant, the results indicate that MMK supplementation, even when used as the sole feed source, did not adversely affect survivability under the conditions of the study. This suggests that MMK leaf meal did not exert acute toxic effects on Mallard ducks during the experimental period. Although differences in growth performance and feed efficiency were observed among treatments, mortality was not significantly affected by dietary inclusion of unconventional feed ingredients ($p > 0.05$), with most groups showing similar survival rates over the study period. This finding aligns with results from other duck nutrition experiments in which inclusion of plant-based supplements or alternative protein sources did not increase mortality, indicating that such dietary treatments did not exert acute toxic effects under standard rearing conditions (Yang et al., 2020; Zhou et al., 2019). The cost of feed varied significantly among treatments ($p < 0.01$). Ducks fed MMK alone (T6) incurred the lowest feed cost (94.00), reflecting the lower cost of MMK compared with commercial feeds. In contrast, ducks fed commercial feed supplemented with 20% MMK (T5) recorded the highest feed cost (189.89), while other MMK-supplemented treatments exhibited intermediate costs. Although MMK inclusion reduced feed cost when used as the sole diet, this economic advantage was offset by poor feed conversion efficiency and reduced growth performance. These findings suggest that while MMK leaf meal may reduce feed cost, its inclusion compromises production efficiency, limiting its suitability as a complete or partial replacement for commercial feed. Partial inclusion of MMK leaf meal increased feed intake but negatively affected feed efficiency, while complete replacement reduced feed intake and feed cost but resulted in poor nutrient utilization. These results indicate that MMK leaf meal has limited potential as a feed ingredient for Mallard ducks under the conditions of this study.

Visceral Organs

The analysis of variance revealed no significant differences in internal organ weights of Mallard ducks, indicating that MMK supplementation did not affect organ development. The heart weights of Mallard ducks did not differ significantly among treatments, with values ranging from 10.67 g to 12.33 g. This indicates that MMK supplementation, whether partial or complete, did not affect cardiac development. Despite the observed reductions in growth performance associated with MMK inclusion, heart weight remained stable, suggesting that cardiac tissue is relatively conserved even under nutritionally suboptimal diets. A similar pattern in monogastric nutrition is that many plant-based dietary inclusions can change production variables without

causing changes in visceral morphology. Studies in quail showed that phytogetic supplementation had no significant effect on internal organ weights (Essien et al., 2022). Studies have also shown that moderate inclusion levels of *Moringa oleifera* leaf meal did not lead to any significant changes in internal organ weights in poultry feed which is consistent with the observations made as result from this experiment. For instance, Nkukwana et al. (2014) and the viscera is less developed in chickens fed higher levels of *M. oleifera* leaf meal compared with control birds, suggesting that inclusion of this feedstuff may not have any detrimental impact on visceral development. Likewise, Cui et al. (2018) reported no adverse effects on organ weight parameters of broilers fed diets with *M. oleifera* leaves, supporting the interpretation that morphology of body organs such as heart and other vital organs is unaffected when non-cultivated plant feeds are introduced in diet at significant levels.

On liver, liver weight was not significantly influenced by dietary treatment, with values ranging from 37.33 g to 40.00 g across all groups. This suggests that MMK supplementation did not impair liver development, even though growth performance and feed efficiency were reduced in MMK-fed ducks. The stability of liver weight reflects the liver's critical metabolic role and its capacity to maintain mass under varying dietary conditions. The stability of liver weight is consistent with findings from poultry nutrition research; for example, Akib et al. (2024) reported that inclusion of *Moringa oleifera* leaf powder in broiler diets did not significantly affect the relative weights of internal organs such as liver or digestive organs, despite performance changes among treatments. This pattern suggests that the liver's critical metabolic role and structural resilience enable it to maintain mass under varying dietary conditions. Bautista et al. (2018) similarly emphasized that nutrient allocation in ducks prioritizes essential organs such as the liver when alternative feed ingredients are used. Liver weight remained a stable physiological parameter regardless of MMK inclusion level.

In addition, no significant differences also were observed in large intestine weight among treatments. This indicates that MMK supplementation did not influence large intestine development. Despite reduced growth performance in MMK-fed ducks, the relative stability of large intestine weight suggests resilience of the digestive system. This pattern aligns with broader poultry nutrition research showing that inclusion of dietary fiber or plant-derived feed components can modulate gut physiology and microbiota composition without necessarily altering gross intestinal organ weights, reflecting maintenance of large intestine integrity under varied dietary conditions (Jha & Mishra, 2021).

The observed variations in small intestine were within normal physiological limits, indicating that MMK inclusion did not alter small intestine development. This stability suggests that structural adaptation to dietary changes may occur at the micro-architectural level (e.g., villus height and surface area) rather than through changes in organ mass. MMK supplementation did not significantly affect small intestine development, as evidenced by the observed differences in small intestine weight being within typical physiological bounds. This stability implies that rather than through significant changes in organ mass, structural adaptation to dietary changes mostly takes place at the micro-architectural level (e.g., villus height, crypt depth, and absorptive surface area). These modifications enable the digestive system to continue operating efficiently in spite of declines in feed efficiency or growth performance. This

interpretation is consistent with research from Scopus-indexed studies that found that adding dietary fiber or plant-based feed ingredients to poultry diets changed intestinal morphology to maximize nutrient absorption but did not significantly alter intestinal organ weights (Jha & Mishra, 2021; Akib et al., 2024).

Proventriculus weight remained consistent across treatments, ranging from 12.33 g to 13.00 g, indicating that MMK supplementation did not affect the development of this organ. The limited variation reflects the essential role of the proventriculus in enzymatic digestion and its relative resistance to morphological change under nutritional stress. The significance of functional resilience has been illustrated in the studies on dietary fiber where it was observed that although micro-moderating mechanisms (e.g., secretion of digestive enzymes, gut motility, and mucosal morphology) that correlate with gastrointestinal physiology could modify feed ingredients at a small scale; most often outlets from such adaptations, including the mass/size of organs involved in digestion (including digestive glands), remain within physiological norms across diets comprising contrasting fibrous contents thus denoting high organ function for digestive apparatus (for example proventricular girdle) under variable nutrition conditions (Jha & Mishra, 2021).

Conclusion

This study examined the effects of replacing commercial feeds with different levels of MMK leaf meal on the growth performance, feed efficiency, internal organ development, and survival of Mallard ducks. The results showed that ducks fed with pure commercial feeds had better growth performance, higher weight gain, improved feed conversion, and greater dressed weight compared to those receiving MMK-supplemented diets. Increasing the level of MMK in the diet led to poorer growth performance, and ducks fed with MMK alone showed the weakest results and experienced mortality. Although MMK supplementation negatively affected growth and feed efficiency, it did not significantly influence the weights of internal organs. The heart, liver, intestines, gizzard, and proventriculus remained normal across all treatments, indicating that MMK did not impair internal organ development. These findings suggest that while MMK leaf meal is not harmful to vital organs, it does not provide sufficient nutrients to support optimal growth when used as a major feed component. MMK leaf meal cannot effectively replace commercial feed in Mallard duck production without reducing growth performance and feed efficiency.

Recommendations

Based on the findings of this study, commercial feeds should remain the primary diet for Mallard ducks to ensure optimal growth performance, feed efficiency, and survival. MMK leaf meal should not be used as a complete feed replacement and may only be considered at very low inclusion levels, as higher levels were associated with reduced growth and poor feed utilization. Future studies should employ larger sample sizes and further investigate physiological, biochemical, and digestive parameters to better elucidate the mechanisms underlying the observed effects. In addition, subsequent research should evaluate carcass

characteristics and meat quality traits, including dressing percentage, muscle yield, and chemical composition, to determine the implications of MMK leaf meal on meat production.

Limitations of the Study

Despite providing valuable information on the effects of MMK (Madre de Agua, Moringa, and Kangkong) leaf meal supplementation on the growth performance of Mallard ducks, this study has several limitations. First, the experiment was conducted in a single location under specific environmental and management conditions, which may limit the applicability of the findings to other production settings. Second, the study focused on growth performance, feed efficiency, mortality, and visceral organ development, without assessing blood biochemical parameters, immune response, nutrient digestibility, or meat quality traits. Third, the feeding trial was limited to a 90-day production period and did not evaluate the long-term effects of MMK supplementation on reproductive performance and overall health. Finally, the study evaluated MMK as a combined supplement and did not determine the individual effects of Madre de Agua, Moringa, and Kangkong. Future research should conduct multi-location trials, investigate additional physiological and economic parameters, and assess the individual and synergistic effects of these plant materials to further validate and expand the findings of this study.

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REFERENCES

- Abdollahi, M. R., Ravindran, V., & Svihus, B. (2013). Pelleting of broiler diets: An overview with emphasis on pellet quality and nutritional value. *Animal Feed Science and Technology*, 179(1–4), 1–23. <https://doi.org/10.1016/j.anifeedsci.2012.10.011>
- Akib, M. G., Rifat, A., Bormon, C., Dutta, A., Ataher, M. S., Azzam, M., Farouk, M. H., Das, R., Azad, M. A. K., & Mahfuz, S. (2024). Effects of *Moringa oleifera* leaf powder on the

- growth performance, meat quality, blood parameters, and cecal bacteria of broilers. *Veterinary Sciences*, 11(8), 374. <https://doi.org/10.3390/vetsci11080374>
- Alabi, T., & Adedokun, S. (2025). Amino acid nutrition in poultry: A review. *Animals*, 15(22), 3323. <https://doi.org/10.3390/ani15223323>
- Anam, M. S., Muslykhah, U., Sadid, M. M., Noviandi, C. T., Astuti, A., Paradhita, D. H. V., & Agus, A. (2025). Effects of microalgae supplementation on performance, egg quality, yolk fatty acid levels, and blood parameters in laying hens: A meta-analysis. *Scientific Reports*, 15(1), 44877. <https://doi.org/10.1038/s41598-025-28515-3>
- Babatunde, O. O., Park, C. S., & Adeola, O. (2021). Nutritional potentials of atypical feed ingredients for broiler chickens and pigs. *Animals*, 11(5), 1196. <https://doi.org/10.3390/ani11051196>
- Bautista, A. B., & Cruz, L. C. (2018). Current status and prospects of duck production in the Philippines. *Philippine Journal of Veterinary and Animal Sciences*, 34(2), 125–138.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Cui, Y. M., Wang, J., Lu, W., Zhang, H. J., Wu, S. G., & Qi, G. H. (2018). Effect of dietary supplementation with *Moringa oleifera* leaf on performance, meat quality, and oxidative stability of meat in broilers. *Poultry Science*, 97(8), 2836–2844. <https://doi.org/10.3382/ps/pey122>
- Egbu, C. F., Mulaudzi, A., Motsei, L. E., & Mnisi, C. M. (2024). *Moringa oleifera* products as nutraceuticals for sustainable poultry production: Nutritional profile, benefits, and limitations. *Agriculture & Food Security*, 13, 54. <https://doi.org/10.1186/s40066-024-00508-x>
- Essien, C. A., Sam, I. M., Okon, U. M., & Ndak, U. U. (2022). Effect of *Moringa (Moringa oleifera)* leaf meal on the performance, carcass characteristics and lipid profile of finisher broiler chickens. *AKSU Journal of Agriculture and Food Science*, 6(3), 213–223.
- Gomez, K. A., & Gomez, A. A. (1984). *Statistical procedures for agricultural research* (2nd ed.). John Wiley & Sons.
- Gul, S., Hussain, F., Taj, R., & Ullah, A. (2024). Effect of dietary *Moringa oleifera* on production performance and gut health in broilers. *Journal of Advanced Veterinary and Animal Research*, 11(2), 339–348. <https://doi.org/10.5455/javar.2024.k782>
- Jha, R., & Mishra, P. (2021). Dietary fiber in poultry nutrition and their effects on nutrient utilization, performance, gut health, and on the environment: A review. *Journal of Animal Science and Biotechnology*, 12, 51. <https://doi.org/10.1186/s40104-021-00576-0>
- Leterme, P., Londoño, A. M., Estrada, F., Souffrant, W. B., & Buldgen, A. (2005). Chemical composition, nutritive value and voluntary intake of tropical tree foliage and cocoyam in

- pigs. *Journal of the Science of Food and Agriculture*, 85(10), 1725–1732. <https://doi.org/10.1002/jsfa.2177>
- Mahfuz, S., & Piao, X. S. (2019). Application of moringa (*Moringa oleifera*) as natural feed supplement in poultry diets. *Animals*, 9(7), 431. <https://doi.org/10.3390/ani9070431>
- Ngamsaeng, A., Thy, S., & Preston, T. R. (2004). Duckweed (*Lemna minor*) and water spinach (*Ipomoea aquatica*) as protein supplements for ducks fed broken rice as the basal diet. *Livestock Research for Rural Development*, 16(3), Article 16. <https://www.lrrd.org/lrrd16/7/ngam16051.htm>
- Nkukwana, T. T., Muchenje, V., Pieterse, E., Masika, P. J., Mabusela, T. P., Hoffman, L. C., & Dzama, K. (2014). Effect of *Moringa oleifera* leaf meal on growth performance, apparent digestibility, digestive organ size and carcass yield in broiler chickens. *Livestock Science*, 161, 139–146. <https://doi.org/10.1016/j.livsci.2014.01.001>
- Obianwuna, U. E., Chang, X., Oleforuh-Okoleh, V. U., Patience, O., Zhang, H., Qiu, K., & Wu, S. (2024). Phytobiotics in poultry: Revolutionizing broiler chicken nutrition with plant-derived gut health enhancers. *Journal of Animal Science and Biotechnology*, 15, 169. <https://doi.org/10.1186/s40104-024-01101-9>
- Ogbuwu, I. P., & Mbajorgu, C. A. (2024). Enhancement of nutritional and functional qualities of tropical leaf meal as feed ingredients in chickens through the use of fermentation technology. *Tropical Animal Health and Production*, 56, 367. <https://doi.org/10.1007/s11250-024-04223-4>
- Ogbuwu, I. P., Mabelebele, M., & Mbajorgu, C. A. (2024). Determination of performance response of broilers to fermented tropical leaf meal supplementation using meta-analytical method. *Tropical Animal Health and Production*, 56, 116. <https://doi.org/10.1007/s11250-024-03944-w>
- Olukosi, O. A., Walker, R. L., & Houdijk, J. G. M. (2019). Evaluation of the nutritive value of legume alternatives to soybean meal for broiler chickens. *Poultry Science*, 98(11), 5778–5788. <https://doi.org/10.3382/ps/pez374>
- Saikia, K., Dey, S., Hazarika, S. N., Handique, G. K., Thakur, D., & Handique, A. K. (2023). Chemical and biochemical characterization of *Ipomoea aquatica*: Genoprotective potential and inhibitory mechanism of its phytochemicals against α -amylase and α -glucosidase. *Frontiers in Nutrition*, 10, 1304903. <https://doi.org/10.3389/fnut.2023.1304903>
- Zhang, H., Huang, L., Hu, S., Qin, X., & Wang, X. (2023). *Moringa oleifera* leaf powder as new source of protein-based feedstuff improves growth performance and cecal microbial diversity of broiler chicken. *Animals*, 13(6), 1104. <https://doi.org/10.3390/ani13061104>

PARENTAL INFLUENCE ON THE ENTREPRENEURIAL INTENTION OF THE BS ENTREPRENEURSHIP STUDENTS OF CMDI

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SDGs: **Goal 1 (No Poverty); Goal 4 (Quality Education)**

ABSTRACT

This study examined the influence of parental factors on the entrepreneurial intentions of BS Entrepreneurship students at CMDI Tagum Campus. It was grounded in the growing importance of entrepreneurship in the Philippines and the challenges faced by young people, particularly the need for family support in shaping entrepreneurial confidence and career choices. The study aimed to determine the level of parental influence in terms of entrepreneurial family background, parental support, career-related modeling, socioeconomic status, and parental expectations, as well as assess students' entrepreneurial intentions based on personal attitude, perceived behavioral control, and risk tolerance. A quantitative descriptive correlational design was used, employing a census-based sampling procedure involving second- to fourth-year students enrolled in the first semester of SY 2024–2025. Data were collected through a researcher-designed, validated questionnaire administered via Google Forms, supported by both primary and secondary sources, and analyzed using Microsoft Excel. Results indicated varying degrees of parental involvement, with some students receiving encouragement while others experienced pressure or limited support, influencing their readiness and confidence toward entrepreneurship. The findings revealed significant relationships between certain parental factors and students' entrepreneurial intentions. The study concluded that stronger parental engagement played a vital role in fostering entrepreneurial motivation, and it recommended enhanced programs that involve families to better support students in pursuing business ventures.

Keywords: *Parental Influence; Entrepreneurial Intention; Career-Related Modeling; Parental Support; Parental Expectations; Entrepreneurial Family Background*

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INTRODUCTION

The Philippines' economy depends heavily on entrepreneurship, and many young people are interested in it since it offers opportunity for creativity, financial freedom, and problem-solving. However, obstacles that young entrepreneurs must overcome include a lack of capital, a lack of mentorship, and the perception of a high risk (Sheppard, 2023). Only a small percentage of young people actually launch enterprises, indicating poor entrepreneurial activity among youth (Georgescu & Herman, 2020), despite the fact that entrepreneurship programs seek to solve these concerns by increasing students' abilities and mindset (Velasco, 2016). These circumstances highlight the growing concern about the disconnect between actual involvement and entrepreneurial interest.

Studies already conducted highlight how parents have a big impact on students' aspirations to start their own business. Although students whose parents are entrepreneurs are more likely to pursue business endeavors, many feel pressured to pick stable employment over entrepreneurship, which prevents them from taking chances. Additionally, students' confidence and drive to follow entrepreneurial paths are weakened by a lack of parental support (Kusumawardani & Richard, 2020). Students' engagement is further impacted by the low level of parental involvement at CMDI Tagum Campus, as evidenced by their limited participation in school programs. Despite previous study, there is currently a lack of studies that concentrate exclusively on CMDI Tagum Campus BS Entrepreneurship students, which leaves this topic insufficiently explored.

This study is important since students' capacity to pursue entrepreneurial jobs is strongly impacted by parental influence. Students' entrepreneurial development may be limited by a lack of confidence, resources, and motivation in the absence of enough parental support (Gozalie et al., 2023; Yusriadi et al., 2020). Furthermore, unrealized entrepreneurial potential could hinder innovation and contributions to economic growth (Georgescu & Herman, 2020). These difficulties show how vital it is to investigate parental influence because neglecting to do so could have a detrimental effect on students' capacity for entrepreneurship and overall economic growth. By enhancing support networks and strengthening entrepreneurship education, the findings will help students, parents, academic programs, and institutions.

This study's primary goal is to figure out how parents affect the entrepreneurial intentions of CMDI Tagum Campus BS Entrepreneurship students. It specifically looks at parental influence in terms of socioeconomic status, parental expectations, career-related modeling, parental support, and entrepreneurial family background. Additionally, it seeks to discover whether there is an important connection between parental influence and entrepreneurial intention, as well as to evaluate students' entrepreneurial ambitions based on their personal attitude, perceived behavioral control, and risk tolerance.

The study relies on Bandura's (1977) Social Learning Theory, Bandura's (1986) Social Cognitive Theory, and Ajzen's (1991) Theory of Planned Behavior. According to these

perspectives, students form their entrepreneurial ambitions through social interactions, personal values, and observation. Parents serve as role models for their children, influencing their attitudes and self-assurance through their actions and encouragement. The conceptual framework demonstrates how family support influences students' abilities, self-assurance, and desire to pursue entrepreneurship by identifying parental influence as the independent variable and entrepreneurial intention as the dependent variable.

This study aligns with SDG 4: Quality Education, which emphasizes inclusive and equitable education and the promotion of lifelong learning opportunities, and SDG 1: No Poverty, which aims to eradicate poverty and enhance economic opportunities for all. By examining parental influence on students' entrepreneurial intentions, the research supports the development of skilled, empowered, and socially responsible young entrepreneurs who can access education, create business opportunities, and contribute to poverty reduction and sustainable economic growth.

METHODOLOGY

This study used a quantitative descriptive, non-experimental correlational design to study the connection between entrepreneurial goals and parental influence among CMDI Tagum Campus BS Entrepreneurship students. The descriptive component gave a clear explanation of the study's background, variables, and significance, while the quantitative method made it possible to collect and analyze quantifiable data. The researchers were able to examine the occurrences in their natural environment because the design was non-experimental, which guaranteed that no factors were changed. Additionally, the correlational component was crucial in identifying the strength and direction of the association between parental influence and entrepreneurial intention, which makes it the best design for achieving the goals of the study. This design allowed for an in-depth analysis of natural associations between parental factors and students' entrepreneurial intentions without manipulation, providing insights to guide educational strategies.

A census-based sampling approach targeted all second- to fourth-year BSE students enrolled in the 1st semester of Academic Year 2024–2025 ($N = 250$), with 167 respondents participating. This ensured proportional representation across year levels, minimizing sampling bias and capturing a comprehensive view of entrepreneurial intentions at different academic stages.

Data were collected using a self-administered online questionnaire, adapted from validated instruments (Silk et al., 2003; Liñán & Chen, 2009; Zhang et al., 2022) and relevant guidelines for socio-economic status and entrepreneurial family background. Measures included dichotomous, categorical, index, and Likert-scale items, and a pilot test confirmed clarity, validity, and reliability. Secondary data were sourced from published literature to contextualize findings.

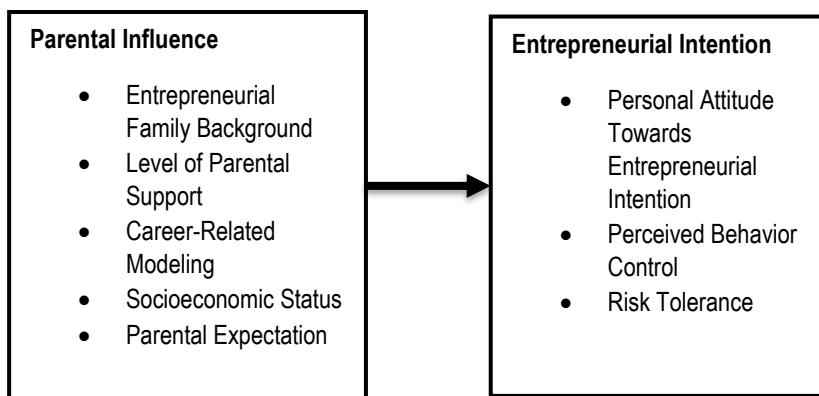


Figure 1. Conceptual Model on the Relationship between Parental Influence and Entrepreneurial Intention

Data were analyzed using Microsoft Excel. Levels of parental influence and entrepreneurial intention were assessed with mean scores, while the relationship between variables was tested using Spearman's Rank Correlation due to non-normal data distribution ($r = 0.535$, $p < 0.001$). Dichotomous and Likert-scale responses captured the intensity and type of parental influence, while arbitrary distributions quantified entrepreneurial exposure and socioeconomic status.

Ethical standards were maintained throughout. Participants provided informed consent, confidentiality was ensured in compliance with RA 10173 (Data Privacy Act), and all data were securely stored. The study adhered to principles of research integrity, including accurate reporting, proper source attribution, and prevention of data manipulation.

RESULTS

Respondents' Demographics

The survey results provided a comprehensive overview of the demographic profiles of the 167 BS Entrepreneurship students at CMDI Tagum Campus, all of whom lived with their parents, highlighting the social and familial context in which parental influence may operate. In terms of academic distribution, the majority of respondents were second-year students (41.32%), followed by third-year students (32.34%) and fourth-year students (26.35%), allowing for an analysis of entrepreneurial intentions across different stages of academic progression. This distribution is important because students at different year levels may possess varying degrees of exposure to entrepreneurial concepts, practical training, and maturity, which could shape how they perceive and respond to parental guidance and support.

Table 1*Demographic Characteristics of Respondents*

Characteristic	Frequency (N=167)	Percentage (%)	Cumulative Percentage (%)
Year Level			
2nd year	69	41.32	41.32
3rd year	54	32.34	73.66
4th year	44	26.35	100.00
Age (years)			
19-23	148	88.62	88.62
24-33	19	11.38	100.00
Sex			
Female	123	73.65	73.65
Male	44	26.35	100.00
Family-owned a business			
Yes	40	23.95	23.95
No	127	76.60	100.00

A substantial proportion of respondents were aged 19–23 (88.62%), which reflects the typical age range of students pursuing tertiary education, suggesting that most participants are at a developmental stage where parental influence remains highly relevant in shaping decision-making, career aspirations, and entrepreneurial mindset. Furthermore, female students comprised 73.65% of the sample, highlighting a gendered dimension to entrepreneurial engagement.

Notably, only 23.95% of respondents reported having family-owned businesses, whereas the remaining 76.60% had no prior exposure to family enterprises. This indicates that the majority of students are developing their entrepreneurial intentions largely independently of direct family business experience, relying instead on parental guidance, support, and expectations rather than inherited knowledge or resources. The combination of limited family business exposure with a high reliance on parental support emphasizes the potential for parents to shape attitudes, perceived behavioral control, and risk-taking tendencies even in students without direct entrepreneurial backgrounds.

Table 2 presents a detailed examination of the level of parental influence on BSE students across five key indicators, highlighting both areas of strong influence and those with minimal impact. Among the indicators, Career-Related Modeling recorded the highest mean of 4.20 (SD = 0.673), suggesting that students perceive their parents as significant role models in shaping their career perspectives and providing guidance on academic and entrepreneurial decisions. Similarly, Level of Parental Support (mean = 4.14, SD = 0.733) and Parental Expectations (mean = 4.07, SD = 0.711) also reflected strong parental influence, indicating that emotional, motivational, and goal-oriented guidance from parents plays a critical role in fostering students' entrepreneurial confidence and aspirations.

Table 2

Level of Parental Influence on BSE Students

Indicators		Mean	SD	Descriptive Equivalent
Entrepreneurial Family Background		1.35	0.769	Very low parental influence
Level of Parental Support		4.14	0.733	Strong parental influence
Career-Related Modeling		4.20	0.673	Strong parental influence
Socio-economic Status		1.96	0.898	Low parental Influence
Parental Expectations		4.07	0.711	Strong parental influence
Overall		3.15	0.459	Neutral Influence

In contrast, Socio-Economic Status (mean = 1.96, SD = 0.898) and Entrepreneurial Family Background (mean = 1.35, SD = 0.769) were observed to be low to very low. This indicates that the majority of respondents come from families with limited financial resources and minimal exposure to family-owned businesses.

The overall mean of 3.15 (SD = 0.459) indicates a neutral level of parental influence among the respondents, suggesting a balance between areas of strong involvement, such as support, expectations, and career-related modeling, and areas with minimal impact, including socio-economic status and entrepreneurial family background. It is important to note that this overall score describes the extent of parental influence but does not yet indicate any relationship with the students' entrepreneurial intentions. Understanding this distribution provides context for interpreting parental influence and highlights areas where support is strong versus areas that may require further attention, without implying a direct effect on entrepreneurial outcomes at this stage.

Table 3

Level of Entrepreneurial Intention among BSE Students

Indicators		Mean	SD	Descriptive Equivalent
Personal Attitude Towards Entrepreneurial Intention		4.26	0.564	Very high entrepreneurial intention
Perceived Behavioral Control		3.96	0.682	High entrepreneurial intention
Risk Tolerance		3.97	0.669	High entrepreneurial intention
Overall		4.06	0.569	High Entrepreneurial Intention

Table 3 provides a detailed assessment of the level of entrepreneurial intention among BSE students, measured across three key indicators. Personal Attitude Towards Entrepreneurial Intention recorded the highest mean of 4.26 (SD = 0.564), indicating that students possess a very high level of entrepreneurial intention in terms of their personal attitudes. This suggests that respondents generally hold positive perceptions about

entrepreneurship, including strong motivation, interest, and commitment to pursuing entrepreneurial activities.

Both Perceived Behavioral Control (mean = 3.96, SD = 0.682) and Risk Tolerance (mean = 3.97, SD = 0.669) were also rated high, reflecting that students feel confident in their ability to manage the tasks and challenges associated with entrepreneurship and are willing to take calculated risks. High perceived control suggests that students believe they can effectively plan, execute, and adapt entrepreneurial activities, while strong risk tolerance indicates a readiness to face uncertainty, experiment with innovative ideas, and seize potential opportunities despite potential setbacks.

The overall mean of 4.06 (SD = 0.569) reflects a generally high level of entrepreneurial intention among the respondents, demonstrating that BSE students at CMDI Tagum Campus are well-positioned to pursue entrepreneurial ventures. These results highlight that while individual attitudes are particularly strong, students also exhibit a robust sense of capability and a willingness to embrace risk, forming a holistic profile of entrepreneurial readiness.

Table 4 presents the relationship between parental influence and entrepreneurial intention among BSE students, highlighting the connection between family factors and students' entrepreneurial aspirations. The analysis revealed a moderate positive correlation ($r = 0.535$), indicating that as parental influence increases, students' entrepreneurial intention also tends to increase. The relationship was statistically significant ($p < 0.001$), leading to the rejection of the null hypothesis and confirming that parental involvement plays a meaningful role in shaping students' entrepreneurial mindset.

These findings suggest that students who receive strong parental support, clear expectations, and effective career-related modeling are more likely to develop the confidence, motivation, and readiness needed to pursue entrepreneurial activities. Parental influence may provide not only guidance and encouragement but also indirect modeling of entrepreneurial behaviors, instilling values, attitudes, and self-efficacy that enhance students' willingness to engage in business ventures.

Table 4
Relationship between Parental Influence and Entrepreneurial Intention

Independent Variable	Dependent Variable	r-value	df	p-value	Decision
Parental Influence	Entrepreneurial Intention	0.535	165	<0.001	Ho is rejected

* $p < 0.05$

This result highlights the importance of parental involvement in nurturing the entrepreneurial potential of students. It shows that supportive family environments can reinforce students' positive attitudes toward entrepreneurship, increase their perceived behavioral control, and encourage risk-taking behavior, thereby fostering stronger entrepreneurial

intention. These insights provide a valuable foundation for CMDI and similar institutions to design programs and initiatives that actively engage parents in the development of students' entrepreneurial capacities, ensuring a more holistic approach to entrepreneurship education.

DISCUSSION

This study highlights the significant role of parental influence in shaping entrepreneurial intention among BSE students, confirming and extending insights from prior research. Among the parental influence indicators, Career-Related Modeling (mean = 4.20), Parental Support (mean = 4.14), and Parental Expectations (mean = 4.07) were particularly strong, suggesting that students benefit from parents who serve as role models, provide guidance, and set high but realistic expectations. These results are consistent with the findings of Soleimanof et al. (2021) and Capio & Luncido (2022), who emphasized that entrepreneurial parents foster creativity and positive attitudes in their children. Similarly, the observed importance of parental support aligns with Denanyoh et al. (2015) and Soares et al. (2023), who underscored that emotional, verbal, and financial backing enhances students' entrepreneurial confidence. Parental expectations also emerged as a critical factor, echoing Subroto (2023), who demonstrated that clear expectations boost entrepreneurial aspirations.

In contrast, Socio-Economic Status (mean = 1.96) and Entrepreneurial Family Background (mean = 1.35) were low, suggesting that the financial capacity of the family or direct exposure to parental business activity plays a limited role in this context. This finding indicates that while family resources may provide some advantage, the quality of parental engagement—through modeling, support, and expectations—is more decisive in shaping entrepreneurial intention, emphasizing that motivation and guidance can outweigh material or experiential advantages.

The overall parental influence averaged to a neutral level (mean = 3.15), reflecting a balance between areas of strong involvement and those with minimal impact. Importantly, this does not yet reflect a causal relationship but provides context for understanding how different parental behaviors may shape entrepreneurial development, consistent with previous literature highlighting the multidimensional nature of family influence on entrepreneurship.

Regarding entrepreneurial intention, the respondents demonstrated a high overall level (mean = 4.06), led by Personal Attitude (mean = 4.26), followed by Risk Tolerance (mean = 3.97) and Perceived Behavioral Control (mean = 3.96). This suggests that students possess a positive mindset toward entrepreneurship, feel confident in their ability to manage entrepreneurial tasks, and are willing to take calculated risks. These results reinforce findings by Osorio et al. (2017), who found that positive attitudes increase the likelihood of pursuing entrepreneurial activities, and by Herdjiono et al. (2017) as well as Yasir and Mahmood (2019), who emphasized that risk tolerance and perceived behavioral control are critical drivers of entrepreneurial behavior.

Also, the study confirmed a moderate positive correlation between parental influence and entrepreneurial intention ($r = 0.535$, $p < 0.001$), showing that stronger parental involvement is associated with higher entrepreneurial intention. This supports earlier research by Tsaknis &

Sahinidis (2020) as well as Moussa and Kerkeni (2021), who found that students with entrepreneurial parents or strong family role models are more likely to pursue entrepreneurial endeavors. Collectively, these findings emphasize that parental guidance, support, and modeling are central to nurturing entrepreneurial intentions, and suggest that interventions combining parental engagement with programs that enhance students' attitudes, perceived control, and risk tolerance can further strengthen entrepreneurial capacities.

Conclusion

This study demonstrates the significant role of parental influence in shaping entrepreneurial intention among BSE students at CMDI Tagum Campus. Parental guidance, support, and career-related modeling emerged as the strongest dimensions of influence, while socio-economic status and entrepreneurial family background were comparatively less impactful. These findings confirm that the quality of parental engagement, rather than financial resources or direct business exposure, is important in fostering entrepreneurial aspirations, aligning with prior research emphasizing modeling, support, and expectations as key drivers of entrepreneurial intention (Soleimanof et al., 2021; Capio & Luncido, 2023; Denanyoh et al., 2015; Soares et al., 2023; Subroto, 2023).

The study further revealed a high level of entrepreneurial intention among students, particularly in terms of positive personal attitude, risk tolerance, and perceived behavioral control. This suggests that students are motivated, confident, and willing to take calculated risks in pursuing entrepreneurial activities, consistent with established findings on the psychological and behavioral determinants of entrepreneurship (Osorio et al., 2017; Herdjiono et al., 2017; Yasir & Mahmood, 2019).

A moderate positive correlation between parental influence and entrepreneurial intention ($r = 0.535$, $p < 0.001$) confirmed that stronger parental involvement is associated with higher entrepreneurial intention. This underscores the importance of supportive family environments and effective parental role modeling in cultivating entrepreneurial mindsets, echoing previous evidence (Tsaknis & Sahinidis, 2020; Moussa & Kerkeni, 2021).

Collectively, these results highlight that fostering entrepreneurial capacities among BSE students requires not only curricular and institutional interventions but also active parental engagement. By combining supportive family involvement with programs that enhance students' attitudes, risk-taking ability, and perceived behavioral control, educational institutions like CMDI can create a holistic framework that nurtures both the motivation and the competence necessary for successful entrepreneurship.

Recommendations

Schools offering BS Entrepreneurship programs should enhance parental engagement through structured initiatives such as workshops, seminars, and mentorship programs that actively involve parents in students' entrepreneurial development. These activities should emphasize career modeling, supportive guidance, and realistic goal-setting to help parents nurture confidence, motivation, and perseverance in their children. At the same time, schools must strengthen experiential learning by integrating hands-on activities such as business simulations, startup incubations, and real-world projects into the curriculum to bridge

theory and practice, enhancing students' skills, resilience, and entrepreneurial self-efficacy. Building community and industry partnerships is equally essential; collaboration with local businesses, alumni, and organizations can provide mentorship, internships, and networking opportunities that expose students to practical entrepreneurial experiences. Finally, schools should support students from low-influence or disadvantaged backgrounds by offering entrepreneurship clubs, peer mentoring, financial literacy training, and access to micro-funding programs. These targeted interventions ensure that all students, regardless of family background, have equitable opportunities to develop entrepreneurial competencies and successfully pursue business ventures.

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REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Bandura, A. (1977). *Social learning theory*. Prentice Hall. <https://books.google.com.ph/books?id=HFokAQAAMAAJ>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall. <https://books.google.com/books?id=eaK3AAAAIAAJ>
- Capio, M. T., & Luncido, A. J. P. (2022). *Determinants of entrepreneurial engagements of household-heads in Northern Mindanao* [Thesis, Bukidnon State University]. ResearchGate. https://www.researchgate.net/publication/368789992_Determinants_of_Entrepreneurial_Engagements_of_Household-Heads_in_Northern_Mindanao

- Denanyoh, R., Adjei, K., & Nyemekye, G. E. (2015). Factors that impact on entrepreneurial intention of tertiary students in Ghana. *International Journal of Business and Social Research*, 5(3), 19–29. <https://doi.org/10.18533/ijbsr.v5i3.693>
- Georgescu, M.-A., & Herman, E. (2020). The impact of the family background on students' entrepreneurial intentions: An empirical analysis. *Sustainability*, 12(11), 4775. <https://doi.org/10.3390/su12114775>
- Gozalie, P. K., Massie, J. D. D., & Pandowo, M. H. C. (2023). The intention to become entrepreneurs between students who live with their parents and students who live separate with their parents (Case study: Students at FEB UNSRAT). *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 11(3), 667–677. <https://doi.org/10.35794/emba.v11i3.49934>
- Herdjiono, I., Puspa, Y. H., Maulany, G., & Aldy, B. E. (2017). The factors affecting entrepreneurship intention. *International Journal of Entrepreneurial Knowledge*, 5(2), 5–15. <https://doi.org/10.1515/ijek-2017-0007>
- Kusumawardani, K. A., & Richard. (2020). Family comes first: An investigation on entrepreneurial intention among Chinese Indonesian Gen Z. *International Journal of Family Business Practices*, 3(1), 39–54. <https://doi.org/10.33021/ijfbp.v3i1.1156>
- Liñán, F., & Chen, Y.-W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Moussa, N. B., & Kerkeni, S. (2021). The role of family environment in developing the entrepreneurial intention of young Tunisian students. *Entrepreneurial Business and Economics Review*, 9(1), 31–46. <https://doi.org/10.15678/EBER.2021.090102>
- Osorio, A. E., Settles, A., & Shen, T. (2017). The influence of support factors on entrepreneurial attitudes and intentions of college students. *Academy of Management Proceedings*, 2017(1), Article 10901. <https://doi.org/10.5465/AMBPP.2017.10901abstract>
- Sheppard, L. (2023, November 26). Fueling entrepreneurial spirit in the youth of the Philippines. *LinkedIn*. <https://www.linkedin.com/pulse/fueling-entrepreneurial-spirit-youth-philippines-lana-sheppard-rwwfc>
- Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' emotion regulation in daily life: links to depressive symptoms and problem behavior. *Child Development*, 74(6), 1869–1880. <https://doi.org/10.1046/j.1467-8624.2003.00643.x>
- Soares, A. M. J., de Melo, F. L. N. B., & Sampaio, L. M. B. (2023). Influence of parental support on entrepreneurial intention of university students: Empirical evidence in Brazil. *Cadernos EBAPE.BR*, 21(2), Article e2022-0121. <https://doi.org/10.1590/1679-395120220121>

- Soleimanof, S., Morris, M. H., & Jang, Y. (2021). Following the footsteps that inspire: Parental passion, family communication, and children's entrepreneurial attitudes. *Journal of Business Research*, 128, 450–461. <https://doi.org/10.1016/j.jbusres.2021.02.018>
- Subroto, A. A., Armanu, D. W. I., & Rofiq, A. (2023). Breaking the mold: Why parental expectations are key to entrepreneurial intentions in Indonesian students? In *Proceedings of the International Conference on Intellectuals' Global Responsibility (ICIGR 2022)* (pp. 249–254). Atlantis Press. https://doi.org/10.2991/978-2-38476-052-7_28
- Tsakanis, P. A., & Sahinidis, A. G. (2020). An investigation of entrepreneurial intention among university students using the theory of planned behavior and parents' occupation. In A. Masouras, G. Maris, & A. Kavoura (Eds.), *Entrepreneurial development and innovation in family businesses and SMEs* (pp. 149–166). IGI Global. <https://doi.org/10.4018/978-1-7998-3648-3.ch009>
- Velasco, R. M. (2016). The making of an entrepreneur: Aligning institutional paradigm to the industry needs. *Journal of Business and Retail Management Research*, 10(3), 81–89. https://www.jbrmr.com/cdn/article_file/i-24_c-231.pdf
- Yasir, N., Liren, A., & Mahmood, N. (2019). Role of entrepreneurship education on students' intention and mediating effect of self-efficacy. *African Journal of Business Management*, 13(1), 1–10. <https://doi.org/10.5897/AJBM2018.8692>
- Yusriadi, Y., Tahir, S. Z. B., Awaluddin, M., & Misnawati, M. (2020). Poverty alleviation through social entrepreneur. *Journal of Education, Humaniora and Social Sciences*, 3(2), 721–725. <https://doi.org/10.34007/jehss.v3i2.400>
- Zhang, L., Li, Q., Zhou, T., Li, C., Gu, C., & Zhao, X. (2022). Social creativity and entrepreneurial intentions of college students: Mediated by career adaptability and moderated by parental entrepreneurial background. *Frontiers in Psychology*, 13, 893351. <https://doi.org/10.3389/fpsyg.2022.893351>

A PHENOMENOLOGICAL STUDY ON VIRTUAL ASSISTANTS IN DAVAO DEL NORTE

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ABSTRACT

This phenomenology study aimed to explore the lived experiences of virtual assistants working remotely. Fourteen (14) participants were selected using purposive sampling, with seven (7) engaging in in-depth interviews and seven (7) in a focus group discussion. Thematic analysis of the data revealed the key experiences of accessing job platforms for application opportunities, learning to establish communication and relationships, managing time strategically, experiencing a flexible work environment, facing internet connectivity issues, and to cope with these challenges, participants embraced strategies such as work-life balance, continuous learning and skill improvement, organizing and planning tasks effectively, and motivating themselves by accomplishing goals. Reflecting on their experiences, participants highlighted the need for adaptability to changing systems, self-management and independence for growth, fulfillment through financial stability, and success through clear communication. The findings from this study are expected to provide valuable insights to virtual assistants, researcher, and others interested in the remote work landscape. the study supports key Sustainable Development Goals. The study supports key Sustainable Development Goals. It aligns with SDG 8 (Decent Work and Economic Growth) by highlighting remote job accessibility, fair work opportunities, and career growth in the digital sector. It also contributes to SDG 4 (Quality Education) through its emphasis on continuous learning, upskilling, and the importance of developing competencies needed in a technology-driven work environment.

Keywords: ***Virtual Assistants; Phenomenology; Remote Work; Time Management; Flexible Work; Philipines***

INTRODUCTION

The rise in remote work, particularly the growth of virtual assistant roles, has been a significant trend in the modern workforce. Recent studies have examined the usage patterns and experiences of Virtual Personal Assistants (VPAs), highlighting both the benefits and challenges faced by this unique group of remote workers. One key aspect of the remote work experience for virtual assistants is the nature of their design. Virtual work characteristics, such as social support, job autonomy, workload, and monitoring, have been found to impact the challenges faced by remote workers (Dubiel et al., 2018).

In Albania, virtual assistants face challenges that hinder their growth and efficiency in the gig economy. These include difficulties with payment processing due to limited international banking integration, insufficient digital security, and a lack of policies tailored to remote work. They also struggle with time management, mismatched qualifications for the tasks assigned, inadequate skills to navigate platforms effectively, and challenges in negotiating fair wages and schedules (Kapisyzi et al., 2024).

In the Philippines, virtual assistants (VAs) transitioning from corporate jobs to freelancing face significant challenges, including distractions at home and a lack of recognition, which affect their productivity and job satisfaction. Without the structured environment and formal acknowledgment typical in traditional office settings, VAs often struggle to maintain focus and feel undervalued. Despite these challenges, the benefits of freelancing—such as increased freedom, more time with family, and flexibility—are compelling. The ability to set their own schedules, enhance work-life balance, and choose projects that align with their skills offers greater autonomy and professional growth (Tudy, 2021).

Hence, studying the lived experiences of virtual assistants is urgent given the increasing rates of telecommuting and the unique issues that remote workers face. This means that boundaries between family and work, irregular working schedules, and constant client demands have to be covered to enhance productivity and avoid employee's emotional and physical exhaustion. To that end, it is crucial to critically reflect on the nature of virtual assistants' experiences, attitudes, and workload as teleworking increases. Furthermore, this study can help establish industry standards, guide professional development, and promote long-term career sustainability for virtual assistants. In addition, the study supports SDG 4 (Quality Education) by emphasizing the need for continuous learning, skills development, and accessible training for virtual assistants, and SDG 8 (Decent Work and Economic Growth) by contributing to efforts that ensure fair, productive, and sustainable employment opportunities within the growing digital workforce.

In connection, related international studies have been found regarding the lived experiences of virtual employees, focusing mainly on the experiences of freelance workers (Blaising et al., 2021; Abug et al., 2023; Raghuram et al., 2019). These studies, however, did not focus on the specific context of virtual assistants in Davao del Norte. While these studies provide valuable insights into the challenges faced by virtual assistants and freelancers globally, they do not address the unique experiences of virtual assistants in the specific setting of Davao

del Norte. This study, therefore, aims to fill that gap by exploring the lived experiences of virtual assistants in the province of Davao del Norte.

This study provides insights into how virtual assistants manage work–life balance in a digital work environment, benefiting virtual assistants, employers, and the remote work community. The findings may support the Department of Labor and Employment (DOLE) in developing policies and guidelines that promote fair working conditions and well-being among virtual assistants. The Commission on Higher Education (CHED) may use the results to enhance curricula and training programs that develop essential skills such as communication, time management, and the use of digital tools. The Public Employment Service Office (PESO) and Job Placement Offices (JPO) may also utilize the study in creating employment programs, job-matching initiatives, and career support services.

This study is valuable to Office Administration students, particularly BSOA students, as it offers practical understanding of the virtual assistant profession and the skills required for this career path. Virtual assistants may benefit from the identified strategies and practices for maintaining work–life balance. Also, the study may serve as a reference for future researchers and contribute to the growing body of knowledge on virtual assistants, remote work, and related professional challenges.

Research Questions

This study determined the lived experiences of virtual assistants. More specifically, this study was conducted to answer the following questions:

1. What are the experiences of virtual assistants?
2. How do virtual assistants cope with the challenges?
3. What are the insights of virtual assistants?

Theoretical Framework

This study is anchored in the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), which assesses employee engagement by balancing job demands and resources. High job demands, such as workload and time pressure, can lead to stress, while job resources, like autonomy and support, enhance well-being. For virtual assistants, managing multiple tasks and deadlines are key demands, whereas access to technology, skill development, and flexibility serve as resources that promote engagement and performance (Hakanen et al., 2008).

Additionally, Maslow (1943) proposed the Hierarchy of Needs, explains motivation through a five-tier model, from basic physiological needs to self-actualization. In the context of virtual assistants, job security and a stable internet connection fulfill basic needs, allowing them to progress toward professional growth and career success.

Also, Social Presence Theory (Short et al., 1976) highlights the importance of communication in building relationships. Social presence—the ability to convey warmth and engagement—enhances virtual assistants' connections with clients. Choosing the right

communication tools fosters trust and rapport, ensuring effective remote collaboration (Gunawardena, 1995).

This framework aligns with SDG 4 (Quality Education) by highlighting the importance of continuous learning and skill development, and with SDG 8 (Decent Work and Economic Growth) by promoting safe, productive, and sustainable work for virtual assistants. These theories guide the study's design and interpretation by explaining how virtual assistants manage demands, stay motivated, and maintain effective communication. They also support the study's aim to contribute to practices and policies that advance SDG 4 and SDG 8.

METHODOLOGY

Research Design

The study used a qualitative research design to understand the experiences of virtual assistants. Qualitative research includes different methods that focus on exploring people's real-life experiences, beliefs, and challenges. It helps the researchers gain a deeper understanding of how individuals adapt and grow in their work. Using different ways to collect data also gives a clearer picture of each virtual assistant's journey, making it easier to see their struggles and successes (Aspers & Corte, 2019).

In this study, the researcher used a qualitative research design to understand the lived experiences of virtual assistants, particularly in how they communicate and manage their tasks while working remotely. This was done through interviews that provided insights into their daily work, challenges, and strategies for success. Further, this design was suitable for understanding the experiences of virtual assistants in handling communication, building client relationships, and adapting to remote work demands. It is also one of the most commonly used methods for gathering data through interviews, which may be structured, semi-structured, or unstructured, allowing participants to share their experiences in detail.

Moreover, phenomenology is a qualitative research approach that seeks to explore and understand individuals' lived experiences. This methodology is rooted in examining personal narratives to uncover deeper insights into how individuals perceive and interpret their reality. It follows a structured process that includes identifying key characteristics, establishing methodological foundations, and outlining specific steps for conducting the study. The essence of phenomenology lies in capturing participants' firsthand accounts, allowing researcher to analyze real-life experiences in a meaningful way. As a qualitative inquiry, it provides a comprehensive understanding of human experiences based on the perspectives of those who have directly encountered them (Badil et al., 2023).

Building on this approach, this study applies a phenomenological approach to examine the lived experiences of virtual assistants within a qualitative research design. By utilizing this methodology, the research aims to explore how virtual assistants perceive and interpret their professional realities in remote work settings. This approach allows for an in-depth

analysis of their experiences, capturing the relational and situational factors that shape their work dynamics. Through structured data collection and interpretation, the study provides a comprehensive understanding of the challenges, opportunities, and adaptive strategies employed by virtual assistants in their evolving work environment.

Through structured data collection and interpretation, the study provides a comprehensive understanding of the challenges, opportunities, and adaptive strategies employed by virtual assistants in their evolving work environment. However, this study has several limitations. The phenomenological study focused only on work-from-home virtual assistants in Davao del Norte and involved a relatively small sample of fourteen (14) participants, with seven (7) participants for in-depth interviews and seven (7) participants for focus group discussions. The use of purposive sampling and self-reported data may introduce selection and response biases. In addition, conducting interviews through Google Meet may have presented technical challenges. Therefore, the findings reflect the experiences of the selected participants and may not be generalizable to all virtual assistants in other locations or work settings

Research Participants

The participants of this study were selected Virtual Assistants specifically in Davao del Norte. Fourteen (14) participants were chosen for this study. Seven (7) of them undergo in-depth interviews (IDI) wherein each of them was interviewed individually via Google Meet by the researcher. Meanwhile, the other seven (7) participated in the focus group discussion (FGD) wherein all of them were gathered virtually via Google Meet and discuss among themselves the answers that they have provided to the questions that the researcher presented to them. Further, the participants were selected based on these pre-inclusion criteria: (1) must be working from home virtual assistant; (2) male or female; (3) must have a minimum of 2 years' experience as a virtual assistant; and (4) must provide an employment contract to verify their experience and employment as a virtual assistant. The exclusion criteria were: (1) not working as a work-from-home virtual assistant; (2) having less than two (2) years of experience as a virtual assistant; (3) failure to provide an employment contract to verify employment and experience; and (4) declining to participate in the study. Participants were informed that they could withdraw from the study at any time without any consequences, and any data collected from those who withdrew were excluded from the analysis.

To maintain confidentiality, pseudonyms were used instead of real names, following Heaton (2022) approach. The participants themselves chose these pseudonyms based on personal preference and characteristics observed during the sessions, and the names also reflect personal traits such as positivity, energy, creativity, and optimism. For example, *Joyful* represents a positive attitude and the ability to spread happiness in work, while *Sunny* reflects a cheerful nature that lifts team morale. Names such as *Bliss*, *Cheer*, *Glow*, *Smile*, and *Happy* indicate participants who bring energy, motivation, and effective communication, whereas *Bright*, *Gleam*, *Spark*, *Shine*, *Glee*, *Beam*, and *Hope* represent creativity, clarity, enthusiasm, excellence, and optimism.

Data Collection Procedure

The researchers followed a structured approach to gathering data, beginning with the development of interview questions aligned with the study's objectives. These questions were reviewed and validated by experts to ensure clarity and relevance. After finalizing the questions, the researcher obtained an endorsement letter and sought approval from their academic advisor. Once approved, the researcher directly reached out to virtual assistants, explaining the purpose of the study and inviting them to participate. Those who agreed were provided with an informed consent form to ensure ethical compliance.

Before conducting interviews, an orientation session was held to explain the study's purpose, methodology, and participants' rights, including confidentiality and voluntary participation. Permission to record the interviews was also obtained. The study used both Focus Group Discussions (FGD) and In-Depth Interviews (IDI) to gather insights, with all sessions conducted via Google Meet. Structured and open-ended questions were used to encourage detailed responses while ensuring a professional and respectful environment.

After the interviews, all recorded sessions were handled with strict confidentiality. The researcher transcribed the data accurately and shared it with participants for verification, ensuring their statements were correctly captured. Once verified, the researcher translated and analyzed the data, identifying key themes and patterns to understand virtual assistants' experiences. Findings from the analysis were synthesized to draw conclusions and formulate recommendations aimed at improving work practices and addressing common challenges in the field.

Throughout the process, ethical considerations were strictly followed to protect participants' privacy and maintain research integrity. All collected data was used solely for research purposes, and anonymity was ensured. By adhering to a systematic and ethical approach, the researchers ensured the study's credibility and reliability.

Data Analysis

The researchers used Braun and Clarke's (2006) method for thematic analysis and included data reduction to organize the information. First, the researcher became familiar with the data by transcribing the recorded interviews and reviewing them many times. During this step, they started reducing data by removing parts that were not related to the research. This helped them focus on the most important information.

Next, the researchers created initial codes and grouped them into themes. They carefully broke the data into smaller parts, highlighting meaningful phrases or ideas. These codes were then organized into themes that showed common patterns in the participants' responses. Data reduction was also done in this step by combining similar codes and removing those that did not add much value to the analysis.

In the final steps, the researchers reviewed, named, and explained the themes. They checked the themes against the full data set to ensure accuracy and consistency. Each theme

was given a clear name and definition to describe its main idea. Finally, the researchers wrote a report, including quotes from the participants and a full discussion of the findings. To ensure the validity and reliability of the analysis, the researcher had the data and findings reviewed by a professional data analyst.

Ethical Considerations

The study ensured confidentiality by keeping all participant information anonymous and securely stored, with no identifying details included in the reports. Informed consent was obtained by clearly explaining the purpose of the study, procedures, and participants' rights, including the option to withdraw at any time without pressure. Participant welfare was prioritized by conducting interviews respectfully, avoiding sensitive questions, and creating a safe and comfortable environment throughout the research process.

RESULTS AND DISCUSSION

This chapter presented the data generated that was essential to the study. The data consisted of responses gathered from in-depth interviews with 7 participants and focus group discussion with 7 participants, who were virtual assistants residing in the District of Davao del Norte. These responses were transcribed and analyzed with the assistance of analysts in education, resulting in accurate categorization of themes.

Experiences of Virtual Assistants

This question explores the lived experiences of Virtual Assistants in Davao del Norte. It aims to delve into their work journey, the growth they have experienced both personally and professionally, the challenges they have faced, their support systems, and their overall well-being as virtual assistants. By understanding their stories, the researcher aims to shed light on the unique challenges and successes these virtual assistants have faced while navigating remote work. Table 1 was presented below.

Many theorists and authors have presented ideas that align with the experiences shared by the virtual assistants interviewed in this study. Their insights and reflections help to deepen the understanding of the virtual profession industry in Davao del Norte and provide a human-centered perspective on the opportunities and challenges faced by these professionals. The following were the virtual assistant's experiences:

The first theme found in this study was that virtual assistants are accessing job platforms for application opportunities. The theme highlights the crucial role of job platforms in helping virtual assistants (VAs) secure opportunities, particularly those in remote areas. Platforms like Upwork, OnlineJobs.ph, and Fiverr connect VAs with clients, making them essential for finding work. Even with challenges, participants emphasized that job platforms offer access to a wide range of clients.

In support of the theme, Signore et al. (2023) emphasize the critical role digital job

searching platforms play for virtual assistants (VAs). Their literature review highlights the importance of features like the Web Application Framework and Artificial Intelligence in enhancing user experience and job matching. As VAs increasingly depend on platforms like Upwork and OnlineJobs.ph, these technological advancements are essential for connecting them with clients. The study also stresses the need for improved usability, which is crucial for VAs to thrive in a competitive job market.

Table 1
Lived Experiences of Virtual Assistants

Emerging Themes	Supporting Statements
Accessing Job Platforms for Application Opportunities	<i>"I started on Upwork because their platform is big, and there are a lot of clients looking for VA services."</i> - FGD-01 <i>"I visit websites like Upwork, Online Jobs, Fiverr, My Desk, those kinds of platforms. Then, you just create a profile there, do ID verification, and also take an IQ test, which you can easily find on Google."</i> - IDI-01 <i>"I applied on OnlineJobs.ph because they were one of the platforms hiring a lot during the pandemic, along with Upwork and Online Jobs. I did get replies from clients on Upwork, but nothing pushed through due to some problems, like internet issues, or I read the interview invitation too late."</i> - IDI-06
Learning to Establish Communication and Relationship	<i>"At the start, we always set clear communication with the client. I ask questions they can fully understand."</i> - FGD 1 <i>"Communicate with the client, tell them about your previous experiences so they have some knowledge. Then you should also understand their expectations towards you to meet them halfway."</i> - IDI-03 <i>"My strategy is to update them on the progress of the tasks, especially those that cannot be completed immediately. They ask for timelines, so I update them, and if there is no update after three days, I follow up and provide another update. This way, they know I have not forgotten. You just have to be honest."</i> - IDI-05
Being Able to Manage Time Strategically	<i>"You have to finish the work for each client within their given time. You cannot exceed their time limit because you will have to work double, which can be overwhelming. You need to manage your time well."</i> - IDI-01 <i>"Time management, like you have different clients during the day and different clients at night. You should not have clients with the same dates or times, they should not overlap. It is up to you to choose which clients you take, but they should not have overlapping schedules."</i> - IDI-03 <i>"I prioritize urgent tasks, emails, and things that need to be done immediately. Once I finish the urgent tasks for my main client, I move on to the urgent tasks for my second client. After completing all the urgent tasks, I then slowly work on the other tasks that can be delayed. The most important thing for them is the urgent tasks, so I focus on those."</i> - IDI-05

**Experiencing
Flexible Work
Environment**

"My experience as a VA is different from the corporate world, of course. In my line of work, my time is flexible, so I have a good work-life balance. Some VAs have timers and take screenshots to prove they are working, but I do not have that. My client is very lenient and trusts me. My shift starts at 3 am, but if I see something is not urgent, I just go back to sleep. It is not a very strict job. My client's business is seasonal, a landscaping business based in Canada." - ID1-05

"For me personally, I really want flexible working hours. The kind where I do not need to report to the office." - FGD-01

"Right now, I have two clients, and thankfully, both are flexible. They use time trackers, and all their tasks are non-voice. So, I work full-time on my computer, and on the side, I do part-time work on Upwork. It is non-voice data entry, so I just switch between the two." -ID1-06

**Facing Internet
Connectivity
Issues**

"Most of the time, you need internet, and you have to inform the client if there is an issue. You cannot do anything about it because there are no other internet providers here." - ID1-01

"My experience as a VA spans almost 9 years. Since we work from home, internet interruptions are common. We need to have a backup or hotspot in case clients need something urgently, so we can solve things quickly. Being a VA is enjoyable because you can work anytime, anywhere, just bring your laptop. It is a good balance because sometimes the work can be stressful, but there is also time to enjoy it." - ID1-02

"Usually in the Philippines, there are brownouts and power outages, so you need to have a backup internet connection." - ID1-03

Moreover, another study of show that online job resources are very important for job seekers, including virtual assistants (VAs). Their survey of 768 job seekers looks at which platforms and strategies help people find jobs successfully. The results reveal that higher-income job seekers tend to use more strategies and get more callbacks than those with lower incomes. The study also notes differences in platform use based on factors like gender, education, and race. This highlights the need for job platforms to meet the varied needs of VAs, showing how crucial these resources are in helping them find job opportunities (Dillahunt et al., 2021).

The second theme expressed in this study was that the virtual assistants are learning to establish communication and relationships. This theme highlights how virtual assistants work on improving their communication skills to better understand their clients' needs and expectations. Effective communication is essential for building trust and creating a professional connection with clients. Many participants discussed various methods they use to ensure clear, honest, and regular communication. They also emphasized the importance of being respectful, responsive, and transparent, which fosters stronger teamwork and mutual respect. Given the remote nature of their work, virtual assistants must put extra effort into building and maintaining these relationships, which leads to smoother collaboration and greater client satisfaction.

This result is further supported by the study of Rohatinsky et al. (2020), who emphasized the importance of strengthening connections through regular communication and

relationship-building in remote work settings. For virtual assistants, maintaining open, honest, and frequent communication with clients is essential to establishing trust and building strong professional relationships. Similar to how effective mentorships rely on mutual respect and constructive communication, virtual assistants who use clear and respectful interactions are better able to meet client expectations. This leads to improved collaboration. In a remote work setup, utilizing tools like video calls or messaging platforms allows virtual assistants to stay connected, ensuring a smoother working relationship and fostering long-term partnerships despite the physical distance.

Additionally, another research also shows that remote work can both create challenges and offer opportunities for building relationships. Virtual assistants working from home may miss casual conversations and social breaks, which are key for building trust and teamwork. However, technology such as video calls and instant messaging helps keep communication ongoing. Even though these tools cannot fully replace face-to-face interactions, they still allow virtual assistants to stay connected with clients. The main challenge is maintaining strong relationships in a technology-based setting, which can affect the quality of communication and the feeling of being part of a team (Jämsen et al., 2022).

The third theme revealed that virtual assistants are being able to manage time strategically. This theme examines how participants effectively handle tasks for multiple clients, each with its own set of deadlines and priorities. They share the challenges they face in balancing these demands, highlighting the stress of meeting varied expectations. To manage this complexity, participants emphasize the importance of finishing tasks on time and avoiding overlapping schedules. They prioritize urgent work first, using techniques like setting clear deadlines and creating structured schedules. This strategic approach not only boosts their productivity but also helps them maintain a high level of client satisfaction. Furthermore, by mastering time management, virtual assistants can adapt to the fast-paced nature of their work environment, ultimately allowing them to excel in their roles and contribute to their clients' success.

This result is supported by Negulescu and Doval (2021), who noted that time management helps boost performance and lower stress by allowing people to work smarter, not harder. By using schedules and prioritizing tasks, individuals can make better use of their time. Time management also includes making space for relaxation and activities that support personal well-being, such as socializing or exercising. The authors also emphasized that time management is key to the success of projects, as it directly impacts efficiency.

In addition, this result was further supported by Jackson (2009), who explained that good time management and planning can help improve productivity and quality of life. However, these skills can be hard to develop. Important steps like setting realistic goals, staying organized, delegating tasks, and taking time to rest are key to managing time well. Jackson also pointed out that procrastination and aiming for perfection can make it harder to finish tasks, often causing more stress and delays.

The fourth theme expressed to this study was that the virtual assistants experiencing flexible work environment. This theme highlights how VAs appreciate the freedom and flexibility

that comes with their job. Many participants mentioned that their role gives them the ability to better manage both their work and personal lives. Unlike traditional office jobs where people have fixed hours and locations, VAs have the freedom to work from different places, whether at home, a café, or anywhere they choose. Some even have the option to set their own schedules, allowing them to work during the times that best suit them. This flexibility helps reduce stress, improves productivity, and makes their work experience more enjoyable and fulfilling.

This result relates to a study by Setiyani et al. (2019), which emphasized that a flexible work environment has a positive influence on employee motivation and engagement. Similar to the virtual assistants in this study, who enjoy flexibility in their work setup, the study found that flexible working hours improve both motivation and engagement, particularly for millennials. The ability to manage work and personal life more freely, as seen with virtual assistants, is a key factor in reducing stress and making work more enjoyable. Additionally, employee motivation plays a role in strengthening the connection between flexible work hours and overall engagement.

Moreover, this result aligns with a study by Dwomoh et al. (2024), which demonstrated that flexible working arrangements positively influence job satisfaction, work-life balance, and employee performance. Similarly, the virtual assistants in this study benefit from a flexible work environment, allowing them to manage their personal and professional responsibilities more effectively. The study found that this flexibility leads to enhanced productivity and overall job satisfaction. For virtual assistants, much like the employees in the study, the ability to control their schedules reduces stress and promotes a more balanced and fulfilling work-life experience.

The last theme found under this research question was that virtual assistants are facing internet connectivity issues. The theme focuses on the common issue of internet connectivity problems faced by virtual assistants (VAs). Since their work depends heavily on a stable internet connection, participants shared how disruptions can affect their ability to complete tasks and communicate with clients. These interruptions not only delay their work but also make it harder to stay connected with clients, which is essential for remote jobs. Many virtual assistants highlighted the need to inform their clients right away when they experience internet issues. This helps manage client expectations and allows both sides to adjust plans if needed. Some participants also mentioned having backup options, like using mobile data or going to coworking spaces with reliable internet, to minimize the impact of these problems. These approaches show the VAs' ability to adapt and stay professional, even when faced with technical challenges.

This theme is supported by Bhuiyan (2020), who highlight the growing global reliance on the internet for both personal and professional purposes. With the rise in internet users from 16% to 48% of the world population between 2005 and 2019, stable internet access has become essential for many, including VAs who rely on it to perform their tasks effectively. However, issues such as poor coverage, especially in rural areas, can disrupt their work, leading to challenges in meeting deadlines and communicating with clients. Bhuiyan discussed the difficulties in providing consistent wireless internet services in rural regions due to low revenue

potential and infrastructure challenges, which mirrors the connectivity struggles VAs encounter in remote locations. This further emphasizes the need for VAs to have backup plans and quickly inform clients when internet issues arise to maintain professionalism and manage expectations.

Another study that shows poor internet does not stop people from doing their tasks. Virtual assistants, like students, also face slow or unstable internet but still continue to work. They find ways to solve the problem and finish their work. This shows that internet problems are not a barrier but a challenge they can overcome. This shows the importance of being patient and not giving up (Bahinting et al., 2022).

Virtual Assistants in Coping with the Challenges

This research question looked into the ways they deal with difficulties and take advantage of opportunities in their work. The findings showed that virtual assistants use different methods to handle challenges, like managing their time well, overcoming communication problems in remote work, and keeping a good work-life balance. They also take opportunities to improve their skills and grow in their careers. Table 2 was presented in the following page.

The first theme expressed that the virtual assistants are continuing their learning and skill improvement. This theme highlights the importance of continuous learning and skill improvement for virtual assistants (VAs). Participants emphasized that in this line of work, learning is an ongoing process. VAs need to stay updated with new trends, tools, and practices to remain competitive and meet their clients' needs. Whether it is understanding different cultures, mastering new software, or improving communication skills, continuous learning allows them to offer better services. This ongoing learning also boosts their confidence, helping them take on tasks more efficiently and adapt to the changing demands of the job. Additionally, it empowers them to explore new opportunities, making them more valuable in the virtual assistant industry.

This finding is supported by the study of Rawson (2000), which emphasizes the importance of continuous professional development (CPD) for improving performance. Just like health professionals, virtual assistants must engage in lifelong learning to stay competitive and meet evolving client needs. CPD involves regularly reflecting on one's performance, identifying areas for improvement, and participating in formal and informal learning activities. The concept of CPD, as described in this study, aligns with virtual assistants' need to continuously learn and improve their skills. By doing so, they reduce performance gaps, adapt to new challenges, and provide better services.

Additionally, this theme is also supported by the study of Parisi et al. (2019), which talks about lifelong learning in both humans and animals. Lifelong learning is the ability to keep learning and improving skills throughout life. This ability helps with developing skills and improving long-term memory. Just like these living beings benefit from lifelong learning, virtual assistants can also improve their work by continuously learning new skills. The study shows that while there are challenges in making lifelong learning work in machines, the same ideas can help virtual assistants adapt and succeed in their jobs. By embracing lifelong learning, virtual assistants can handle new information and experiences better, making them more

competitive and capable in their roles.

The second theme expressed that virtual assistants are organizing and planning task effectively. This theme focuses on how virtual assistants (VAs) effectively handle their tasks by staying organized and planning ahead. Participants emphasized that managing time well and prioritizing urgent tasks is crucial to their success. They highlighted the importance of keeping their work organized to prevent confusion and reduce stress. To achieve this, VAs use various tools such as Excel spreadsheets, notepads, and digital calendars. These tools help them track their tasks, set reminders, and plan their schedules efficiently. By staying organized and planning effectively, VAs can meet deadlines and ensure their work processes run smoothly, ultimately leading to better service for their clients.

Table 2
Coping Mechanisms of Virtual Assistants

Emerging Themes	Supporting Statements
Continuing Learning and Skill Improvement	<i>"For continuous learning and impact as a VA, your top priority is to prioritize. You should also have a broad understanding of your work. Even if you are frustrated, you need to love it." - IDI-02</i>
	<i>"The impact of this job on me is that I get to understand other cultures, especially in Canada, and how life works there. It expands my knowledge beyond the Philippines. I get to understand their personalities and how to please them, what makes them happy. It is a learning process every day. I always try to please them so they can increase my rate." - IDI-05</i>
	<i>"I believe in lifelong learning, so I learn daily. Continuous learning helps me stay updated with the latest tools and techniques." -FGD-01</i>
Organizing and Planning Task Effectively	<i>"For that one, time management is still important, and you need to be organized with your files so you do not get confused and forget where you put them. You need to be proficient in Excel and other computer-based knowledge." - IDI-03</i>
	<i>"Like I mentioned before, if all the deadlines are tight, I prioritize the most urgent tasks. I weigh which ones need to be done first so I do not get overwhelmed. Sometimes, if I see that everything is happening at once, I feel like I am going to lose my mind. It is like, "Oh my god, they are all messaging me, and it is all urgent!" Sometimes, I get overwhelmed and lose focus. So, what I do is I look at what is most important and prioritize that. I just focus on what I need to do first, what will help me meet the deadlines. If you prioritize the most urgent tasks. I weigh which ones need to be done first, so I do not get overwhelmed, focus, you lose track because you have so much on your mind, everything is a deadline." - IDI-04</i>
	<i>"I prioritize tasks based on urgency. For example, if I receive a task, I will finish the most urgent one first. I ask my client which tasks are the most urgent or need to be done first, then I push back the less important ones. I also use a notepad to keep track of what needs to be submitted first, second, third, and last. That helps me stay organized and avoid confusion." - IDI-06</i>

**Motivating
Oneself by
Accomplishing
Goals**

"For me, I always have a goal, so I set specific and measurable daily goals. Achieving them keeps me motivated every day." - FGD-01
"After completing big tasks, I reward myself with small things like snacks or a quick break. This motivates me to finish my work." - FGD-04
"I schedule regular exercises to stay alert and motivated throughout the day." - FGD-05

**Embracing
Work-Life
Balance**

"As I mentioned earlier, being a VA is great, but it can be tiring because it is mostly night work. Few VAs work during the day. It is about balancing work and personal life. For me, if I have personal issues, I do not bring them to work because it affects my performance. I set them aside. When I am bored and losing motivation, I travel and have coffee with friends while online. But even while at a coffee shop, when it is work time, it is work time. It is a commitment." - IDI-02
"I want to share how I balance work and personal life. Even though we need to work, I set strict working hours and do not go beyond them. This helps me separate work from personal life." - FGD-01
"I work for my family, so I do not sacrifice my personal life for work. I take regular breaks and spend time with my family." - FGD-02

This finding resonates with the results of the study by Nwanakezie et al. (2021), which highlights the important role of managers in achieving organizational goals. Managers coordinate activities, organize resources, and plan tasks effectively to ensure success. Virtual assistants (VAs) can benefit from these managerial functions by setting clear objectives, prioritizing urgent tasks, and maintaining organized work processes. Effective planning helps VAs understand what needs to be done and how to do it, while good organization enables them to communicate clearly and manage their time well. By applying these management skills, VAs can enhance their productivity and provide better services to clients.

Moreover, this finding supports by the study of Chernyi and Uotila (2024), highlighting the importance of understanding their role within their clients' businesses. It suggests that employees can do better in task prioritization by focusing on the values, culture, and identity of the organizations they work for. By being aware of how they present themselves and their skills, VAs can build better relationships with clients. This connects to how managers need to understand their organizational identity to make better decisions. They should also pay attention to external factors; staying informed about industry trends and client needs helps them prioritize tasks effectively. Finally, knowing that context matters helps VAs adjust their approaches based on the specific needs of each client, leading to better organization and improved outcomes for their clients. Leading to improved organization and outcome.

The third theme was motivating oneself by accomplishing goals. This theme explores how virtual assistants (VAs) stay motivated by setting and achieving goals. Participants shared various strategies they use to maintain their drive throughout their daily tasks. One common method is breaking larger goals into smaller, manageable steps. This approach allows VAs to track their progress and celebrate small victories along the way, which boosts their motivation.

Additionally, participants mentioned the importance of rewarding themselves after completing tasks. These rewards can be simple, such as taking a short break, enjoying a favorite snack, or engaging in a brief activity they enjoy. Maintaining healthy habits is also crucial for motivation.

This is synonymous with the study which emphasized the importance of work motivation for virtual assistants (VAs). Diefendorff et al. (2022) noted that work motivation affects attitudes, well-being, behavior, and performance. It refers to the direction, intensity, and persistence of job-related actions. Goals are essential for understanding motivation because they represent the outcomes that VAs aim to achieve. The goal-setting process involves choosing realistic goals based on their feasibility and desirability, followed by goal striving, which includes planning and effort needed to reach those goals. Research shows that VAs must prioritize and balance their goals, as many objectives exist in real life.

This result also aligns to the study of Gollwitzer and Bargh (2023), which emphasize that motivation strength is influenced by the desire for outcomes and the perceived feasibility of achieving them. Their research suggests that self-regulation of motivation and goals can be achieved by setting specific, challenging goals and enhancing the desirability and feasibility of future outcomes.

Then, the interviews revealed that virtual assistants are actively embracing work-life balance. This theme highlights the significance of balancing work and personal life, especially for virtual assistants (VAs) who encounter challenges due to the flexibility and remote setup of their jobs. Participants share how they handle separating work responsibilities from their personal lives. Some set strict boundaries, like designated work hours or specific areas in their homes for work, to create a clear distinction. Others focus on time management, ensuring they allocate enough time for family, hobbies, and self-care. This balance is essential to avoid burnout, maintain productivity, and enjoy a fulfilling personal life while meeting professional demands.

This finding is supported by Caringal-Go et al. (2022), who explored how employees manage work-life balance (WLB) while working from home. The study found that employees use different strategies to handle both work and personal demands. These include physical strategies like organizing time, tasks, and workspace; cognitive strategies like practicing self-care and balancing work with rest; and relational strategies like spending time with family and staying connected with co-workers. These approaches are similar to how virtual assistants manage their work-life balance. The study highlights that these strategies help employees maintain a good balance between their work and personal lives, showing the importance of supporting remote work to improve well-being.

Insights of Virtual Assistants

This research question focused on the experiences and perspectives of virtual assistants (VAs) in Davao del Norte, exploring how they manage tasks, adapt to challenges, maintain work-life balance, and achieve professional growth. The study aimed to delve into the insights of VAs regarding their strategies for success in their careers. By understanding their perspectives, the research sought to uncover valuable insights into how these virtual assistants

navigate their daily responsibilities, the challenges they encounter, and the approaches they use to foster their personal and professional development in a rapidly changing work environment. Table 3 was presented above.

The first theme that emerges is that virtual assistants' adaptability to changing system is essential. This theme emphasizes the necessity for virtual assistants (VAs) to be flexible and quick to adapt to changes in systems and technology. Participants highlighted the importance of staying updated on the latest tools and trends, as well as being proactive in learning new skills. They noted that the rapid evolution of the virtual landscape requires VAs to quickly familiarize themselves with new software and platforms to ensure efficient service delivery. Furthermore, many virtual assistants pointed out that effective communication with clients is crucial during transitions, as it helps clarify expectations and fosters collaboration. By embracing a mindset of continuous learning and adaptability, VAs can not only meet their clients' evolving needs but also enhance their professional growth.

This finding is supported by the study of Nejad et al. (2021), which explains how important adaptability is for handling changes and challenges at work. Adaptability, which means adjusting mentally, behaviorally, and emotionally to deal with uncertainty, is linked to better well-being and job satisfaction. The study shows that being adaptable helps people manage work stress, stay engaged, and find purpose in their jobs. For virtual assistants (VAs), this means that their ability to adjust to new systems and technologies not only helps them meet client needs but also improves their overall well-being and job satisfaction.

Table 4
Insights of Virtual Assistants

Emerging Themes	Supporting Statements
Adaptability to Changing System is Essential	<i>"You need to adapt quickly to the current trends because my client is always trying out different systems until they find the perfect one. You need to be quick to learn and understand."</i> - IDI-05 <i>"You need to know what you are doing as a VA. Second, you need to be adaptable, especially if you are new to the field. Time management is crucial, and you need to be able to adjust and work hard. You should always be researching because everything is available on YouTube. Those are essential for VAs because you will learn how to understand tasks on your own. You also need to know how to ask questions and work hard because you will not always be spoon-fed. You need to be able to understand and research what you need to do, especially if you are new to it."</i> - IDI-06 <i>"Keep learning and adapt. The virtual world is always changing, so staying updated is crucial for success."</i> - FGD-06

**Self-
Management
and
Independence
Require One for
Growth**

"It is a big help personally and professionally as a VA because you learn how to manage yourself. You are on your own. When you are in a corporate job, you are used to just doing your duty to earn money. There are bosses who just take calls. You are used to that routine, "Hi, thank you for calling." But as a VA, you manage yourself and your work. Personally, you prove to yourself that you can do it even without a lot of people around, a corporate environment." - IDI-04

"I like the independence of the job. Being my own boss is very empowering." - FGD-04

"Based on my personal experience, flexibility is my favorite because unlike other jobs where you are stuck in one place, I can work anywhere. The freedom is very satisfying for me." - FGD-01

**Success
Through Clear
Communication**

"My tip for aspiring VAs is to communicate clearly and regularly with clients. Communicating helps in understanding each other. It builds trust and ensures we meet client expectations." - FGD-04

"While in my case as a VA, using voice or how we speak, communication is very important and commonly used. So, working as a VA has improved my communication and time management skills. It has really helped in other aspects of my life." - FGD-01

"First, communication skills are important. You do not have to be eloquent, but you need to understand the client's needs. You also need patience. You will be dealing with demanding clients who might even curse you out, but it is part of the job. You need to understand them to meet their satisfaction." - IDI-02

**Fulfilment
Through
Financial
Stability**

"Salary is the main thing, and the idea of working from home and being with my family is very fulfilling for me." - IDI -01

"The salary is really good, especially when you have multiple clients. It gives you a great sense of fulfillment." IDI-03

"There really are changes when it comes to life. I am very fulfilled, especially since I can provide for my family's needs, and we get to travel." - IDI-05

Moreover, this is also supported by the study of McLoughlin et al. (2021), which highlights the importance of adaptability in the workplace as jobs and structures evolve. Their research focused on project managers and showed that adaptive performance is critical, especially in unpredictable situations. While adaptability may not be part of formal competencies, it plays a key role in handling emergencies and stress. For virtual assistants (VAs), this adaptability is essential in managing changing tools and processes. Like project managers, VAs need to adjust quickly to new systems, ensuring they stay effective and provide high-quality services to clients.

The second theme that emerges is that virtual assistants' self-management and independence require one for growth. This theme highlights how being a virtual assistant (VA) fosters personal and professional growth by encouraging self-management and independence. Participants emphasized that working as a virtual assistant requires strong self-discipline, as they must create their own schedules, meet deadlines, and complete tasks without direct

supervision. This level of independence not only enhances their ability to manage time efficiently but also builds confidence in their decision-making skills. Additionally, the flexibility that comes with remote work allows virtual assistants to adapt to different clients' needs, further improving their problem-solving abilities and resilience. Over time, these qualities contribute to significant personal growth and career advancement, as VAs learn to handle multiple responsibilities, prioritize tasks, and navigate challenges on their own. This independence empowers them to continuously improve and succeed in their roles.

This finding aligns with the study by Logan et al. (2020), which discusses the importance of building self-management and independence skills over time. The study explains that these skills need to be developed through a structured and gradual process, starting early and continuing as individuals grow. Similarly, for virtual assistants, managing themselves and working independently are key factors in their growth. Just as people learn to manage tasks through practice, virtual assistants develop self-discipline and decision-making abilities that help them improve personally and professionally.

In addition to the study by Ridosh et al. (2023), which highlights the development of self-management skills over time, particularly in young adults. The study shows that self-management improves as individuals grow, with some demographic groups demonstrating different rates of progress. Similarly, for virtual assistants, self-management and independence are essential for their personal and professional growth. Just as self-management develops through various stages, virtual assistants also gain independence by managing their tasks, setting priorities, and learning how to work without constant supervision. Both findings underscore that self-management is a gradual process that fosters long-term growth and success.

The third theme that emerges is that virtual assistants achieved success through clear communication. This theme emphasizes the importance of clear and effective communication as a fundamental aspect of a virtual assistant's success. Participants noted that maintaining open lines of communication with clients is essential for building trust and fostering strong working relationships. They shared that regular updates and feedback help align their work with clients' expectations, ensuring that tasks are completed accurately and on time. Additionally, effective communication allows virtual assistants to better understand clients' needs, preferences, and goals, leading to more tailored and satisfactory service.

This finding aligns with the study of Ilavarasi (2024), which emphasizes the crucial role of clear communication in achieving success in professional environments. The study highlights that establishing clear communication channels enhances workplace productivity, ensuring smooth information flow and minimizing misunderstandings among team members. Furthermore, it underscores the importance of active listening, which helps VAs understand client needs and perspectives, thereby building trust and improving job performance. Providing constructive feedback is also vital, as it fosters continuous improvement and helps VAs meet client expectations more effectively.

Furthermore, this finding aligns with Aebissa (2023), who emphasizes that effective

communication is essential for personal and professional success. The article highlights that clear communication fosters strong interpersonal relationships, which are critical for building trust and respect with clients. Furthermore, it points out that effective communication is key to conflict resolution, enabling VAs to address misunderstandings efficiently and maintain harmony in their work environments. Aebissa notes that the ability to express objectives and plans clearly is vital for achieving goals. The importance of active listening and empathetic communication is also underscored, as these skills allow virtual assistants to understand their clients' needs better and foster stronger connections. These insights illustrate how clear and effective communication serves as a foundational element for virtual assistants in their roles.

Also, the fourth theme that emerges was that virtual assistants' experienced fulfillment through financial stability. This theme highlights how virtual assistants (VAs) find fulfillment through the financial stability their work provides. Many participants emphasized that earning a steady income as a VA not only supports their families but also empowers them to pursue personal goals and improve their overall quality of life. The financial rewards enable virtual assistants to cover essential expenses, reduce financial stress, and invest in their families' well-being. Participants noted that this reliable income allows them to engage in meaningful activities, such as traveling, pursuing hobbies, and spending quality time with loved ones, which enhances their happiness and satisfaction.

This finding relates to the findings of the study of Brzozowski and Visano (2019), which emphasized that financial satisfaction significantly impacts overall life satisfaction, especially for those experiencing financial stress. Many virtual assistants noted that their steady income not only supports their families but also enables them to pursue personal goals and enhance their quality of life. This reflects the authors' conclusion that financial well-being is crucial for life satisfaction. Additionally, the research highlights the link between financial stress and dissatisfaction, showing how reliable income reduces financial stress and allows individuals to meet essential expenses. Participants emphasized that their stable earnings enable them to engage in meaningful activities, such as traveling and spending quality time with loved ones, leading to increased happiness and satisfaction.

In conclusion, the study revealed that participants experienced various aspects of being a virtual assistant, such as managing time strategically, working in a flexible environment, building communication and relationships, dealing with internet connectivity issues, and using job platforms to find opportunities. To cope with challenges, they focused on balancing work and life, improving skills, planning tasks effectively, and staying motivated by achieving personal and professional goals. Participants also shared valuable insights, emphasizing the importance of adaptability, self-management, financial stability, and clear communication as key elements for success.

These findings underline the importance of employers supporting virtual assistants through services that address their well-being and professional development, along with providing technical training. A supportive and collaborative work environment can also reduce challenges such as isolation and connectivity issues, leading to a more positive experience for remote workers.

The findings of this study contribute to a better understanding of the experiences, challenges, and coping strategies of virtual assistants. They highlight the importance of communication, adaptability, self-management, and continuous learning for success in the virtual assistant profession. The findings may guide employers in developing programs that promote employee well-being, technical skills, and effective communication. Educational institutions may use the results to strengthen curriculum and training related to virtual assistance, while government agencies such as PESO, JPO, DOLE, and CHED may use the findings in designing employment and skills development programs that support the growing virtual assistant industry.

Future researchers are encouraged to conduct similar studies with a larger and more diverse group of virtual assistants from different regions and industries. Quantitative or mixed-method approaches may also be used to validate the findings. Further studies may examine the effects of remote work on job performance, work-life balance, mental well-being, and career development, as well as the effectiveness of support programs for virtual assistants.

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REFERENCES

- Abug, N. B., Navales, B. B., Calderon, R. S., De Jesus, E. R., & Garcia, E. N. (2023). Personal and professional balance among freelance workers: A status quo analysis. *International Journal of Business, Technology and Organizational Behavior*, 3(3), 197–211. <https://doi.org/10.52218/ijbtob.v3i3.275>
- Aebissa, M. (2023). Effective communication: The key to success. *Journal of Organizational Culture, Communications and Conflict*, 27(5), 1–2. <https://www.abacademies.org/articles/effective-communication-the-key-to-success-16363.html>
- Aspers, P., & Corte, U. (2019). What is qualitative in qualitative research? *Qualitative Sociology*, 42(2), 139–160. <https://doi.org/10.1007/s11133-019-9413-7>

- Badil, M. D. M., Aslam, Z. A. Z., Khan, K. K., Ashiq, A. A., & Bibi, U. B. (2023). Phenomenology qualitative research inquiry: A review paper. *Pakistan Journal of Health Sciences*, 4(3), 9–13. <https://doi.org/10.54393/pjhs.v4i03.626>
- Bahinting, M. A., Ardiente, M., Endona, J., Herapat, M. A., Lambo, D., Librea, H. J., Librando, M. C., Libron, J. B., Petaluna, M. J., Ygot, G., Taneo, J., Cabello, C., & Minyamin, A. (2022). Stronger than the internet connectivity: A phenomenology. *Psychology and Education: A Multidisciplinary Journal*, 2(6), 465–476. <https://doi.org/10.5281/zenodo.6791820>
- Bhuiyan, M. J. R. (2020). *Solutions for wireless internet connectivity in remote and rural areas* [Master's thesis, University of Oulu]. OuluREPO. <https://oulurepo.oulu.fi/handle/10024/17028>
- Blaising, A., Kotturi, Y., Kulkarni, C., & Dabbish, L. (2021). Making it work, or not. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW3), 1–29. <https://doi.org/10.1145/3432925>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Brzozowski, M., & Visano, B. S. (2020). "Havin' money's not everything, not havin' it is": The importance of financial satisfaction for life satisfaction in financially stressed households. *Journal of Happiness Studies*, 21(2), 573–591. <https://doi.org/10.1007/s10902-019-00091-0>
- Caringal-Go, J. F., Teng-Calleja, M., Bertulfo, D. J., & Manaois, J. O. (2022). Work-life balance crafting during COVID-19: Exploring strategies of telecommuting employees in the Philippines. *Community, Work & Family*, 25(1), 112–131. <https://doi.org/10.1080/13668803.2021.1956880>
- Chernyi, A., & Uotila, J. (2024). Prioritization of organizational stakeholders: A managerial decision-making perspective. *Journal of Business Research*, 185, 114882. <https://doi.org/10.1016/j.jbusres.2024.114882>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Diefendorff, J. M., Kenworthy, M. E., Lee, F. C., & Nguyen, L. K. (2022). Work motivation. *Oxford Research Encyclopedia of Psychology*. <https://doi.org/10.1093/acrefore/9780190236557.013.37>
- Dillahunt, T. R., Israni, A., Lu, A. J., Cai, M., & Hsiao, J. C. (2021). Examining the use of online platforms for employment: A survey of U.S. job seekers. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. <https://doi.org/10.1145/3411764.3445350>

- Dubiel, M., Halvey, M., & Azzopardi, L. (2018). A survey investigating usage of virtual personal assistants. *arXiv*. <https://doi.org/10.48550/arXiv.1807.04606>
- Dwomoh, J. A. N., Opoku, O. A., Mensah, A., Bashiru, A. W. A., & Kelvin, D. P. (2024). Assessing the dynamics of employee benefits for virtual and flexible work arrangements of Obapack Company Limited, Ghana. *Journal of Production Operations Management and Economics*, 43, 21–29. <https://doi.org/10.55529/jpome.43.21.29>
- Gollwitzer, P. M., & Bargh, J. A. (2023). Two routes to the self-regulation of motivation and goals. In *Oxford University Press eBooks* (pp. 183–190). <https://doi.org/10.1093/oso/9780197662359.003.0031>
- Gunawardena, C. N. (1995). Social presence theory and implications for interaction and collaborative learning in computer conferences. *International Journal of Educational Telecommunications*, 1(2–3), 147–166. <https://www.learntechlib.org/p/15156>
- Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The job demands-resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, 22(3), 224–241. <https://doi.org/10.1080/02678370802379432>
- Heaton, J. (2022). “Pseudonyms are used throughout”: A footnote, unpacked. *Qualitative Inquiry*, 28(1), 123–132. <https://doi.org/10.1177/10778004211048379>
- Ilavarasi, N. D. (2024). Enhancing workplace productivity: A review of effective communication techniques and their role in fostering team collaboration and conflict resolution. *International Journal for Multidimensional Research Perspectives*, 2(4), 33–45. <https://doi.org/10.61877/ijmrv.v2i4.132>
- Jackson, V. P. (2009). Time management: A realistic approach. *Journal of the American College of Radiology*, 6(6), 434–436. <https://doi.org/10.1016/j.jacr.2008.11.018>
- Jämsen, R., Sivunen, A., & Blomqvist, K. (2022). Employees’ perceptions of relational communication in full-time remote work in the public sector. *Computers in Human Behavior*, 132, 107240. <https://doi.org/10.1016/j.chb.2022.107240>
- Kapisyzi, B. D., Drishti, E., Kopliku, B., Duhanxhi, I., & Dergjini, A. H. (2024). A study of freelancers’ work experiences in the Albanian gig economy—is there any meaning after all? *Research Square*. <https://doi.org/10.21203/rs.3.rs-4788150/v1>
- Logan, L. R., Sawin, K. J., Bellin, M. H., Brei, T., & Woodward, J. (2020). Self-management and independence guidelines for the care of people with spina bifida. *Journal of Pediatric Rehabilitation Medicine*, 13(4), 583–600. <https://doi.org/10.3233/PRM-200734>
- McLoughlin, E., & Priyadarshini, A. (2021). Adaptability in the workplace: Investigating the adaptive performance job requirements for a project manager. *Project Leadership and Society*, 2, 100012. <https://doi.org/10.1016/j.plas.2021.100012>

- Negulescu, O., & Doval, E. (2021). Ergonomics and time management in remote working from home. *Acta Technica Napocensis Series: Applied Mathematics, Mechanics, and Engineering*, 64(1-S1). <https://atna-mam.utcluj.ro/index.php/Acta/article/view/1500/1223>
- Nejad, H. G., Nejad, F. G., & Farahani, T. (2021). Adaptability and workplace subjective well-being: The effects of meaning and purpose on young workers in the workplace. *Canadian Journal of Career Development*, 20(2). <https://doi.org/10.53379/cjcd.2021.70>
- Nwanakezie, I. S., & Ogoni, I. K. (2021). Task development procedures for effective educational management. *International Journal of Institutional Leadership, Policy and Management*, 3(1), 106–133.
- Parisi, G., Kemker, R., Part, J. L., Kanan, C., & Wermter, S. (2019). Continual lifelong learning with neural networks: A review. *Neural Networks*, 113, 54–71. <https://doi.org/10.1016/j.neunet.2019.01.012>
- Raghuram, S., Hill, N. S., Gibbs, J. L., & Maruping, L. M. (2019). Virtual work: Bridging research clusters. *Academy of Management Annals*, 13(1), 308–341. <https://doi.org/10.5465/annals.2017.0020>
- Rawson, M. (2000). Learning to learn: More than a skill set. *Studies in Higher Education*, 25(2), 225–238. <https://doi.org/10.1080/713696137>
- Ridosh, M. M., Adams, W., Magaña, F., Sawin, K. J., & Holmbeck, G. N. (2023). Trajectories of self-management and independence in youth with spina bífida: Demographic predictors of growth. *Child: Care, Health and Development*, 49(3), 508–517. <https://doi.org/10.1111/cch.13065>
- Rohatinsky, N., Cave, J., & Krauter, C. (2020). Establishing a mentorship program in rural workplaces: Connection, communication, and support required. *Rural and Remote Health*, 20(1), 5640. <https://doi.org/10.22605/RRH5640>
- Setiyani, A., Djumarno, D., Riyanto, S., & Nawangsari, L. C. (2019). The effect of work environment on flexible working hours, employee engagement and employee motivation. *International Review of Management and Marketing*, 9(3), 112–116. <https://doi.org/10.32479/irmm.8114>
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. Wiley.
- Signore, C., Della Piana, B., & Di Vincenzo, F. (2023). Digital job searching and recruitment platforms: A semi-systematic literature review. In *Lecture notes in networks and systems* (pp. 313–322). https://doi.org/10.1007/978-3-031-42134-1_31
- Tudy, R. A. (2021). From the corporate world to freelancing: The phenomenon of working from home in the Philippines. *Community, Work & Family*, 24(1), 77–92. <https://doi.org/10.1080/13668803.2020.1809994>

EFFECTS OF SOIL AMENDMENTS ON
EARLY GROWTH OF CACAO
SEEDLINGS USING ACIDIC RED SOIL
FROM SITIO KAPATAGAN, GUPITAN,
KAPALONG

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ABSTRACT

Cacao (*Theobroma cacao*) production is often constrained by highly acidic soils that limit nutrient availability and hinder early seedling development. This experimental study aimed to determine the effects of various organic soil amendments on the growth performance of cacao seedlings under acidic soil conditions in Brgy. Gupitan. Five treatments, T1 (Control), T2 (Vermicompost + Chicken dung, T3 (Chicken dung + Carbonized Rice Hull, T4 (Vermicompost + Carbonized Rice Hull), and T5 (Vermicompost + Chicken Dung + Carbonized Rice Hull), were evaluated using a randomized complete block design. Growth parameters, including seedling vigor index, seedling height, number of leaves, stem diameter, leaf length, leaf width, shoot length, and root length, were measured at multiple intervals. Results showed significant improvements across most growth indicators in plants treated with organic amendments. T5 consistently produced the highest seedling height, leaf dimensions, stem diameter, and shoot length, while T4 recorded the highest seedling vigor index and root length. The findings demonstrated that the combined application of vermicompost, chicken dung, and carbonized rice hull markedly enhanced cacao seedlings' growth in acidic soil. These results suggest that organic amendments can serve as effective, sustainable options for improving cacao establishment in marginal soils.

Keywords: **Acidic Soil; Plant Growth; Soil Amendments; Soil pH; Vermicompost**

INTRODUCTION

Cacao (*Theobroma cacao* L.) is an economically important tropical crop that supports the livelihoods of millions of smallholder farmers worldwide, primarily due to its central role in chocolate production and the global cocoa industry. Despite its economic significance, cacao productivity is often constrained by environmental factors, particularly soil acidity, which is prevalent in many tropical regions. Acidic soils negatively affect plant growth by reducing the availability of essential nutrients such as phosphorus, calcium, and magnesium, while increasing the solubility of toxic elements like aluminum and manganese. These conditions impair root development, restrict nutrient uptake, and ultimately reduce seedling vigor and overall crop performance (Regasa et al., 2025).

Soil acidity is a widespread problem affecting a significant portion of arable land globally and is considered a major factor contributing to declining agricultural productivity. In acidic soils, phosphorus becomes less available due to fixation by aluminum and iron compounds, making it inaccessible to plants and further limiting growth. According to Chen and Lai (2024), improving soil nutrient availability through organic amendments such as vermicompost can enhance soil quality and nutrient dynamics, thereby supporting better plant growth. Similarly, Toor et al. (2024) reported that vermicompost application improves soil fertility, increases nutrient availability, and enhances plant physiological performance, emphasizing its potential as a sustainable soil amendment.

The issue of soil acidity is further exacerbated by unsustainable land-use practices, including deforestation, continuous cropping, and the excessive or improper use of chemical fertilizers. These practices accelerate soil degradation, leading to declining soil fertility and reduced agricultural productivity. Consequently, farmers, especially those in developing countries, face increasing challenges in maintaining cacao yield and quality, which directly affects their income and food security. In the Philippines, cacao production is recognized as a promising agricultural sector; however, it continues to face several constraints. These include the widespread occurrence of acidic soils, limited financial resources, inadequate access to modern farming technologies, and insufficient agricultural extension services. These challenges are more pronounced in upland and indigenous communities, where farmers often rely on traditional practices and have limited exposure to improved soil management strategies. In Sitio Kapatagan, Barangay Gupitan, a predominantly agricultural area, highly acidic red soils significantly restrict cacao production. Indigenous farmers in this locality are particularly affected, as poor soil conditions hinder plant establishment and growth, thereby limiting productivity and economic opportunities.

While various methods of managing soil acidity have been studied, there remains a gap in research focusing on low-cost, locally available organic amendments suitable for upland indigenous farming systems. Organic materials such as vermicompost, decomposed chicken dung, and carbonized rice hull have shown potential in improving soil physicochemical properties, increasing soil pH, enhancing nutrient availability, and reducing soil acidity (Abu Regasa et al., 2025). However, limited studies have examined their combined effects on cacao plantlet growth in acidic soils, particularly within indigenous farming communities.

This study aims to evaluate the effects of vermicompost, decomposed chicken dung, and carbonized rice hull on the growth performance of cacao plantlets cultivated in acidic soils. By identifying effective, affordable, and sustainable soil management practices, this research seeks to contribute to improved cacao production among smallholder and indigenous farmers. Furthermore, the findings of this study may support community-based agricultural training programs and promote environmentally sustainable farming practices. In a broader context, this research supports the United Nations Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) by enhancing farmers' livelihoods, SDG 2 (Zero Hunger) by improving agricultural productivity and food security, SDG 4 (Quality Education) through knowledge transfer and community-based training, and SDG 13 (Climate Action) by promoting sustainable and eco-friendly soil management practices that contribute to environmental conservation.

METHODOLOGY

Research Design

A quantitative experimental design was used to determine the effects of soil amendments on the growth of cacao plantlets in acidic soil. Treatments were arranged in a Completely Randomized Design (CRD) to ensure unbiased results. This approach allowed for the systematic measurement of growth parameters under controlled conditions.

This study employed a quantitative experimental research design to determine the effects of different soil amendments on the germination and growth performance of cacao seedlings grown in acidic soil. According to Creswell and Creswell (2018), experimental research is used to examine the effect of treatments or interventions on specific outcomes under controlled conditions. This design enables researchers to collect numerical data and objectively compare the effects of different treatments. The study was arranged using a Completely Randomized Design (CRD), in which treatments were assigned randomly to the experimental units. Gomez and Gomez (1984) explained that CRD is appropriate when experimental units are relatively uniform, as it helps minimize bias and experimental error through randomization.

This design was considered appropriate for the study because it allowed the researchers to evaluate and compare the effects of different soil amendment combinations on cacao seedlings under controlled nursery conditions. The use of random treatment allocation and quantitative measurements provided reliable data for assessing seedling germination and growth responses.

Research Locale and Duration of the Study

The study was conducted in Purok Lumad Dugayan, a small community within Barangay Gupitan, Kapalong, Davao del Norte. The experimental area consisted of 225 cacao seedlings, which were used to evaluate growth performance under acidic soil conditions with different soil amendments.

Experimental Design and Treatments

This study was utilized and is laid out in a Completely Randomized Design (CRD). The treatments were as follows:

- T1- Control (Acidic Soil only)
- T2- Vermicompost (5 g) + Decomposed Chicken Dung (5 g)
- T3- Decomposed Chicken Dung (5 g) + Carbonized Rice Hull (5 g)
- T4- Vermicompost (5 g) + Carbonized Rice Hull (5 g)
- T5- Vermicompost (5 g) + Decomposed Chicken Dung (5 g)
+ Carbonized Rice Hull (5 g)

Seedling Establishment and Maintenance

Nursery Installation

The 25-square-meter area is set up specifically for early seedlings or young plants' early growth and development, ensuring controlled conditions for optimal establishment. The structure was constructed using bamboo, twine, net, and nails, with 225 poly bags of a size of 6 x 8.

Disinfection

Disinfection employs a sprayer to sterilize tools, containers, and the growing environment thoroughly. This critical step prevents the spread of pathogens and diseases, fostering clean conditions necessary for the healthy development of seedlings and young plants.

Soil Media and Treatment Application

The study utilized acidic soil collected from Sitio Kapatagan, a cacao-growing area within Brgy. Gupitan, Kapalong. The soil was placed in 6 x 8-inch polyethylene bags to serve as individual growth units for the cacao seedlings. Each bag was prepared to provide adequate drainage and sufficient space for root development while maintaining uniform conditions across all samples.

Seed Preparation, Extraction and Cleaning

Fully ripened pods were selected based on external characteristics, including uniform color, absence of physical damage, and freedom from visible disease symptoms. The pods were manually opened using a clean knife, and the seeds were removed together with the mucilage. All extracted seeds were washed under running clean water to remove the remaining pulp. Damaged, undersized, or discolored seeds were discarded to ensure uniformity and viability of planting materials.

Pre-Selection and Soaking, and Sowing Procedure

The cleaned seeds were subjected to a pre-selection process using the flotation method: seeds were placed in clean water, and floating seeds were discarded as they typically indicate low viability. The remaining viable seeds were soaked in clean water for 12-24 hours

to promote uniform germination and rehydration. After soaking, seeds were sown directly into individual bags containing the prepared growing medium according to the experimental treatments. Each seed was planted at a depth of 1-2 cm with the embryo side positioned upward.

Soil Amendments Application

The vermicompost was sourced from a nursery in Asuncion, Davao del Norte, while the decomposed chicken dung was obtained from a poultry farm in Brgy. Gupitan. The carbonized rice hull was purchased in Tagum City from a banana chips factory transported in highways. The soil amendments were applied basally at a standard dosage of 5 grams per polyethylene bag before sowing the cacao seeds. Each seed was then planted directly into the amended soil. All seedlings were subjected to the same soil preparation and treatment procedure to maintain consistency, allowing for accurate comparison of growth performance under the different treatment conditions.

Nursery Management

Seedlings were monitored daily, and germination was recorded from emergence until complete germination. Weeding and maintenance were performed manually whenever necessary. No chemical treatments were applied during the germination stage to maintain organic growth conditions. Seedlings were allowed to establish for 4-6 weeks, after which they were considered ready for treatment application and subsequent data collection.

Data Gathered

Germination Percentage

This was calculated by dividing the number of seeds germinated by the total number of seeds planted, then multiplying the result by 100. The measurement was recorded at the termination of the study.

Germination Rate (GR)

Germination speed was monitored by counting the number of seeds that germinated and dividing it by the total time (in days) taken. This was done using 10 seedling samples per treatment.

$$\text{Germination Rate} = \frac{\text{Total Germinated Seeds}}{\text{Time (days)}} \times 100$$

Seedling Vigor Index (SVI)

This index measures the overall health and growth of cacao seedlings. It is calculated by multiplying the germination percentage by the total seedling length (including both shoot and root). SVI reflects the strength and vigor of the seedlings. This was measured at 15, 30, 60, and 90 days after planting using tape measure.

$$\text{SVI} = \text{Germination Percentage} \times \text{Seedling Length (Shoot + Root)}$$

Seedling Height

Seedling height was measured from the plant's base (soil level) to the tip of the highest functional leaf of ten (10) sample experimental plants using tape measure. Measurements were taken at 15, 30, 45, and 60 days after planting using tape measure.

Number of Leaves

Ten randomly selected experimental plants were counted manually, recording only healthy, undamaged leaves. Measurements were taken at 15, 30, 45, and 60 days after planting.

Stem Diameter

Stem diameter was measured using a caliper at a consistent height of 5 cm above the soil level. The caliper was carefully placed around the stem to avoid compression or damage, and the reading was recorded to the nearest centimeter. Measurements were taken at 15, 30, 45, and 60 days after planting.

Leaf Length

The length of the third fully mature leaf from the shoot (the third leaf from the growing tip or apical meristem) to the tip of the leaf was measured using a ruler or measuring tape and recorded in centimeters. Measurements were taken on 10 seedling samples per treatment at 15, 30, 45, and 60 days after planting.

Leaf Width

The widest part of the third fully mature leaf from the shoot, typically across the middle, was measured using a ruler and recorded in centimeters. Measurements were taken on 10 seedling samples per treatment at 15, 30, 45, and 60 days, and at the termination of the study.

Shoot and Root Length

Shoot length was measured from the point of shoot emergence to the tip of the shoot using a ruler or measuring tape and recorded in centimeters. Measurements were taken from ten (10) sample seedlings per treatment at 45 and 60 days after sowing to determine the effect of the soil amendments on shoot growth. The length of the primary root (taproot) was measured from the base of the cacao seed to the root tip. Five (5) seedlings from each treatment group were carefully uprooted to avoid damaging the roots. Root length was recorded in centimeters at the termination of the study.

Soil pH and Nutrient Content

Soil pH was measured initially to assess the effects of soil amendments on soil acidity. Soil nutrient content, including key nutrients such as nitrogen, phosphorus, and potassium, was analyzed to determine soil status.

Environmental Conditions

Temperature and relative humidity (RH) were recorded using a hygrometer. Measurements were taken daily in the morning, afternoon, and evening to capture variations throughout the day.

Statistical Analysis

All quantitative data were subjected to statistical analysis using Analysis of Variance (ANOVA) in a Completely Randomized Design (CRD). Significant differences among treatment means were tested using the Honest Significant Difference (HSD) at a 5% significance level.

Ethical Consideration

This study followed ethical guidelines by using cacao seeds sourced responsibly. It will focus on minimizing plant harm by applying safe, non-invasive methods for soil amendments and growth monitoring. The data was collected honestly and used only for scientific purposes. Environmental impact was considered by managing waste and resources efficiently.

RESULTS

Soil Analysis Result

Table 1
Baseline Soil pH and Nutrient Levels of Acidic Soil Used for Cacao (*Theobroma cacao*) Seedlings Growth

Parameter	Value	Unit	Remarks
Soil pH	4.00		Extremely Acidic
Nitrogen	-	Qualitative	Low
Phosphorus	-	Qualitative	Low
Potassium	-	Qualitative	Low
Nutrient Requirement	0.10	N kg/ha	-
	0.12	P ₂ O ₅	-
	0.09	K ₂ O kg/ha	-
Lime Requirement	9.50	Tons/ha	To raise pH

The baseline soil analysis revealed that the experimental soil has a pH of 4.00, which is classified as extremely acidic. Such a low pH level is unfavorable for cacao seedling growth, as it significantly limits the availability of essential nutrients while increasing the solubility of toxic elements such as aluminum and manganese. These conditions can adversely affect root development, nutrient uptake, and overall plant vigor.

The qualitative results further indicate that nitrogen, phosphorus, and potassium levels in the soil are low. These macronutrients are essential for plant growth, with nitrogen supporting vegetative development, phosphorus aiding in root formation, and potassium

enhancing overall plant health and stress tolerance. The deficiency of these nutrients suggests that the soil is inherently infertile and unable to support optimal cacao seedling growth without intervention.

The nutrient requirement data (0.10 kg N/ha, 0.12 kg P₂O₅, and 0.09 kg K₂O/ha) emphasize the need for supplementation to meet the nutritional demands of cacao seedlings. Additionally, the lime requirement of 9.50 tons/ha indicates a substantial need to neutralize soil acidity and raise the pH to a more suitable level for crop production.

These findings emphasize that the experimental site is highly constrained for cacao production due to both chemical imbalance and nutrient deficiency. The extremely acidic condition, combined with low macronutrient availability, suggests poor soil fertility and limited biological activity, which can restrict seedling establishment and early growth. Without appropriate soil amendment strategies, such conditions may continue to hinder nutrient cycling and reduce plant productivity. Therefore, the application of organic amendments in this study is essential not only to supply nutrients but also to improve soil buffering capacity, enhance microbial activity, and gradually ameliorate soil acidity, making the environment more conducive for sustainable cacao seedling development.

Germination Percentage, Germination Rate, and Seedling Vigor Index

Table 2
Effects of Soil Amendments on Germination Percentage, Germination Rate, and Seedling Vigor Index of Cacao Seedlings under Acidic Soil Conditions

Treatment	Germination Percentage (%)	Germination Rate	Seedling Vigor Rate
T1- Control	93.00	2.80	8.65 ^c
T2- VC + DCD	98.00	2.93	14.64 ^b
T3- DCD + CRH	95.00	2.86	10.63 ^d
T4- VC + CRH	100.00	3.00	16.78 ^a
T5- VC + DCD + CRH	98.00	2.93	11.96 ^c
CV (%)	4.58	4.35	3.32
F-test	Ns	Ns	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

The HSD results revealed clear and statistically supported differences in germination performance among the treatments. ANOVA results revealed a significant difference among the treatment means. Treatment 4 (Vermicompost + Carbonized Rice Hull) consistently obtained the highest values across all measured parameters, recording 100% germination, the highest germination rate (3.00), and the greatest seedling vigor index (16.78). These results indicate that Treatment 4 significantly outperformed the other treatments in promoting both germination efficiency and early seedling growth. The superior performance of Treatment 4 may be attributed to the synergistic effects of vermicompost and carbonized rice hull. Vermicompost is known to enhance soil microbial activity, improve nutrient availability, and supply essential plant growth hormones such as auxins and cytokinins, which stimulate faster germination and early root development. Meanwhile, carbonized rice hull improves soil aeration, water retention, and drainage, creating a favorable physical environment for seed imbibition and root emergence.

The combination of these two amendments likely created optimal soil conditions that supported rapid germination and vigorous seedling establishment.

Treatments 2 and 5 also showed relatively high germination performance, indicating that organic amendments, individually or in combination, still improve soil conditions compared to the control. However, their slightly lower performance compared to Treatment 4 suggests that the combined physical and biological benefits of vermicompost and carbonized rice hull together are more effective than single or less balanced amendments. In contrast, Treatment 1 (control) consistently recorded the lowest values in all parameters, highlighting the limitations of the untreated acidic soil. The poor germination performance in the control treatment can be associated with low nutrient availability, poor soil structure, and unfavorable pH conditions (pH 4.00), which collectively hinder seed activation and early seedling development.

The HSD results strongly indicate that organic amendment combinations, particularly vermicompost and carbonized rice hull, significantly enhance germination performance and seedling vigor in cacao under acidic soil conditions. These findings support the effectiveness of integrated organic soil management practices in improving early-stage crop establishment.

Seedling Height

Table 3
Seedling Height at 15, 30, 45, and 60 Days of Cacao Seedlings after Sowing as Affected by Soil Amendments Grown under Acidic Soil

Treatment	Seedling Height			
	15	30	45	60
T1- Control	6.91 ^c	15.53 ^b	16.80 ^b	17.08 ^c
T2- VC + DCD	6.99 ^{bc}	17.45 ^a	19.07 ^a	20.93 ^{ab}
T3- DCD + CRH	6.97 ^{bc}	17.96 ^a	19.16 ^a	22.21 ^a
T4- VC + CRH	7.52 ^a	17.59 ^a	18.87 ^a	19.68 ^a
T5- VC + DCD + CRH	7.54 ^a	18.44 ^a	19.81 ^a	22.26 ^a
CV (%)	7.80	4.44	4.35	5.72
F-test	**	**	**	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

Seedling height showed highly significant differences among treatments across all observation periods (15, 30, 45, and 60 days), indicating that the application of organic amendments had a strong and measurable effect on cacao seedling growth under acidic soil conditions. Treatment 5 consistently recorded the highest average seedling height throughout the study, with values of 7.54 cm at 15 days, 18.44 cm at 30 days, 19.81 cm at 45 days, and 22.26 cm at 60 days. This consistent superiority across all growth stages highlights its effectiveness in promoting sustained seedling development.

Treatment 3 also exhibited strong performance, particularly at 45 and 60 days, with seedling heights of 19.16 cm and 22.21 cm, respectively, which were statistically comparable to Treatment 5 based on the HSD test. This suggests that both treatments significantly enhanced vegetative growth compared to the other treatments. In contrast, Treatment 1

(control) consistently recorded the lowest seedling heights across all observation periods, confirming the detrimental effects of highly acidic and nutrient-deficient soil conditions on plant growth.

The highly significant results indicate that organic amendments play a crucial role in improving cacao seedling growth under acidic soil conditions. The superior performance of Treatment 5 can be attributed to the synergistic effects of vermicompost, decomposed chicken dung, and carbonized rice hull. These amendments collectively enhance soil structure, increase microbial activity, improve moisture retention, and supply essential nutrients needed for continuous plant growth. Such improvements create a more favorable rhizosphere environment, allowing for better root development and more efficient nutrient uptake, which directly contributes to increased seedling height.

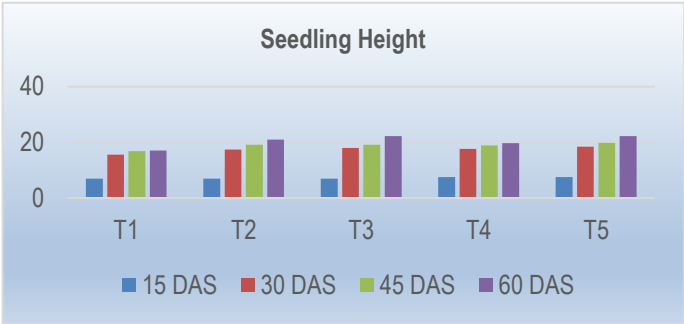


Figure 1. Seedling Height of Cacao Seedling at 15, 30, 45, and 60 Days after Sowing as Applied with Soil Amendments under Acidic Soil Conditions

Number of Leaves

Table 4
Number of Leaves at 15, 30, 45, and 60 Days of Cacao Seedlings after Sowing as Affected by Soil Amendments Grown under Acidic Soil

Treatment	Number of Leaves			
	15	30	45	60
T1- Control	1.77 ^e	4.67 ^d	6.03 ^d	5.98 ^c
T2- VC + DCD	2.83 ^c	5.20 ^b	6.97 ^{bc}	9.10 ^a
T3- DCD + CRH	2.70 ^d	5.47 ^a	8.00 ^a	9.77 ^a
T4- VC + CRH	3.50 ^a	4.93 ^c	6.43 ^{cd}	7.17 ^b
T5- VC + DCD + CRH	3.27 ^b	5.50 ^a	7.50 ^{ab}	9.77 ^a
CV (%)	7.38	2.57	6.43	5.88
F-test	**	**	**	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

The number of leaves of cacao seedlings showed highly significant differences among treatments across all observation periods (15, 30, 45, and 60 days after sowing), as indicated by the F-test ($p < 0.01$). At 15 days after sowing, Treatment 4 (VC + CRH) recorded the highest number of leaves (3.50), followed by Treatment 5 (VC + DCD + CRH) with 3.27 leaves. The control (T1) had the lowest value at 1.77 leaves. At 30 days, Treatments 3 (DCD + CRH) and 5 (VC + DCD + CRH) obtained the highest and statistically comparable values (5.47 and 5.50 leaves, respectively), while the control remained the lowest at 4.67 leaves. At 45 days, Treatment 3 recorded the highest number of leaves (8.00), followed by Treatment 5 (7.50), while the control (T1) had 6.03 leaves. At 60 days, Treatments 2 (VC + DCD), 3 (DCD + CRH), and 5 (VC + DCD + CRH) produced the highest and statistically comparable leaf numbers (9.10, 9.77, and 9.77, respectively). Treatment 1 (control) had the lowest value (5.98), while Treatment 4 recorded 7.17 leaves. Treatments 2, 3, and 5 consistently showed higher leaf production at later growth stages, while the control consistently recorded the lowest values across all sampling periods. This indicates that combined amendments, especially those including CRH and DCD, promoted better leaf development in cacao plantlets grown in acidic soil.

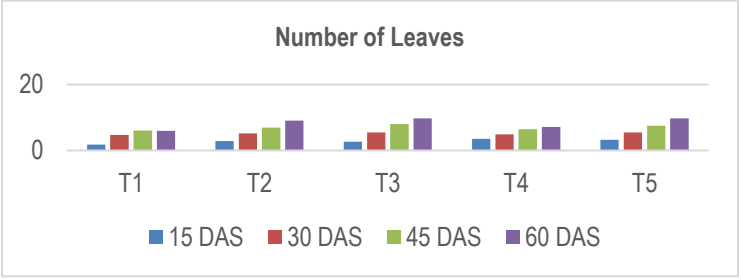


Figure 2. Number of Leaves of Cacao Seedling at 15, 30, 45, and 60 Days after Sowing as Applied with Soil Amendments under Acidic Soil Conditions

Stem Diameter

Table 5

Stem Diameter at 15, 30, 45, and 60 Days of Cacao Seedlings after Sowing as Affected by Soil Amendments Grown under Acidic Soil

Treatment	Stem Diameter			
	15	30	45	60
T1- Control	2.36 ^e	3.12 ^b	3.23 ^c	3.49 ^{bc}
T2- VC + DCD	2.95 ^b	3.34 ^{ab}	3.40 ^{bc}	3.85 ^{ab}
T3- DCD + CRH	2.97 ^b	3.50 ^a	3.50 ^{ab}	3.30 ^c
T4- VC + CRH	2.95 ^b	3.53 ^a	3.53 ^a	3.79 ^{ab}
T5- VC + DCD + CRH	3.09 ^a	3.51 ^a	3.51 ^{ab}	4.06 ^a
CV (%)	0.94	3.84	2.99	5.30
F-test	**	**	**	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

The HSD results revealed highly significant differences among treatments ($p < 0.01$) across all observation periods (15, 30, 45, and 60 days after sowing), indicating that soil amendments had a strong influence on the stem development of cacao seedlings grown under acidic soil conditions.

At 15 days after sowing, Treatment 5 (VC + DCD + CRH) recorded the highest stem diameter (3.09 mm), indicating an early advantage in seedling structural growth. This was significantly higher than the control (T1), which consistently recorded the lowest value (2.36 mm), reflecting the limiting effects of acidic and nutrient-deficient soil conditions on early stem development. At 30 days, Treatments 3 (DCD + CRH), 4 (VC + CRH), and 5 (VC + DCD + CRH) exhibited statistically comparable and significantly higher stem diameters (3.50 mm, 3.53 mm, and 3.51 mm, respectively). This suggests that combinations of organic amendments were more effective in promoting stem thickening during the early vegetative stage compared to single or no amendment applications. At 45 days, Treatment 4 recorded the highest stem diameter (3.53 mm), closely followed by Treatments 3 (3.50 mm) and 5 (3.51 mm), all of which were statistically similar based on HSD grouping. This indicates that the benefits of organic amendments were sustained over time, likely due to continuous nutrient release and improved soil physical conditions that support stem growth. At 60 days, Treatment 5 produced the highest stem diameter (4.06 mm), significantly outperforming most treatments and indicating its superior long-term effect on structural development. Treatments 2 (3.85 mm) and 4 (3.79 mm) also showed relatively high values, while Treatment 3 (3.30 mm) showed a slight decline compared to earlier growth stages. The control remained the least performing treatment, reinforcing the negative impact of untreated acidic soil conditions.

The results demonstrate that integrated organic amendments, particularly the combination of vermicompost, decomposed chicken dung, and carbonized rice hull, significantly enhance stem diameter growth in cacao seedlings. The observed improvements may be attributed to enhanced nutrient availability (especially nitrogen and potassium), improved soil aggregation, better moisture retention, and increased microbial activity, all of which contribute to stronger stem formation and overall seedling vigor.

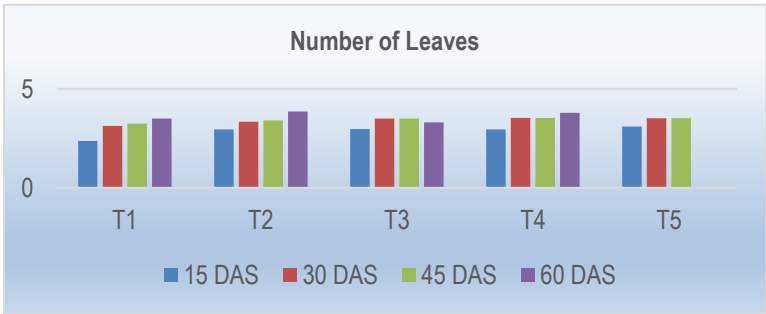


Figure 3. Stem Diameter of Cacao Seedling at 15, 30, 45, and 60 Days after Sowing as Applied with Soil Amendments under Acidic Soil Conditions

Leaf Length

Table 6
Leaf Length at 15, 30, 45, and 60 Days of Cacao Seedlings after Sowing as Affected by Soil Amendments Grown under Acidic Soil

Treatment	Leaf Length			
	15	30	45	60
T1- Control	0.68 ^c	8.11 ^b	9.81 ^c	10.54 ^c
T2- VC + DCD	0.49 ^d	9.79 ^a	10.80 ^{ab}	11.34 ^{ab}
T3- DCD + CRH	0.69 ^c	9.31 ^{ab}	10.42 ^{bc}	10.79 ^{bc}
T4- VC + CRH	1.54 ^a	9.71 ^a	10.49 ^{abc}	11.22 ^{abc}
T5- VC + DCD + CRH	1.08 ^b	10.14 ^a	11.20 ^a	11.89 ^a
CV (%)	0.91	7.54	3.95	3.51
F-test	**	**	**	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

Table 6 shows that leaf length differed significantly among treatments across all sampling periods, as indicated by the highly significant F-test values ($p < 0.01$). At 15 days after sowing, Treatment 4 (VC + CRH) recorded the longest leaves, followed by Treatment 5 (VC + DCD + CRH), while Treatment 2 produced the shortest leaves among the amended treatments. This indicates an early response of cacao seedlings to organic amendments, particularly those involving vermicompost and carbonized rice hull.

As the seedlings developed, Treatment 5 consistently produced the longest leaves at 30, 45, and 60 days after sowing, with the highest value recorded at 60 days (11.89 cm). This consistent performance suggests that the combined application of vermicompost, decomposed chicken dung, and carbonized rice hull provided a more sustained supply of nutrients and improved soil conditions necessary for continuous leaf elongation.

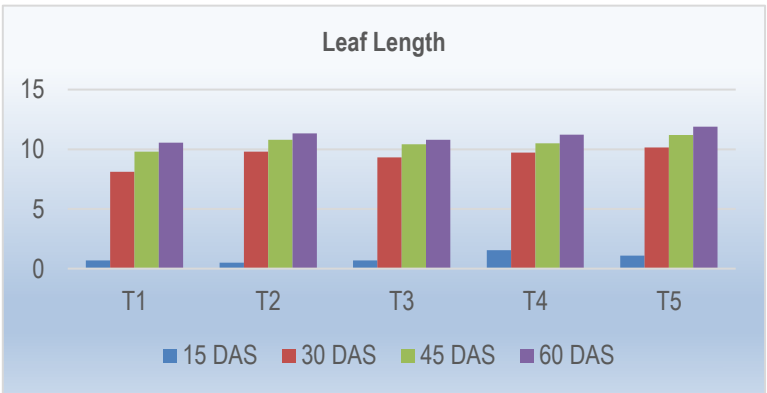


Figure 4. Leaf Length of Cacao Seedling at 15, 30, 45, and 60 Days after Sowing, as Applied with Soil Amendments under Acidic Soil Conditions

In contrast, the control treatment (T1) consistently recorded the shortest leaf length across all sampling periods, reflecting the limiting effects of acidic and nutrient-deficient soil conditions on vegetative growth. The consistently lower performance of T1 highlights the importance of soil amendment in improving plant growth under unfavorable soil conditions. The results indicate that the application of organic soil amendments, particularly combinations involving vermicompost, decomposed chicken dung, and carbonized rice hull, significantly enhances leaf elongation and promotes better vegetative growth of cacao plantlets under acidic soil conditions. These improvements may be attributed to enhanced nutrient availability, improved soil structure, and better water retention, which collectively support sustained leaf development.

Leaf Width

Table 7
Leaf Width at 15, 30, 45, and 60 Days of Cacao Seedlings after Sowing as Affected by Soil Amendments Grown under Acidic Soil

Treatment	Leaf Width			
	15	30	45	60
T1- Control	0.25 ^d	3.37 ^b	3.82 ^c	4.13 ^e
T2- VC + DCD	0.35 ^c	4.01 ^a	4.42 ^b	4.40 ^d
T3- DCD + CRH	0.35 ^c	4.02 ^a	4.35 ^b	4.79 ^b
T4- VC + CRH	0.56 ^a	4.05 ^a	4.44 ^b	4.67 ^c
T5- VC + DCD + CRH	0.51 ^b	4.36 ^a	4.89 ^a	5.18 ^a
CV (%)	1.81	6.03	5.20	0.41
F-test	**	**	**	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

The results in Table 7 show that leaf width was significantly affected by all treatments across all sampling periods, as indicated by the highly significant F-test values ($p < 0.01$). At 15 days after sowing, Treatment 4 (VC + CRH) recorded the widest leaves, followed closely by Treatment 5 (VC + DCD + CRH), while the control (T1) consistently had the narrowest leaves. This indicates an early positive response of cacao seedlings to organic amendments, particularly those involving vermicompost and carbonized rice hull.

As the seedlings progressed in growth, Treatment 5 consistently produced the widest leaves at 30, 45, and 60 days after sowing, with the highest value recorded at 60 days (5.18 cm). This consistent superiority suggests that the combined application of vermicompost, decomposed chicken dung, and carbonized rice hull provided a more balanced and sustained nutrient supply, promoting continuous leaf expansion and improved vegetative development. In contrast, the control treatment (T1) consistently recorded the smallest leaf width across all sampling periods, reflecting the limiting effects of highly acidic and nutrient-deficient soil conditions. This reinforces the importance of soil amendments in improving plant growth performance under unfavorable soil environments. Organic soil amendments, particularly combinations involving vermicompost, decomposed chicken dung, and carbonized rice hull, significantly enhance leaf expansion in cacao seedlings. These improvements may be attributed

to enhanced nutrient availability, improved soil physical properties, and better moisture retention, all of which contribute to stronger early vegetative growth under acidic soil conditions.

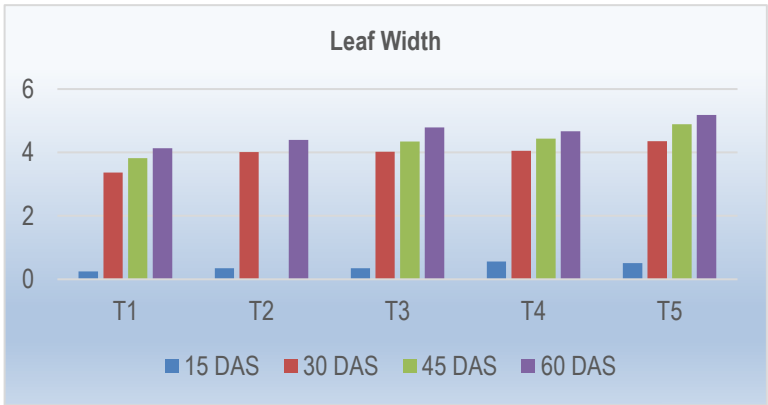


Figure 5. Leaf Width of Cacao Seedling at 15, 30, 45, and 60 Days after Sowing as Applied with Soil Amendments under Acidic Soil Conditions

Shoot and Root Length

Table 8
Shoot Length at 45, and 60 Days after Sowing, and Root Length of Cacao Seedlings at Termination Period as Affected by Soil Amendments Grown under Acidic Soil

Treatment	Shoot Length (cm)		Root Length (cm)
	45	60	At Termination
T1- Control	0.00 ^e	0.00 ^e	9.27 ^c
T2- VC + DCD	2.38 ^a	2.57 ^a	12.53 ^b
T3- DCD + CRH	1.69 ^b	1.96 ^b	9.00 ^c
T4- VC + CRH	0.48 ^d	0.51 ^d	16.73 ^a
T5- VC + DCD + CRH	0.92 ^c	0.97 ^c	11.37 ^b
CV (%)	4.26	1.62	6.70
F-test	**	**	**

Means with the same Letter are not significantly different from each other (HSD 0.05)

Root growth and shoot development were significantly influenced by the treatments, as indicated by the highly significant F-test values ($p < 0.01$), demonstrating that soil amendments had a strong effect on the overall early growth performance of cacao seedlings. For shoot length, Treatment 2 (VC + DCD) recorded the greatest growth at both 45 and 60 days after sowing, followed by Treatment 3 (DCD + CRH). In contrast, the control treatment (T1) showed no observable shoot development during the same period, indicating severe limitations in seedling establishment under untreated acidic soil conditions.

At termination, root length was also significantly affected by the treatments. Treatment 2 produced the longest roots (16.73 cm), followed by Treatments 3 and 5, which both recorded 11.37 cm. The control treatment consistently exhibited the shortest root length (9.27 cm), reflecting restricted root expansion due to low nutrient availability and highly acidic soil conditions. Soil amendments, particularly the combination of vermicompost and decomposed chicken dung (VC + DCD), significantly enhanced both shoot and root development of cacao plantlets under acidic soil conditions. These improvements suggest better nutrient availability, enhanced microbial activity, and improved soil structure, which collectively promote stronger root establishment and more vigorous early vegetative growth.

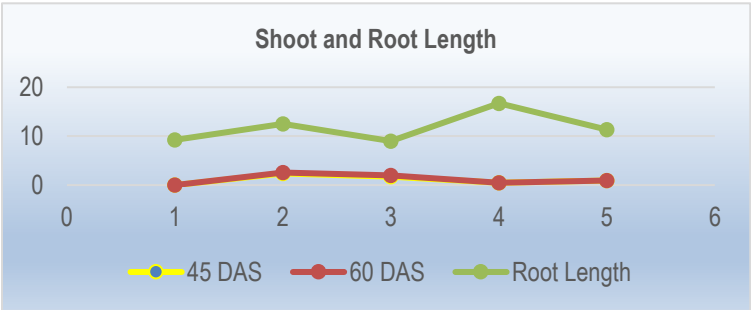


Figure 6. Shoot Length at 45, and 60 Days after Sowing, and Root Length of Cacao Seedling at Termination Period as Applied with Soil Amendments under Acidic Soil Condition

Temperature and Relative Humidity

Table 9

Environmental Conditions (Temperature and Relative Humidity) in the Cacao Seedling Nursery

Number of Weeks	Temperature			Relative Humidity		
	Morning	Noon	Evening	Morning	Noon	Evening
1	28.80	32.70	28.90	77.20	83.10	75.10
2	27.60	30.60	27.60	82.40	74.40	79.50
3	26.80	31.20	28.20	82.40	73.00	77.40
4	26.02	29.80	28.20	80.80	72.00	75.80
5	26.10	32.40	27.60	84.50	76.80	80.10
6	26.40	31.96	29.70	81.00	67.20	72.40
7	27.10	32.60	30.20	78.00	70.70	71.10
8	27.30	30.60	29.01	79.50	73.80	75.10
9	29.10	37.30	30.60	78.00	65.50	70.20

Table 9 presents the weekly environmental conditions in the cacao seedling nursery in terms of temperature and relative humidity. Temperature values showed noticeable daily variation across the observation period. Morning temperatures ranged from 26.02°C to 29.10°C, while noon temperatures recorded the highest values, ranging from 29.80°C to 37.30°C. Evening temperatures were relatively more stable, ranging from 27.60°C to 30.60°C. The highest recorded temperature (37.30°C) occurred at noon during Week 9, indicating periods of potential heat stress for cacao seedlings. Relative humidity also fluctuated throughout the study period. Morning humidity levels ranged from 77.20% to 84.50%, while noon values showed a noticeable decline, ranging from 65.50% to 83.10%. Evening relative humidity ranged from 70.20% to 80.10%. The lowest relative humidity (65.50%) was recorded at noon during Week 9, coinciding with the highest temperature observed.

The data indicate that the nursery environment experienced consistently higher temperatures and lower relative humidity during midday periods, conditions that may contribute to moisture loss and physiological stress in cacao seedlings. However, morning and evening periods generally maintained more favorable conditions for seedling growth. These environmental fluctuations are important in interpreting seedling performance, as cacao is highly sensitive to heat and water stress. The use of organic soil amendments such as vermicompost, decomposed chicken dung, and carbonized rice hull likely helped buffer these environmental stresses by improving soil moisture retention, enhancing soil structure, and increasing nutrient availability. These improvements may have supported better seedling resilience despite periods of high temperature and low humidity.

Furthermore, in acidic soil conditions, organic amendments play a dual role by not only improving nutrient availability but also enhancing the soil's water-holding capacity, which helps reduce the impact of environmental stressors such as heat and dryness. This interaction between soil amendments and environmental conditions likely contributed to the overall growth performance observed in the study.

DISCUSSION

Germination Percentage, Germination Rate, and Seedling Vigor Index

ANOVA results showed no significant differences among treatments, although Treatment 4 recorded slightly higher mean values across germination parameters. This suggests that while the treatments did not differ statistically, organic amendments still contributed positively to early seedling performance under acidic soil conditions. Carbonized rice hull (CRH) may have enhanced germination by improving soil aeration, moisture retention, and structure, which are critical for seed activation in acidic soils (Argüello et al., 2023). In addition, vermicompost likely supported germination through improved microbial activity and nutrient availability (Hammed et al., 2023), while decomposed chicken dung becomes more effective when combined with other organic materials such as vermicompost or CRH (Argüello et al., 2022).

Environmental monitoring further explains these trends, as the nursery experienced high noon temperatures (up to 37.3°C) and reduced relative humidity, conditions that may

induce moisture stress and slow germination. However, treatments containing organic amendments, particularly T5 (VC + DCD + CRH), likely improved soil moisture retention and buffered heat stress due to their ability to enhance soil structure and water-holding capacity. Although not statistically significant, the consistent improvement in germination-related parameters in amended treatments suggests that integrated organic amendments enhance early cacao seedling establishment by improving soil physical conditions and reducing environmental stress effects.

Seedling Height (cm)

Seedling height showed highly significant differences among treatments, with Treatment 5 consistently producing the tallest seedlings, while the control (T1) recorded the shortest. Treatments 4 and 5 both exhibited superior height growth compared to the control, indicating the effectiveness of organic amendments in improving cacao growth under acidic soil conditions. The strong performance of Treatment 5 can be attributed to the synergistic effects of vermicompost, decomposed chicken dung, and carbonized rice hull. CRH improves soil aeration and structure (Hougni, 2023), while vermicompost enhances nutrient availability and microbial activity, especially when combined with chicken dung (Nonthakaew et al., 2022). This combination likely supported sustained nutrient release and better root development, resulting in improved seedling height.

Treatment 3 showed moderate improvement, suggesting that chicken dung and CRH contribute to growth but are more effective when integrated with vermicompost. These findings are consistent with previous studies reporting that organic amendment integration improves soil properties, nutrient availability, and overall seedling vigor in acidic conditions (Lobo et al., 2022; Dogbatse et al., 2020; Arévalo-Hernández et al., 2022; Oyege & Bhaskar, 2023; Mateus-Rodríguez et al., 2023).

Number of Leaves

The F-test indicated highly significant differences among treatments across all observation periods. Treatment 4 recorded the highest mean at 15 days, while Treatment 5 consistently produced the greatest number of leaves at 30, 45, and 60 days. The control (T1) consistently had the lowest values, confirming the beneficial effects of organic amendments on leaf development under acidic soil conditions. These results are supported by previous studies showing that vermicompost, decomposed chicken dung, and carbonized rice hull improve soil fertility, microbial activity, and nutrient availability, thereby enhancing leaf production (Aracelly-López et al., 2020). The synergistic effect of chicken dung and carbonized rice hull has also been reported, where chicken dung supplies essential macronutrients while carbonized rice hull improves aeration and moisture retention (Coulis et al., 2023), which aligns with the improved performance of Treatment 3.

Furthermore, studies have consistently shown that combined organic amendments enhance vegetative growth, particularly in acidic or nutrient-deficient soils (Bouskout et al., 2022; Ali et al., 2021; Dogbatse et al., 2021). Carbonized rice hull (biochar) also improves soil physical properties and nutrient retention, contributing to increased leaf production (Mon et al., 2024; Loguercio et al., 2023).

Stem Diameter

ANOVA revealed a highly significant difference among treatments in stem diameter. Treatment 5 recorded the largest diameters at 15 and 60 days, while Treatment 4 showed the best performance at 30 and 45 days. Overall, Treatment 5 was significantly superior to the control, indicating the strong effect of organic amendments on stem development under acidic soil conditions. These results align with studies showing that organic fertilizers improve soil structure, moisture retention, and nutrient uptake, resulting in better stem growth (Aggangan, 2019). Stem diameter is also an important indicator of plant vigor, particularly in acidic soils where organic inputs enhance structural development (Basulgan et al., 2022). Similar findings were reported by Dogbatse et al. (2021), where biochar and organic fertilizers increased stem girth.

The combined application of vermicompost, chicken dung, and carbonized rice hull improves aeration and nutrient availability, especially nitrogen and potassium, which support vascular development (Choudhary & Machavaram, 2023). Additionally, organic amendments reduce aluminum toxicity and improve nutrient mobility in acidic soils (Aristide et al., 2021; Puyongan, 2022). Recent studies further confirm that balanced organic inputs enhance stem strength and stress tolerance (Santos et al., 2024; Suganthi et al., 2024), while sustained nutrient release from vermicompost and chicken dung promotes continuous growth. Biochar integration also improves overall soil fertility and plant performance (Sánchez-Reinoso, 2020).

Leaf Length

Leaf length showed highly significant differences among treatments, with Treatment 5 consistently producing the longest leaves at 30, 45, and 60 days. Its consistent superiority over the control demonstrates the strong effect of integrated organic amendments in promoting vegetative growth under acidic soil conditions. These results are supported by studies showing that carbonized rice hull improves soil aeration and moisture balance (Kumar et al., 2022), while vermicompost enhances nutrient uptake, microbial activity, and growth hormone production, leading to improved leaf development (Carmona et al., 2022). Chicken dung alone (T2) showed moderate performance, likely due to its limited structural benefits compared to CRH (Marrocos et al., 2020).

Further evidence indicates that CRH improves root respiration and enhances phosphorus and potassium availability, which are essential for leaf elongation (Daniel et al., 2025; Francisco-Santiago et al., 2023). Vermicompost also supplies enzymes and nutrients that stimulate plant growth and vigor, especially when combined with soil conditioners (Weinstein et al., 2024; Mwafuiriwa et al., 2024). In addition, organic amendments improve soil structure and provide slow, steady nutrient release, supporting continuous leaf development (Quintino et al., 2020; Sauvadet et al., 2020; Scaccabarozzi et al., 2020). The superior performance of Treatment 5 confirms that integrating nutrient-rich organic fertilizers with soil-improving materials optimizes cacao seedling growth in acidic soil conditions.

Leaf Width

Leaf width showed highly significant differences among treatments, with Treatment 5 consistently producing the widest leaves at 30, 45, and 60 days. This was significantly superior

to the control, indicating the strong effect of integrated organic amendments on leaf expansion under acidic soil conditions. Treatments containing carbonized rice hull (T3, T4, and T5) consistently performed better than T1, emphasizing its role as a structural amendment that improves soil porosity, aeration, and water retention, thereby enhancing nutrient uptake and leaf expansion (Yao et al., 2021; Quintino et al., 2020). Leaf width is also a reliable indicator of plant vigor (Visscher et al., 2024; Eduah et al., 2025), and results show that chicken dung improves growth more effectively when combined with structural amendments, as observed in Treatments 2 and 3.

Vermicompost further enhances vegetative growth through microbial activity and growth hormone production, and its synergy with carbonized rice hull supports improved leaf development (Ayamba et al., 2021). Studies also show that combining vermicompost with soil conditioners improves moisture balance, nutrient retention, and microbial activity, contributing to larger leaf size (Villason & Olguera, 2020). Additionally, integrating chicken dung with biochar-like materials enhances canopy development and soil fertility (Daniel et al., 2025; Baja et al., 2021). The superior leaf width in Treatment 5 confirms that multi-component organic amendments provide the most favorable conditions for optimal cacao seedling development in acidic soils.

Shoot and Root Length

Shoot length showed highly significant differences among treatments at 45 and 60 days after sowing, indicating that organic amendments strongly influenced early vegetative development of cacao seedlings under acidic soil conditions. Treatment 2 (VC + DCD) recorded the highest shoot length at both observation periods, followed by Treatment 3 (DCD + CRH), while the control (T1) showed no observable shoot growth (0.00 mm), confirming the severe restriction of acidic and nutrient-deficient soil on early seedling establishment. The superior performance of Treatment 2 suggests that vermicompost combined with decomposed chicken dung provides readily available nutrients that stimulate early shoot elongation. This is supported by Lazcano et al. (2009), who reported that vermicompost significantly enhances plant growth and shoot development by improving nutrient availability, microbial activity, and plant growth-promoting substances. In contrast, Treatment 4 (VC + CRH) showed stronger root development but lower shoot growth, indicating a possible shift in biomass allocation toward root establishment. Treatment 5 (VC + DCD + CRH) showed moderate shoot growth, suggesting that multi-component amendments improve overall soil conditions but may influence growth distribution between shoot and root systems.

On the other hand, ANOVA revealed a highly significant difference in root length at termination, with Treatment 4 recording the highest root length among all treatments. This indicates that organic amendments significantly influenced the root development of cacao seedlings under acidic soil conditions. Studies have shown that vermicompost and carbonized rice hull enhance root elongation by improving soil aeration, microbial activity, and overall soil structure (Ferry et al., 2022; Florida et al., 2020). These improvements create a favorable rhizosphere environment that supports deeper and more extensive root growth.

Chicken dung also contributes to root development by supplying essential nutrients; however, its effectiveness increases when combined with structural amendments such as

carbonized rice hull, as observed in Treatment 5 (Bai et al., 2022). Overall, vermicompost strongly supports shoot growth, while its combination with carbonized rice hull (T4) resulted in the best root performance. These findings emphasize that balanced combinations of organic amendments are essential for optimizing both root and shoot development of cacao seedlings in acidic soil conditions.

Conclusion

This study evaluated the effects of vermicompost, chicken dung, and carbonized rice hull on the growth of cacao plantlets in acidic soil conditions. Results indicated that organic amendments significantly enhanced vegetative growth, particularly in parameters such as leaf length, leaf width, shoot length, and root length. Among the treatments, vermicompost combined with carbonized rice hull (T4) produced the most consistent improvement across growth parameters, emphasizing their synergistic effect on nutrient availability and soil structure. While chicken dung alone had moderate effects, its inclusion in combination treatments contributed to additional growth benefits. Overall, the findings confirm that organic soil amendments offer a sustainable and cost-efficient alternative to synthetic fertilizers, especially for nutrient-deficient and acidic soils. These results support previous studies promoting organic inputs as viable solutions for improving soil fertility and enhancing cacao seedling performance. However, long-term studies are recommended to assess the continued effects of these amendments on field performance, yield, and soil health over time.

The application of organic soil amendments affected the germination and growth performance of cacao seedlings cultivated in acidic soil, according to the study. The treatments did not significantly alter the germination rate or percentage; however, they did considerably alter the seedling vigor index. The highest seedling vigor index was obtained when vermicompost and carbonized rice hull (T4) were combined, suggesting better seedling establishment and vigor. The growth parameters of cacao seedlings, such as seedling height, number of leaves, stem diameter, leaf length, leaf width, shoot length, and root length, also showed notable variations. In general, seedlings grown in untreated acidic soil did not perform as well as those treated with organic amendments. By enhancing the availability of nutrients and the soil conditions required for plant development, the amendments improved seedling growth. Vermicompost and carbonized rice hull (T4) were shown to be the most effective combination of treatments for enhancing seedling vigor and root development, but other amendment combinations also demonstrated positive impacts on a variety of growth metrics. In order to produce cacao seedlings on acidic soils, it is advised to employ carbonized rice hull and vermicompost as a sustainable and useful soil management technique.

Recommendations

Based on the results of the study, the application of vermicompost and carbonized rice hull (T4) is recommended for improving the growth performance of cacao seedlings grown in acidic soil. This treatment consistently enhanced seedling vigor and root development and showed favorable effects on several growth parameters compared with the control treatment. The findings suggest that the use of these organic amendments can serve as a sustainable and environmentally friendly approach to improving cacao seedling production in acidic soils. For future research, it is recommended to evaluate the long-term effects of vermicompost,

decomposed chicken dung, and carbonized rice hull on the growth, yield, and disease resistance of cacao under field conditions. Further studies may also investigate different application rates and combinations of these amendments, assess their effectiveness on different cacao varieties, and conduct detailed soil and plant nutrient analyses to better understand their effects on soil fertility and plant development. Studies involving larger sample sizes and longer observation periods are likewise encouraged to validate and expand the findings of the present study.

For farmers and agricultural practitioners, proper training on the preparation and application of organic soil amendments is encouraged to improve cacao productivity in acidic soils. Agricultural extension workers and policymakers may also promote the adoption of cost-effective organic amendments as part of sustainable soil management and cacao production programs.

Based on the results of the study, the application of vermicompost, decomposed chicken dung, and carbonized rice hull (T5) produced the most favorable growth performance of cacao plantlets in acidic red soil from Sitio Kapatagan. The amendments significantly improved plant height and overall vigor compared to the control, which showed the weakest growth, indicating that organic soil amendments are beneficial for cacao cultivation in acidic conditions. Future studies on large scale that include larger sample sizes, analyze soil and plant nutrients, and test different cacao varieties to deepen understanding of amendment effects. For practitioners and farmers, proper training on the preparation and application of organic amendments is necessary to improve cacao productivity in acidic soils. Policymakers and agricultural extension workers may also consider promoting the use of cost-effective organic amendments as part of sustainable soil management strategies.

Limitations of the Study

This study was conducted in a single location in Purok Lumad, Sitio Dugayan, Barangay Gupitan, Kapalong, Davao del Norte, under nursery conditions. The findings are limited to the specific soil characteristics, environmental conditions, and cacao planting materials used during the study period. Only three soil amendments-vermicompost, decomposed chicken dung, and carbonized rice hull, and their combinations at a fixed application rate of 5 g per polyethylene bag were evaluated. Therefore, the results may not be directly applicable to other soil types, amendment rates, cacao varieties, or field conditions. Furthermore, the study focused on the germination and early growth performance of cacao seedlings and did not assess the long-term effects of the soil amendments on field establishment, yield, or disease resistance.

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REFERENCES

- Aggangan, N. S., Cortes, A. D., & Reaño, C. E. (2019). Growth response of cacao (*Theobroma cacao* L.) plant as affected by bamboo biochar and arbuscular mycorrhizal fungi in sterilized and unsterilized soil. *Biocatalysis and Agricultural Biotechnology*, 22, Article 101347. <https://doi.org/10.1016/j.bcab.2019.101347>
- Ali, A., Zhang, J., Zhou, M., Chen, T., Shah, L., Rehman, S. U., Hayat, S., Shi, J., & Chen, J. (2021). Chitosan oligosaccharides stimulate the efficacy of somatic embryogenesis in different genotypes of the *Liriodendron* hybrid. *Forests*, 12(5), 557. <https://doi.org/10.3390/f12050557>
- Aracelly-López, D., Plaza-Avellán, L. F., Rivadeneira-Moreira, B. J., Párraga-Palacios, F. M., & Herrera-Suárez, M. (2020). Comparison of three variants of substrate preparation used in the propagation of cocoa standards. *Revista Ciencias Técnicas Agropecuarias*, 29(3), 37–49.
- Arévalo-Hernández, C. O., Arévalo-Gardini, E., Farfan, A., Amaringo-Gomez, M., Daymond, A., Zhang, D., & Baligar, V. C. (2022). Growth and nutritional responses of juvenile wild and domesticated cacao genotypes to soil acidity. *Agronomy*, 12(12), 3124. <https://doi.org/10.3390/agronomy12123124>
- Argüello, D., Chavez, E., Gutierrez, E., Pittomvils, M., Dekeyrel, J., Blommaert, H., & Smolders, E. (2023). Soil amendments to reduce cadmium in cacao (*Theobroma cacao* L.): A comprehensive field study in Ecuador. *Chemosphere*, 324, 138318. <https://doi.org/10.1016/j.chemosphere.2023.138318>
- Argüello, D., Dekeyrel, J., Chavez, E., & Smolders, E. (2022). Gypsum application lowers cadmium uptake in cacao soils with high cation exchange capacity only: A soil chemical analysis. *European Journal of Soil Science*, 73(2), e13230. <https://doi.org/10.1111/ejss.13230>
- Aristide, D., Martial, T. T. P., Ruth, N. N. E., Grace, L. B., Ebenezer, F. T., Flore, M. P. T., & Thaddee, B. (2022). Effects of a powder formulation of *Streptomyces cameroonensis* on growth and resistance of two cocoa hybrids from Cameroon against *Phytophthora*

megakarya (causal agent of black pod disease). *Journal of Microbiology and Biotechnology*, 32(2), 160–168. <https://doi.org/10.4014/jmb.2109.09042>

- Ayamba, B. E., Abaidoo, R. C., Opoku, A., & Ewusi-Mensah, N. (2021). Enhancing the fertilizer value of cattle manure using organic resources for soil fertility improvement: A review. *Journal of Bioresource Management*, 8(3), Article 9. <https://doi.org/10.35691/JBM.1202.0209>
- Bai, S. H., Gallart, M., Singh, K., Hannet, G., Komolong, B., Yinil, D., Field, D. J., Muqaddas, B., & Wallace, H. M. (2022). Leaf litter species affects decomposition rate and nutrient release in a cocoa plantation. *Agriculture, Ecosystems & Environment*, 324, 107705. <https://doi.org/10.1016/j.agee.2021.107705>
- Baja, S., Asrul, L., Padjung, R., & Neswati, R. (2021). The effect of soil chemicals on cocoa productivity in West Sulawesi. *IOP Conference Series: Earth and Environmental Science*, 921(1), Article 012046. <https://doi.org/10.1088/1755-1315/921/1/012046>
- Basulgan, E., Borres, E. C., Recto, M., & Bello, E. V. (2022). Effects of different animal manure combined with carbonized rice hull on tomato growth and yield performance (*Solanum lycopersicum*). *European Online Journal of Natural and Social Sciences: Proceedings*, 11(4s), 553–560.
- Bouskout, M., Bourhia, M., Al Feddy, M. N., Dounas, H., Salamatullah, A. M., Soufan, W., Nafidi, H.-A., & Ouahmane, L. (2022). Mycorrhizal fungi inoculation improves *Capparis spinosa*'s yield, nutrient uptake and photosynthetic efficiency under water deficit. *Agronomy*, 12(1), 149. <https://doi.org/10.3390/agronomy12010149>
- Carmona, L. M., Gutierrez-Rodríguez, E. A., Henao Ramirez, A. M., & Urrea, A. (2022). Nutrition in cacao (*Theobroma cacao* L.) crops: What determining factors should be considered? *Revista de la Facultad de Agronomía*, 121(Especial 2), e101. <https://doi.org/10.24215/16699513e101>
- Chen, K.-S., & Lai, H.-Y. (2024). Effect of increased soil available phosphorus from vermicompost application on the bioavailability, chemical form, and bioaccessibility of heavy metals. *Environmental Geochemistry and Health*, 46(9), 343. <https://doi.org/10.1007/s10653-024-02127-8>
- Choudhary, V., Machavaram, R., & Soni, P. (2023). Optimizing mat quality and transplanter performance using soil mix with vermicompost and farmyard manure in paddy tray nursery: A sustainable smart farming approach in India. *Farming System*, 1(3), 100046. <https://doi.org/10.1016/j.farsys.2023.100046>
- Coulis, M., Sauvadet, M., Falk, A., Prochasson, A., Tsoukas, L., Gervais, L., Normand, L., Rosalie, E., Achard, R., Monsoreau, L., Telle, N., Mauriol, C., Birba, O., Ornem, G., Alier, M., Marville, E., Daribo, M. O., Sainte-Rose, J. L., Dural, D., Vincent, K., Vilna,

- T., Hery, M., Gibert, S., De Lapeyre de Bellaire, L., & Guillermet, C. (2023). Multidisciplinary assessment of two organic banana production systems in Martinique. In *XXXI International Horticultural Congress (IHC2022): XII International Symposium on Banana (Acta Horticulturae, 1367)*, pp. 35–45). International Society for Horticultural Science. <https://doi.org/10.17660/ActaHortic.2023.1367.4>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Daniel, M. A. S., Monteiro, D. B. M., Lobato, E. M. S. G., Rodrigues, A. E., de Oliveira, A. S., Pamplona, V. M. S., Daniel, R., & Andrade Vanessa, I. P. (2025). Evaluation of micronutrients in the soil and leaves of *Theobroma cacao*. *Revista de Gestão Social e Ambiental*, 19(2), e011144. <https://doi.org/10.24857/rgsa.v19n2-080>
- Dogbatse, J. A., Arthur, A., Awudzi, G. K., Quaye, A. K., Konlan, S., & Amaning, A. A. (2021). Effects of organic and inorganic fertilizers on growth and nutrient uptake by young cacao (*Theobroma cacao* L.). *International Journal of Agronomy*, 2021, Article 5516928. <https://doi.org/10.1155/2021/5516928>
- Dogbatse, J. A., Arthur, A., Padi, F. K., Konlan, S., Quaye, A. K., Owusu-Ansah, F., & Awudzi, G. K. (2020). Influence of acidic soils on growth and nutrient uptake of cocoa (*Theobroma cacao* L.) varieties. *Communications in Soil Science and Plant Analysis*, 51(17), 2280–2296. <https://doi.org/10.1080/00103624.2020.1790372>
- Eduah, J. O., Arthur, A., Amoako-Attah, I., Manso, E. F., Quaye, A. K., Dogbatse, J. A., & Padi, F. K. (2025). Differential impacts of organic and chemical fertilization on soil organic carbon pools, stability, and soil quality in cacao agroforestry. *Soil & Environmental Health*, 3(3), 100147. <https://doi.org/10.1016/j.seh.2024.100147>
- Ferry, Y., Herman, M., Tarigan, E. B., & Pranowo, D. (2022). Improvements of soil quality and cocoa productivity with agricultural waste biochar. *IOP Conference Series: Earth and Environmental Science*, 974(1), Article 012045. <https://doi.org/10.1088/1755-1315/974/1/012045>
- Florida, N., Levano, J., Jacobo, S., & Ferrer, R. (2020). Physical-chemical indicators of soil and cocoa yield with organic and conventional management. *Agroindustrial Science*, 10(2), 175–180. <https://doi.org/10.17268/agroind.science.2020.02.07>
- Francisco-Santiago, S. P., Palma-López, D. J., Sánchez-Hernández, R., Obrador Olán, J. J., & García-Alamilla, P. (2023). Fertilidad edáfica y nutrición en el cultivo de cacao (*Theobroma cacao* L.) en tres suelos de Tabasco, México. *Terra Latinoamericana*, 41.
- Gomez, K. A., & Gomez, A. A. (1984). *Statistical procedures for agricultural research* (2nd ed.). John Wiley & Sons.

- Hammed, L., Alpheus, S., Ajiboye, G., Olaiya, A., & Jaiyeola, J. (2023). Evaluation of cacao (*Theobroma cacao* L.) growing soil and nutrient amendment on seedling germination and growth. *Journal of Agricultural Science and Environment*, 23(1), 85–103.
- Hougni, D.-G. (2023). *Integrated soil fertility management: A path to sustainable intensification of cocoa production in West Africa?* [Doctoral dissertation, Wageningen University]. <https://doi.org/10.18174/623584>
- Kumar, R., Singh, A., Datta, A., Yadav, R. P., Dinesh, D., & Verma, K. (2022). Carbon sequestration in degraded lands: Current prospects, practices, and future strategies. In *Plans and policies for soil organic carbon management in agriculture* (pp. 221–255). Springer. https://doi.org/10.1007/978-981-16-8334-6_9
- Lazcano, C., Arnold, J., Tato, A., Zaller, J. G., & Domínguez, J. (2009). Compost and vermicompost as nursery pot components: Effects on tomato plant growth and morphology. *Spanish Journal of Agricultural Research*, 7(4), 944–951. <https://doi.org/10.5424/sjar/2009074-1107>
- Lobo, D., Lozano, Z., Toro, M., Valencia, I. H., & Rey, J. C. (2022). Soil biodiversity is under different uses and management in Venezuela. In *Sustainable soil management is key to preserving soil biodiversity and stopping its degradation* (p. 240). Food and Agriculture Organization of the United Nations. <https://doi.org/10.4060/cb9422en>
- Loguercio, L. L., Silva, A. C. M., Ribeiro, D. H., de Lima Cruz, J. M. F., Soares, A. C. F., Marbach, P. A. S., Cruz-Magalhães, V., & De Souza, J. T. (2023). Assessing the functional diversity of rhizobacteria from cacao by partitioning root and shoot biomasses. *Applied Microbiology and Biotechnology*, 107(14), 4647–4663. <https://doi.org/10.1007/s00253-023-12603-3>
- Marrocos, P. C., Loureiro, G. A. D. A., Araujo, Q. R. D., Sodré, G. A., Ahnert, D., Escalona-Valdez, R. A., & Baligar, V. C. (2020). Mineral nutrition of cacao (*Theobroma cacao* L.): Relationships between foliar concentrations of mineral nutrients and crop productivity. *Journal of Plant Nutrition*, 43(10), 1498–1509. <https://doi.org/10.1080/01904167.2019.1659332>
- Mateus-Rodríguez, J. F., Lahive, F., Hadley, P., & Daymond, A. J. (2023). Effects of simulated climate change conditions of increased temperature and [CO₂] on the early growth and physiology of the tropical tree crop, *Theobroma cacao* L. *Tree Physiology*, 43(12), 2050–2063. <https://doi.org/10.1093/treephys/tpad112>
- Mon, W. W., & Ueno, H. (2024). Short-term effect of the combined application of rice husk biochar and organic and inorganic fertilizers on radish growth and nitrogen use efficiency. *Plants*, 13(17), 2376. <https://doi.org/10.3390/plants13172376>

- Mwafuiriwa, L., Sizmur, T., Daymond, A., Atuah, L., Quaye, A. K., Coole, S., Robinson, S., Hammond, J., Awudzi, G., Awunyo-Vitor, D., Domfeh, O., & Hadley, P. (2024). Cocoa pod husk-derived organic soil amendments differentially affect soil fertility, nutrient leaching, and greenhouse gas emissions in cocoa soils. *Journal of Cleaner Production*, 479, 144065. <https://doi.org/10.1016/j.jclepro.2024.144065>
- Nonthakaew, N., Panbangred, W., Songnuan, W., & Intra, B. (2022). Plant growth promoting properties of *Streptomyces* spp. isolates and their impact on mung bean plantlets' rhizosphere microbiome. *Frontiers in Microbiology*, 13, 967415. <https://doi.org/10.3389/fmicb.2022.967415>
- Oyege, I., & Bhaskar, M. S. B. (2023). Effects of vermicompost on soil and plant health and promoting sustainable agriculture. *Soil Systems*, 7(4), 101. <https://doi.org/10.3390/soilsystems7040101>
- Puyongan, B. B. (2022). Utilization of rice hull char-based compost for potato (*Solanum tuberosum*) production. *Mountain Journal of Science and Interdisciplinary Research*, 82(1), 74–89. <https://doi.org/10.70884/mjsir.v82i1.316>
- Quintino, R. de A., Guilherme, A. H. de A. L., Ahnert, D., Escalona-Valdez, R. A., & Baligar, V. C. (2020). Interactions between soil, leaves, and beans nutrient status and dry biomass of beans and pod husk of Forastero cacao: An exploratory study. *Communications in Soil Science and Plant Analysis*, 51(5), 567–581. <https://doi.org/10.1080/00103624.2020.1725393>
- Regasa, A., Haile, W., & Abera, G. (2025). Effects of lime and vermicompost application on soil physicochemical properties and phosphorus availability in acidic soils. *Scientific Reports*, 15, Article 25544. <https://doi.org/10.1038/s41598-025-02053-4>
- Sánchez-Reinoso, A. D., Ávila-Pedraza, E. A., & Restrepo-Díaz, H. (2020). Use of biochar in agriculture. *Acta Biológica Colombiana*, 25(2), 327–338. <https://doi.org/10.15446/abc.v25n2.79466>
- Santos, C. C., de Sá Motta, I., de Castro Souza, J. P., Macedo, L. G. R., Posca, J. L. V., & Carneiro, L. F. (2024). Vermicompost and carbonized rice husk influence the production of yellow passion fruit cultivars' seedlings. *Journal of Soil Science and Plant Nutrition*, 24(3), 5360–5369. <https://doi.org/10.1007/s42729-024-01375-y>
- Sauvadet, M., Saj, S., Freschet, G. T., Essobo Nieboukaho, J.-D., Enock, S., Becquer, T., Tixier, P., & Harmand, J.-M. (2020). Cocoa agroforest multifunctionality and soil fertility explained by shade tree litter traits. *Journal of Applied Ecology*, 57(3), 476–487. <https://doi.org/10.1111/1365-2664.13560>
- Scaccabarozzi, D., Castillo, L., Aromatisi, A., Milne, L., Bullon Castillo, A., & Muñoz Rojas, M. (2020). Soil, site, and management factors affecting cadmium concentrations in

- Suganthi, R., Saravanan, R., Brundha, A., Thangamuthu, B., Lakshmi, A., Abirami, P., & Ashwini, M. (2024). Novel approaches in processing of cacao byproducts and their applications for a sustainable future. In *Sustainable cacao cultivation in Latin America* (pp. 235–255). Routledge. <https://doi.org/10.4324/9781003381761-15>
- Toor, M. D., Ay, A., Ullah, I., Demirkaya, S., Kızılkaya, R., Mihoub, A., Zia, A., Jamal, A., & Ronga, D. (2024). Vermicompost rate effects on soil fertility and morpho-physio-biochemical traits of lettuce. *Horticulturae*, 10(4), 418. <https://doi.org/10.3390/horticulturae10040418>
- Villason, N. A., & Olguera, D. T. (2020). Physico-chemical characteristics of soils under cacao production system in Davao de Oro, Philippines. *Southeastern Philippines Journal of Research and Development*, 25(1), 115–134. <https://doi.org/10.53899/spjrd.v25i1.75>
- Visscher, A. M., Chavez, E., Caicedo, C., Tinoco, L., & Pulleman, M. (2024). Biological soil health indicators are sensitive to shade tree management in a young cacao (*Theobroma cacao* L.) production system. *Geoderma Regional*, 37, e00772. <https://doi.org/10.1016/j.geodrs.2024.e00772>
- Weinstein, M., Baram, S., Yermiyahu, U., Lieberman-Lazarovich, M., Tsehansky, L., Elmakias, A., Kumar, P., & Graber, E. R. (2024). Nitrogen, phosphorus and potassium nutrition effects on flowering and reproduction in an F1 segregating population of the *Theobroma cacao* L. CCN-51 cultivar. *Scientia Horticulturae*, 337, 113591. <https://doi.org/10.1016/j.scienta.2024.113591>
- Yao, M. K., Koné, A. W., Otinga, A. N., Kassin, E. K., & Tano, Y. (2021). Carbon and nutrient cycling in tree plantations vs. natural forests: Implications for an efficient cocoa agroforestry system in West Africa. *Regional Environmental Change*, 21(2), 44. <https://doi.org/10.1007/s10113-021-01755-0>

EXPLORING THE ENGAGEMENT OF CITY GOVERNMENT ON YOUTH ORGANIZATIONS: THE CASE OF PANABO CITY

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SDGs: **Goal 10 (Reduced Inequalities); Goal 16 (Peace, Justice, and Strong Institution)**

ABSTRACT

This study discusses the partnership between the city government and youth groups in Panabo City with emphasis on how the interaction between both contributes to civic turnout and enhances local governance. Adopting a qualitative single case study method, we collected the data by using open-ended questions whereby the youth leaders would give written accounts courtesy of their lived experiences and participation with the local government. Eight (8) informants took part in the study, and they presented useful information that has enabled one to get a more in-depth view of the youth-government collaboration. The results showed that there are twelve major themes of both enabling factors and structural problems. Moreover, the research highlights the opportunity of the institutionalization of the inclusive governance systems that can identify and empower youth as critical stakeholders in the local decision-making and community growth, outlining the necessity of the long-term assistance to ensure the full potential of youth and consequent development effects.

Keywords: ***Civic Participation; Local Governance; Panabo City; Youth Leaders; Youth Engagement; Qualitative Research***

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INTRODUCTION

In today's world, youth organizations are committed to empowering young people to take an active role in their communities. Wray-Lake and Abrams (2020) characterize civic engagement as an experience-based process in which participation is frequently in the form of informal, local participation, especially when youth are backed by the community and institutions. Moreover, this study engagement was defined as structured, community level interactions between the city government of Panabo and youth organizations, comprising provision of resources, policy consultation, collaborative activities, and reward mechanisms. Fu and Jiang (2019) defined that while young individuals have talent and potential, not everyone has the same chances to flourish, especially those in the less privileged. Existing gaps are still notable in the case of Barangay District III, Babatngon, an ongoing issue in limited awareness about youth organizations and their purpose, inadequate resources, and insufficient local support, that hinders participation (Cadano, 2023).

Challenges reflect broader problems faced by community-based organizations around the world, where non-government organizations (NGOs) and youth groups are both required to have strong relationships with local institutions to achieve sustainable development outcomes (Abiddin et al., 2022). Marah et al. (2024) also explained that youth participation is important with the existence of international framework. However, evident gaps persist between policy intentions and their actual implementation that indicates for further examination on how youth engaged in governance. While youths are regarded as agents of change, they are usually seen as an industry in need of special support and interventions based on the social problems usually prevalent among their age cohort (Satispi & Taslim, 2019).

This study corresponds to the Youth in Nation-Building Act of 1995 (RA8044) that was established to encourage active involvement of youth in community development and in local governance. It aims to nourish leadership, civic awareness, and volunteerism among young people. However, challenges still persist on the ground. This research is guided by the Collaborative Governance theory introduced by Ansell and Gash (2008), as discussed in Bianchi (2021). The theory emphasizes the value of cooperation among key stakeholders, particularly youth organizations and the city government. It points out that meaningful collaboration happens when roles are clearly defined, goals are shared, and both sides have the ability to influence outcomes. At the heart of this framework is open communication, where both parties actively participate in decision-making and ensure that the voices of the youth are heard in governance matters. The theory also explained the importance of involving young people in participatory activities such as decision-making and volunteer work. These efforts are important forms in civic engagement that support youth inclusion and development (Brady et al., 2020). In addition, the activities and inputs that young people undertake in community peace building, development, human rights, politics, and change processes vary with context and location. In the majority of cases, the machinery of youth engagement in civil society determines their experiences. Civil Society Organization CSOs are essential for international development; however, their influence on policy and practice is often constrained by shifts in political, social, and financial landscapes (Natil, 2021). While extensive research has examined the limitations and vulnerabilities of youth influence and power, less attention has been paid to the policies

and conflicts that give rise to the unique circumstances and dynamics in which youth and their CSOs operate.

For the past two decades, innovative studies have led to the importance of youth. These are the people who can change the face of the community through their active involvement in the councils, participatory action research, and urban planning projects. Asherov and Gross (2024) found that feeling of community and belief in collective power are main factors which influence the involvement of youth in the local councils and the community resilience was identified as the main mediator in that relationship. Williams (2024) looked into the concept of youth empowerment through projects, showing that inquiry initiated by youth is instrumental not only in methodological but also in theoretical innovations. Building on such a viewpoint, Holsen et al. (2025) studied the implementation of youth participatory action research in lower secondary schools in Norway and found that the issues of balancing youth autonomy and adult guidance as well as the difficulties in nurturing civic engagement in the structured educational setting arise. These collective works not only represent the different modes whereby young people can make significant contributions to the social fabric but also point to the necessity of providing them with structured opportunities to participate, to speak up, and to co-create.

Furthermore, our study is backed up by Sustainable Development Goal 10, which is to reduce inequalities and open opportunities to all youth organizations to perform well without discriminating. Also, the city government would treat each youth organization fairly. Sustainable Development Goal 16 is also aligned to this study to minimize harmful impacts among youth, building effective strong institutions, accountability, and more inclusiveness. This could help in the decision-making process that could strengthen their organization and the local government setting, and it promotes peace and social justice within the communities. Effective volunteer management has been identified as a key factor in sustaining organizational participation and maximizing community impact (Araque, 2025).

The focus of this study is on the current youth involvement in Panabo City and its contribution to local government among young people. Focusing on the engagement of youth leaders will help to derive its decision-making process in local governance. Despite the growing population among youths, there is a key issue that requires attention: What support do the youth organizations receive from the city government in Panabo City? What are the major challenges in the engagement that youth organizations experience in implementing their projects? What learnings do youth leaders in Panabo City get from their engagement with the city government? Exploring the contributions of youth organizations in Panabo City will not only allow us to understand the youth leaders but also the city government's contribution to the development of youth.

This study adds pivotal results on the association between youth organizations and city governance and certain significant implications of the same to local governance and the youth civic engagement. In the case of the city government of Panabo, the findings will indicate the necessity of fostering work-together with the youth groups in view of civic engagement, leadership, and volunteering. These findings can be utilized by the local youth organizations in

order to shape and enhance more inclusive projects, especially to disenfranchised youth helping in the overall betterment of the youth engagement practices.

Thereupon, researchers state that the extension of this research is comprehensive and will gain insights into the manner in which such youth organizations leaders will be involved in the city government. This research aims to explore the support, challenges, learnings, and experiences that strategies as youth leaders navigate their responsibilities within their organizations. This research is limited to the experiences and viewpoints of young leaders within Panabo City. The results may not fully reflect on any government representatives or agency, as the study focuses on qualitative interviews and observations with only youth leaders. This provides a focused exploration of youth engagement and leadership in Panabo City, within the bounds of specific demographic and geographic context.

METHODOLOGY

Research Design

The qualitative method used in the research was chosen because of the capacity of the qualitative method to represent depth and richness of the interrelation process between youth organizations and local youth leaders. The qualitative inquiry should be conducted on what and how the participants are acting, experiencing and their thoughts. It is open and exploratory that participants are able to openly discuss their views and disagreements regarding two-person interaction and group activities in this way. Case study benefited the research in terms of process and outcomes (Schoch, 2020). A single case study with a holistic approach provides intense scrutiny of intricate phenomena in their actual context, yielding rich qualitative information. Chowdhury and Shil (2021) point out its capability to seize detailed interactions.

This method is useful in the interpretation of cases, allowing the researcher to have a deep insight into the subject (Coombs, 2022). The study employed interviews, document analysis, and participant observations as a method of gathering rich and detailed information that helped in shedding light on how city governments and youth organizations interacted, negotiated, and collaborated to generate authentic youth engagement opportunities (Kratochwill, 2021). This is consistent with the works by Bennett and Hays that show how efforts of youth can affect the policies of municipalities, showing that youth involvement can lead to the effect on municipal politics (Bennett & Hays, 2022). Collaborative governance comes up as one important model in order to increase youth participation. The observations of the youth-based policies in Ghana by Boadu lead to the need to have intersectoral cooperation between government institutions, NGOs, and youth associations in enhancing viable youth empowerment policies (Boadu, 2024).

Research Locale and Participants

Purposive sampling was employed in this study to deliberately select participants who possessed the relevant knowledge, experience, and leadership role to address the scope in the research objectives. This method of sampling is widely used in qualitative research because it

allows the researcher to find information-rich participants who can provide in-depth information about the phenomenon being researched, instead of randomly selecting participants. Furthermore, the participants are carefully selected based on the specific characteristics that are needed in the study such that the collected data is relevant, credible and related to the research objectives (Nyimbili & Nyimbili, 2024). The coastal town of Panabo City, which is part of the Davao del Norte province of the Philippines, had a land area of 251.23 square kilometers (97.00 square miles) which is equivalent to 7.43 percent of the total land area of the province. Panabo City is a city that boasts of a rich community where various groups of youths play leading roles in securing social interaction and development of the community. Panabo City, Davao del Norte, Philippines, was chosen as the research site because it is a context that allows for the study of the relationship between the city government and youth organizations. The city is a local government body that has active and well-known youth organizations, which engage in community development and governance-related activities, making it relevant for the study of the experiences of young leaders in their collaboration with government institutions.

Furthermore, the current relationships between youth organizations and the local government provide an opportunity to capture local context-specific learning on how young people can be engaged in decision making processes and the barriers and opportunities to achieving this. The study aims to gain insight into how the city government interacts with youth organizations, and, through this, Panabo City was selected to allow the researcher to gather rich and insightful qualitative data from participants with first-hand experience with the phenomenon under study. The recent statistics provided by the Philippines Statistics Authority (PSA) estimate the same, and the total population of the city is 208,464 with 18.7 percent of the youth being between 10 and 29 years. Specifically, 40,356 are in the age bracket of 10-19 and 35,416 are in the age bracket of 20-29.

The study focuses on civic engagement of youth organization leaders. Participants were selected from incumbent President and Vice President of known youth organizations as they have firsthand knowledge and direct experiences in dealing with the City Government of Panabo. They have leadership roles and are very active in organizing organizational activities, communicating with local government, and youth-related programs and initiatives. The functions allow them to draw rich insights from their experience and context in collaborating with the city government with youth organizations and provide the most suitable participants for accomplishing the goals of this qualitative inquiry. The framework in this study is the youth leaders and the city government of Panabo. The study involved a total of 8 participants from various youth organizations In Panabo City, organizations like the Pag-asa Youth Association of the Philippines (PYAP), Panabo Youth Leaders Organization (PYLO), 4H Club Panabo, Talentadong Panaboans Organization (TPYO), Panabo Youth Talented Artists Organization (PYTAO), Unlad Kabataan Panaboan (UKP), Panabo Youth Responders Organization (PYRO) and Kabataan Kontra Droga at Terorismo (KKDAT) were involved. Involving the youth organizations in city youth engagements was all about listening to their views and incorporating their ideas and solutions into the development process (Hegazy et al., 2024). The sample size of eight participants is informed by (Tiffany-Kinder 2020) as referred to by (Subedi 2021). When it comes to choosing youth informants in this study, putative informants must meet some criteria in ensuring that they have already had the experience and have the eye to youth participation and practice vis a vis the city government.

Data Gathering Procedure

The data collection process has a number of major steps in a case study. First, the researchers will carry out interviews out of campus in order to explore the roles of the participants. First of all, permission was sought with the program chairperson. Subsequently, formal requests were made to sampled participants of youth organizations requesting them to allow the researcher to carry out in-depth interviews with the youth leaders. As Roller (2020) notes, the interviewer/participant relationship is the key to the process, and it helps to discover valuable insights. The dry run assisted the researchers to know areas in the guide that could be improved. The development of the feedback on the dry run was also recorded and considered during the preparation of the actual data collection. The additional steps include an analysis of a Google Forms, where the records of answered questions were collected, transcribed, and analyzed to find themes in it, which do not have biases, and, in other words, conclude an open-ended conversation. It is remarkable that, in comparison to other types of in-depth interviews (IDI), the interview methodology used in a qualitative study is not that combative or confrontational, it does not deliberately generate a conflict situation to provoke the interviewee. Rather, it is based on the creation of a trusting relationship with which every piece of feedback is appreciated, and open confessions thrive.

Data Analysis

To analyze the data, one will also need to meet the aim of the research. What support do the youth leaders receive from the government? What are the major challenges that youth organizations experience in implementing their projects and activities? What insights and learning do youth leaders in Panabo City gain from engaging with the city government? Applying the collaborative governance theory, the youth groups are used as the stakeholders of public institutions.

In analyzing the data collected from our in-depth interviews, the researchers utilized a thematic analysis approach. The first step of the process involved converting the interviews into Google Forms and reviewing the responses, which allowed the researchers to familiarize themselves with the data and identify recurring themes. Narrative analysis also applies as it navigates and manages identities that allow subject and experience into the research Bamberg (2020). The use of open-ended questions allows to add depth to the answer from the participants' viewpoints (Rutledge & Hogg, 2020), it may uncover significant themes regarding the roles of participants, the barriers they faced, and the dynamic relationship between youth and city government.

Ethical Considerations

As the researchers of this study, the researchers hold the responsibility of establishing a professional foundation for their work, upholding integrity and honesty, and contributing knowledge to the general public. Aside from that, gathering information from certain participants and transcribing the responses from post-interviews are quite critical. The accumulated information went through a thorough analysis of the adviser and data analyst. The results were presented to a panel critiquing, to ensure the research's reliability and validity. Ethical considerations are essential for qualitative research, as it explores the experience of individual

lives. The researcher remained cautious to avoid biases that may have jeopardized the integrity of the study. These measures are carefully designed to ensure ethical integrity of the research, right of participants as well as the credibility and confidentiality of this research procedure.

The researchers uphold to ensure that it follows the criteria and study guidelines, ensuring ethical values. The prerequisites of these are: Consent Agreement and Voluntary Participation, these involved participants must fill out the consent agreement form before the interview, accentuate willingness participation and the privileged to refuse. Innominate and Confidentiality, all involved participants remained anonymous, to guarantee the reliability and confidentiality during the gathering of data while protecting the participants privacy. Interview Procedure, Exclusive interview in the uninterrupted setting was to be performed, with the respect given to confidential communication of the study. These measures are carefully designed to ensure ethical integrity of the research, right of participants as well as the credibility and confidentiality of this research procedure. In order to follow all these principles, one criterion of the research is to develop trust and transparency between the researchers and the interested participants through the highest status of academic and ethical rigorousness.

RESULTS AND DISCUSSION

There are a total of eight informants participating in the in-depth interviews, consisting of one female and seven males, ages between 20 and 29. The selected participants were incumbent presidents and vice-president currently serving in youth organizations in Panabo City. The views collected from their answers provided a detailed analysis of the assistance that the city government has been providing to them. Their leadership experiences could give them the relevant information about the operation and the cooperation of youth organizations with the local stakeholders. The informants were assigned anonymous names to ensure confidentiality as indicated in Table 1.

Table 1
Demographic Profile of the Informants

Sex	Code	Year Established	Years of Service
Male	7	1974 - 2023	1 - 5 years
Female	1	2021	2 years
Total	8		

A list of participants came up with the participation identification process and was collected to cover several youth organizations in Panabo City, Davao del Norte. The requirements were that the selected individuals are presently holding the office as the president of the youth organizations and must have at least one year experience in civic structures and two years in existence organizations. Youth organizations were picked because of their community work, government work and youth representation. This section covers the results of

the City Government of Panabo's support for youth groups. The themes explain various ways that youth-centered activities are supported and worked on by youth leaders.

Table 2
Major Themes and Core Ideas on the Support Received by Youth Organizations from The City Government of Panabo

Major themes	Description
Youth Empowerment Through Participatory Developmental Initiatives	<i>This focuses on how young people become more engaged and confident when they are involved in creating and carrying out programs in their communities.</i>
Public Support That Highlights Youth Talents	<i>This describes how youth are given platforms to express themselves and opportunities to lead, their talents are nurtured, and their confidence is strengthened, encouraging further engagement in community and leadership activities.</i>
Official Recognition That Builds Organization Strength	<i>The youth leaders explain how recognition brings legitimacy, increases their credibility, and often leads to access support, resources, and collaborative opportunities with other stakeholders.</i>
Access to Local Government Operational Support	<i>This theme shows how youths shared that such support plays a crucial role in sustaining their activities and delivering their projects effectively.</i>

The results indicated that participatory developmental activities promoted by the city government contributed to building youth empowerment through youths' active participation, engagement in community activities and leadership roles. Participants spoke about how they felt valued, listened to, and trusted as partners to community development as a result of the local government's consistent support. This finding agrees with Schulz (2024), who emphasized that trust in civic and local institutions increases the likelihood of young people engaging in lawful civic and community activities. The current study also contributes to the body of knowledge because it demonstrates that supporting civic involvement through government can also help build young people's confidence to start and maintain community-based programs.

The outcome indicated that the level of support and opportunities for talent to be shared promoted greater youth group involvement in community and leadership activities. Participants identified that recognition via public events and programs was a source of motivation to build their confidence and visibility within the community. This result aligns with Reguindin (2023), who discovered that Filipino youth leaders' leadership qualities, civic values and active involvement are enhanced through community engagement. On the other hand, Tabunda and Mina (2022) also agree with the current finding that youth engagement in local governance and community-based programs improves youth engagement and promotes inclusive development. This current study brings additional richness by showing how public recognition can be a motivating force and help sustain youth involvement in community efforts.

The effects showed that official recognition by the city's government had an influence on strengthening youth organizations by giving them increased legitimacy, credibility, and access to opportunities and resources. The respondents stated that formal recognition facilitated the participation of organizations in community programmed and enabled them to collaborate with the government offices. The result supports David and Buchanan (2020) who highlighted that increased youth participation is more effective when institutional arrangements and local government structures are in place. The present study does much to broaden this view as it suggests that the recognition process is not just administrative, but it can be a source of confidence and an identity for the youth leader as well.

The results explained that the city government's operational support, including resources, logistics or activity assistance, was important to support the youth-led projects. Participants shared their experience of using government support to carry out programs and their organizational efforts. This discovery aligns with Shagott (2023) who stated that involving youth in planning, service development and community activities enhances leadership and responsibility among the young people. The current study builds on this by revealing that even when support is given in a practical way, such as through providing logistical support or access to resources, youth leaders consider this to be meaningful evidence of government engagement and partnership.

Table 3
Major Themes and Core Ideas on Challenges Faced by Youth Organizations in the Engagement of Implementing their Projects

Major themes	Description
Identified Constraints within Organizational Communication Pathways	<i>This focuses on the poor and unclear communication between youth organizations and local government units where poor guidance, unclear information, and missing contact points are barriers to effective coordination and lead to delayed decisions.</i>
Deficiencies in Organizational Support Mechanisms	<i>This showcases how the youth leaders shared some struggles for youth to have an impact on local governance, characterized by slow responses, little assistance, and insufficient financial or institutional support for their endeavors.</i>
Institutional Constraints in Executing Projects	<i>It is centered on the institutional and logistical challenges that limit project implementation, such as constrained resources, long approvals, missing consistent support, and difficulties in community mobilization, usually leading to delays and lowered impact.</i>
Internal Disengagement among Youth Organization Members	<i>This sustaining active participation among youth organization members, where low turnout, volunteer fatigue, and ineffective communication practice often break project implementation and sustainable development over the long term.</i>

This section addresses issues that youth organizations encountered in the project in terms of their access to the city government. The themes emphasize factors that affect collaboration and project implementation.

The results revealed that there were problems in coordination, problem-solving and decision-making between youth organizations and the city government due to unclear and inconsistent communication. Participants felt uncertain about who and how to contact, and how to address organizational concerns, which slowed down projects and reduced engagement. This finding resonates with Checkoway (2011) as cited in Sala-Torrent and Planas-Lladó (2024) which highlights the importance of providing local authority with channels of dialogue that are accessible and structured to ensure meaningful youth participation. Moreover, Evans et al (2023) offer some insight into the current findings, by saying that poor communication between the organization can stifle organizational momentum and lead to frustration and disengagement among youth leaders.

The outcomes indicated that many youth leaders perceived the view of government support being inconsistent, short-term, and inadequate to support the growth of an organization. Participants voiced complaints regarding slow responses, inadequate instructions and guidance, and the absence of permanent institutional support of their efforts. This is also notable by Jayme-Mora (2024) on the fact that youth support systems in the Philippines tend to concentrate on strengthening individual leaders instead of building up organizational structures. Thus, Sanderson and Kemp (2023) conclude that poor funding, low levels of institutional assistance, and insufficient connections to wider systems are all detrimental for the long-term impact of youth organizations, which is similar to the findings of the present study.

The results explained that the youth organizations faced institutional challenges including inadequate financial resources, delays in approval processes, logistical difficulties, and inconsistent support, impacting their ability to implement projects. Other challenges cited by participants were low community involvement and volunteer burnout, which further hindered organizational momentum. This aligns to Cadano (2023), which found systemic barriers to be playing a role in why youth are not participating in projects, and also why they are not active. This is in keeping with Cadano (2023) who identified systemic barriers as contributing to non-participation in the youth and to delays in community projects. In addition, Meherri (2021) provides an explanation for the current finding, as it is demonstrated that the lack of institutional support can diminish the level of volunteering and decrease the participation time

The results further explain that keeping youth members engaged was still significant issue for youth groups. The participants reported low attendance, volunteer boredom and challenges in motivating members to attend regularly. This finding aligns with Kanosvamhira (2026), who discovered that when youth participation initiatives do not have sufficient depth or structure, it may be difficult to achieve the desired long-term impact. In addition, Aposaga (2023) adds nuance by emphasizing that sustaining volunteerism is a recurring challenge for youth leaders despite the important contributions of youth organizations to community development.

This section shares the themes that further explain the experiences of youth leaders in engaging with the City Government of Panabo and the learnings they obtained. These findings help to provide a picture of how their experiences helped them develop as leaders, managers of organizations, and collaborative governance.

Table 4
Major Themes and Core Ideas on the Knowledge Youth Leaders in Panabo City Get from their Engagement with the City Government

Major themes	Description
Demonstrating Adaptability	<i>This captures how youth organizations are able to adjust to changing circumstances that reflects their capacity to remain active, relevant, and effective leaders.</i>
Youth develop good citizenship through involvement in the community	<i>This describes youth participation in the community. Young people gain a deeper understanding of their civic roles, strengthen their commitment to public service, and develop values such as accountability, cooperation, and social responsibility.</i>
Skill-building helps shape youth leaders	<i>This describes different opportunities for skills that will lead to developing young people into effective leaders. Training, practical experiences, mentorship initiatives and decision-making skills that are necessary for leadership positions in their communities.</i>
Youth Contributions Improve Community Response	<i>This emphasizes how youth leaders contribute to more inclusive and timely actions, allowing the community to better address the needs of its members.</i>

The results showed that being adaptable, open to new ideas and making decisions in a practical way were aspects learned by youth leaders during their interactions with the city government. Participants shared their experiences of how they are becoming more flexible and reflective leaders after facing challenges and collaborating with various stakeholders to overcome them. This is a similar conclusion to that of Marshall et al. (2021) who highlighted the need for openness, responsibility and reflective practice in order to be good leaders and grow professionally.

The results implied that involvement in civic and community activities fostered a greater sense of citizenship among youth leaders, as well as a sense of responsibility and civic participation. Participants recognized that mentoring and guidance from the city government were significant factors in their own and leadership development. This was a finding that aligned with what DuBois (2021) discussed about how mentoring programs can have positive effects on mentoring behaviors, accountability and active citizenship when formalized institutions are in place.

The results showed that youth leaders acquired practical skills like communication, negotiation, advocacy, problem-solving and organizational management from interacting with government programs. For participants, leadership development was a process that arose from activity rather than theory. This is corroborating with Chavez et al. (2024) who stated that YPLs acquire leadership abilities through participation in community and government programs.

Results showed that youth leaders were more responsive to community needs when they are directly involved in identifying community concerns and addressing them. Participants shared examples on how their work had significant meaning and purpose in response to real community issues. This finding aligns with Castillo (2023), who discovered that opportunities that allow youth to become involved with real community concerns facilitates increased youth participation. Similarly, Mariano (2025) enriches the current result by demonstrating how reflective and participatory spaces stimulate young people to talk about social problems and build their relationship with community development.

Implication For Practice

This research showed how youth leaders in Panabo City were resilient and committed towards enhancing positive change in their societies despite prevailing challenges. It is directly related to young people's participation and continues dialogue and acknowledgment of their leadership potential around civic engagement. Study underscores the need for an enabling environment where young people's organizations can engage actively and effectively in local governance. Authentic youth participation goes beyond symbolic representation. It also needs continuous engagement, respect for what they can do, and entry to spaces of decision-making (Mitchell, 2022).

Youth councils and participatory structures in local governments around the world create critical pathways for young people to contribute meaningfully to governance Augsberge et al. (2024). Improved engagement between youth organizations and government institutions has the potential to produce a more responsive and inclusive community. Mentoring in leadership development programs strengthens the capacity of young leaders to influence decision-making processes and develops the potential skill that can contribute to the youth organizations Arshad et al. (2021). The findings derived from this study will guide future research and aid in practical applications in public administration, specifically on developing participatory structures that fuse the voices of the youth in framing community development.

This paper addresses the role of civic engagement of youth organizations in Panabo City in achieving forms of democracy at the local level. The findings show that young people are not just the passive consumers of the programs, but they are the active members of the community who take an initiative to start the project, bring up the issues in their community to make an impression on the local decision making. Their involvement is however influenced by the lack of arenas of debate, limited involvement in the decision-making process in the situation of the administration of the society, and insufficient institutional support.

According to Reguindin (2023), young leaders are vibrant and flexible, but they cannot have an impact unless there are meaningful avenues of engagement. In this respect, this paper demonstrates that Republic Act 8044, or Youth in Nation- Building Act of 1995, remains an effective legislation as it explicitly places the youth in societal matters. This gives credence to the necessity of involving the youth in real action, such that the youth might have a voice to be heard and with a viable effect on local government. The already uneven enforcement of this law on a local basis is also an opportunity that has been missed in regard to encouraging civic participation of the youth. RA 8044 should not only be a symbolic law but should be implemented

through structures like youth consultation mechanisms, participatory budgeting mechanisms, and capacity-building programs.

Bastida et al. (2024) had argued that, given their involvement, the youth groups are now a formidable source of human resources when it comes to use of the 2030 Sustainable Development Agenda, the urgent need to institutionalize youth participation in governance. The present study also helps in the wider achievement of the Sustainable Development Goals (SDGs), namely, SDG 10- Reduced Inequalities and SDG16 -Peace, Justice and Strong Institutions. By empowering the youth as citizens, marginalization of the youth by the government is minimized and there is a boost in their representation in the local 49 decision making.

The explanation of how a set of organizational activities fosters trust, institutional support, and the social capital by Chesmore et al. (2024) justified the concept that youth empowerment leads to more resilient and inclusive communities. Additionally, the results elaborated on the need to position the youth civic engagement not at its periphery, but at the core of good governance. In effect, youth organization participation in Panabo City is dynamic and vibrant in the democratic process. Their experiences talk of the possibilities and problems of real practice in civic engagement. Oyedare et al. (2025) emphasize that the youth leadership development are avenues through which the youths can be reshaped and reminded of their communities by actively involving themselves to collaborate with others of their age groups.

Concluding Remark

This study demonstrated the resilience of the youth leaders in Panabo City, determined to develop positive transformation in their societies in spite of challenges. The role of an enabling environment allowing the organization of the young people to participate actively and effectively in local governance is emphasized in the study. Youth involvement is more than symbolic representation, it should also involve constant interaction, appreciation of their ability to do, and access to arenas of decision-making (Mitchell, 2022). Participatory local government structures and youth councils across the world would offer essential pathways through which the youth can take an active role in the governance (Augsberger, 2024).

The possibility of creating a more responsive and inclusive community exists through the youth organizations and government institutions. Leadership development programs through mentoring strengthens the capacity of young leaders to shape the decision-making process and builds potential skills that can serve the youth organizations (Arshad, 2021).

The experiences and stories of young leaders in Panabo show that civic participation is not only participation; it is a power that enables the community to flourish. When the youth are put in leadership positions, provided with the right resources, and regarded as equal partners, they do not simply participate. They innovate, 51 inspire and build more inclusive futures. It is through this strength and collaboration that local governments and institutions can change the mobilization of young people into a long-lasting movement that will empower inclusive development. Youthful voices do not echo the present, but they are flints of the future ones. The results of the research based on this work will be used to carry out other studies and

to serve practice in the sphere of public administration, that is, to develop participatory structures, which will integrate the voices of the young generation in community building.

Limitations of the Study

This study has several methodological points to consider that should be noted when interpreting the results of the study. The first was the fact that the study was done only with the incumbent president and vice president of the already established recognized youth groups in Panabo City, Davao del Norte. The participants were exclusively chosen due to their personal experience in youth governance and their engagement with city government, but the results only represent the views and experiences of those with leadership roles in youth groups. Thus, the perspectives of average members, non-affiliated youth and other youth development stakeholders were not included in the research. Hence, the study was limited to one local government unit, thus giving an insightful context into the phenomenon studied. This approach setting allowed for in-depth analysis of the experience of youth engagement in Panabo City but may not necessarily capture the socio-political and institutional reality in other localities where the situation is varied.

Moreover, the study was qualitative, and focused on obtaining rich, detailed, and experience-based accounts from the informants. As such, the findings are not necessarily statistically generalizable to larger populations, but rather only offer contextual and interpretive insights. The use of self-reported self-narratives (based on interviews) was also largely relied upon in the study, and may have been subject to personal perceptions, recollections and experiences of the participants. The study is limited by these themes, but it provides some useful insights into the ways in which the City Government is engaging with youth organizations, and it enhances the existing body of knowledge on youth participation and local governance. Future research could benefit from larger sample of youth and multiple local government environments, as well as more yield holistic understanding of the nature of youth-government engagement in various settings.

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REFERENCES

- Abiddin, N. Z., Ibrahim, I., & Abdul Aziz, S. A. (2022). Non-governmental organisations (NGOs) and their part towards sustainable community development. *Sustainability*, 14(8), Article 4386. <https://doi.org/10.3390/su14084386>
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571. <https://doi.org/10.1093/jopart/mum032>
- Aposaga, M. M. (2023). Challenges and practices of youth leaders: Input to sustainable volunteerism in community development. *International Journal of Science and Research*, 12(4), 100–105. <https://www.ijsr.net/archive/v12i4/SR23328121209.pdf>
- Araque, L. Y. (2025). Volunteer management in non-profit organizations: Experience of Huellas Foundation in Medellín, Colombia. *Administrative Sciences*, 15(3), Article 77. <https://doi.org/10.3390/admsci15030077>
- Arshad, M. M., Ismail, I. A., Fesol, S. A. A., & Ismail, A. (2021). Character development and youth leadership mentoring. *Pertanika Journal of Social Sciences & Humanities*, 29(S1), 39–55. <https://doi.org/10.47836/pjssh.29.S1.03>
- Asherov, E. A., & Gross, Z. (2024). Community coherence, collective efficacy and civic engagement in student and youth councils: The mediating effect of community resilience. *Children & Society*, 38(6), 1943–1964. <https://doi.org/10.1111/chso.12856>
- Augsberger, A., Collins, M. E., Gecker, W., & Pontes, A. (2024). The global context of youth engagement: A scoping review of youth councils in municipal government. *Children and Youth Services Review*, 156, Article 107349. <https://doi.org/10.1016/j.childyouth.2023.107349>
- Bamberg, M. (2020). Narrative analysis: An integrative approach. In M. Järvinen & N. Mik-Meyer (Eds.), *Qualitative analysis: Eight approaches for the social sciences* (pp. 243–264). SAGE.
- Bastida, E. L., Tabia, F. G., Oliquino, C. S., Maurillo, M. C. A., Denzo, J. D. R., & Miel, J. S. (2024). Creating an SDG-oriented youth engagement plan: An action research. *Asia-*

- Bennett, K. M., & Hays, S. P. (2022). Engaging youth for positive change: A quantitative analysis of participant outcomes. *Education, Citizenship and Social Justice*, 18(3), 297–313. <https://doi.org/10.1177/17461979221103779>
- Bianchi, C., Nasi, G., & Rivenbark, W. C. (2021). Implementing collaborative governance: Models, experiences, and challenges. *Public Management Review*, 23(11), 1581–1589. <https://doi.org/10.1080/14719037.2021.1878777>
- Boadu, E. S. (2024). Evaluating Ghana's youth-centered food-security policies: A collaborative governance approach. *Sustainability*, 16(9), Article 3830. <https://doi.org/10.3390/su16093830>
- Brady, B., Chaskin, R. J., & McGregor, C. (2020). Promoting civic and political engagement among marginalized urban youth in three cities: Strategies and challenges. *Children and Youth Services Review*, 116, Article 105184. <https://doi.org/10.1016/j.childyouth.2020.105184>
- Cadano, M. O. (2023). The reasons of inactive youth engagement in the community: A case study in Barangay District III, Babatngon, Leyte. *International Journal of Research Publication*, 123(1), 56–72. <https://doi.org/10.47119/IJRP1001231420234683>
- Chavez, J. V., Garil, B. A., Padrique, C. B., Askali, S. T., & Indama, A. C. (2024). Assessing innovative and responsive young leaders in public service: Lens from community clientele. *Environment and Social Psychology*, 9(9), 1–12. <https://doi.org/10.59429/esp.v9i9.2876>
- Checkoway, B. (2011). What is youth participation? *Children and Youth Services Review*, 33(2), 340–345. <https://doi.org/10.1016/j.childyouth.2010.09.017>
- Chesmore Boat, A., Poparad, H., Seward, M. D., Scales, P. C., & Syvertsen, A. K. (2024). The role of organized activities in supporting youth social capital development: A qualitative meta-synthesis. *Adolescent Research Review*, 9(3), 1–20. <https://doi.org/10.1007/s40894-024-00235-1>
- Chowdhury, A., & Shil, N. (2021). Thinking qualitative through a case study: Homework for a researcher. *American Journal of Qualitative Research*, 5, 190–210. <https://doi.org/10.29333/ajqr/11280>
- Coombs, H. V. (2022). *Case study research defined* [White paper]. Southern Utah University. <https://doi.org/10.5281/zenodo.7604301>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.

- David, N. P., & Buchanan, A. (2020). Planning our future: Institutionalizing youth participation in local government planning efforts. *Planning Theory & Practice*, 21(1), 9–38. <https://doi.org/10.1080/14649357.2019.1696981>
- DuBois, D. L. (2021). Mentoring programs for youth: A promising intervention for delinquency prevention. *NIJ Journal*, 283. <https://nij.ojp.gov/topics/articles/mentoring-programs-youth-promising-intervention-delinquency-prevention>
- Evans, S. C., Shaughnessy, S., & Karlovich, A. R. (2023). Future directions in youth irritability research. *Journal of Clinical Child & Adolescent Psychology*, 52(5), 716–734. <https://doi.org/10.1080/15374416.2023.2209180>
- Fu, Y., & Jiang, Y. (2020). Research on the participation of youth social organizations in social governance. In *Proceedings of the 5th International Conference on Economics, Management, Law and Education (EMLE 2019)* (pp. 514–517). Atlantis Press. <https://doi.org/10.2991/aebmr.k.191225.091>
- Hegazy, I., Bahreldin, I., & Alamoudi, M. (2024). Youth, urbanism, and the city: Visions and framework for transforming Jeddah into a youth-friendly city. *Italian Journal of Planning Practice*, 14(1), 20–57. <https://doi.org/10.66428/ijppv14i01a002>
- Holsen, I., Oldeide, O. B., Fosen, M., Jørstad, I., Roaldsen-Skadberg, E., Kjosås, R. B., & Finne, A. (2025). Exploring experiences and challenges in implementing youth participatory action research in Norwegian lower secondary schools. *Scandinavian Journal of Educational Research*, 69(3), 493–505. <https://doi.org/10.1080/00313831.2024.2318426>
- Jayne-Mora, T. (2021, September 7). *Sharing insights from mapping the youth resources and support systems for young change leaders in the Philippines*. Medium. <https://medium.com/firetreephilanthropy/sharing-insights-from-mapping-the-youth-resources-and-support-systems-for-young-change-leaders-in-fe9a052156c4>
- Kanosvamhira, T. P. (2026). Roots of resilience: A qualitative exploration of youth driven community food gardens in Cape Town, South Africa. *Qualitative Research Journal*, 26(2), 261–274. <https://doi.org/10.1108/QRJ-05-2024-0108>
- Kratochwill, T. R., Horner, R. H., Levin, J. R., Machalicek, W., Ferron, J., & Johnson, A. (2021). Single-case design standards: An update and proposed upgrades. *Journal of School Psychology*, 89, 91–105. <https://doi.org/10.1016/j.jsp.2021.10.006>
- Marah, T. S., Pradhan, H. D., & Shuhood, F. A. (2024). Youth participation in global governance: Opportunities and challenges. *Journal of Governance and Public Administration*, 2(1), 238–249. <https://doi.org/10.70248/jogapa.v2i1.1718>

- Mariano, S. (2025). This or that? Managerial responses to competing priorities in organizations. *Management Decision*. Advance online publication. <https://doi.org/10.1108/MD-02-2024-0363>
- Marshall, T., Keville, S., Cain, A., & Adler, J. R. (2021). On being open-minded, wholehearted, and responsible: A review and synthesis exploring factors enabling practitioner development in reflective practice. *Reflective Practice*, 22(6), 860–876. <https://doi.org/10.1080/14623943.2021.1976131>
- Meherrt, K. (2021). *Analysis of factors affecting implementation of the youth challenge initiative project: The case of Youth Network for Sustainable Development* [Doctoral dissertation, St. Mary's University]. <http://hdl.handle.net/123456789/6384>
- Mitchell, L. J. (2022). *Executive decision making and youth: A discovery of the processes of executive leaders and their practices of youth participation in decision making* [Doctoral dissertation, University of Charleston-Beckley]. ProQuest Dissertations & Theses Global.
- Natil, I. (2021). Introducing challenges to youth civic engagement and local peacebuilding. In *Youth civic engagement and local peacebuilding* (pp. 1–18). Routledge. <https://doi.org/10.4324/9781003183747-1>
- Nyimbili, F., & Nyimbili, L. (2024). Types of purposive sampling techniques with their examples and application in qualitative research studies. *British Journal of Multidisciplinary and Advanced Studies: English Language, Teaching, Literature, Linguistics & Communication*, 5(1), 90–99. <https://doi.org/10.37745/bjmas.2022.0419>
- Oyedare, I., Kaufman, E., & Council, A. (2025). Building the future: A practice-based approach to youth leadership development. *Journal of Leadership Education*. Advance online publication. <https://doi.org/10.1108/JOLE-07-2024-0085>
- Reguindin, J. C. (2023). Lived experiences of Filipino young leaders on participation in community development in a municipality in Northern Negros Occidental. *The QUEST: Journal of Multidisciplinary Research and Development*, 2(1). <https://doi.org/10.60008/thequest.v2i1.77>
- Roller, M. R. (2020). *The focus group method*. Research Design Review Working Papers. <https://www.rollerresearch.com/MRR%20WORKING%20PAPERS/Focus%20Group%20Method%20April%2020>
- Rutledge, P. B., & Hogg, J. L. C. (2020). In-depth interviews. In J. van den Bulck (Ed.), *The international encyclopedia of media psychology*. Wiley. <https://doi.org/10.1002/9781119011071.iemp0019>

- Sala-Torrent, M., & Planas-Lladó, A. (2024). Enhancing youth voices: Exploring community participation through youth workers. *Children and Youth Services Review*, 160, Article 107600. <https://doi.org/10.1016/j.childyouth.2024.107600>
- Sanderson, E., & Kemp, L. (2023). Hopes and dreams: Youth activities in civil society organizations. *Journal of Youth Studies*, 26(4), 482–499. <https://doi.org/10.1080/13676261.2023.2279629>
- Satispi, E., & Taslim, M. (2019). Formulation of local development policy for youth in South Tangerang City. *Kolaborasi: Jurnal Administrasi Publik*, 5(3), 333–353. <https://doi.org/10.26618/kjap.v5i3.2700>
- Schoch, K. (2020). Case study research. In G. J. Burkholder, K. A. Cox, L. M. Crawford, & J. H. Hitchcock (Eds.), *Research design and methods: An applied guide for the scholar-practitioner* (pp. 245–258). SAGE.
- Schulz, W. (2024). Young people's trust in institutions, civic knowledge and their dispositions toward civic engagement. *Large-Scale Assessments in Education*, 12(1), Article 23. <https://doi.org/10.1186/s40536-024-00210-1>
- Shagott, T., Zybina, M., Benne, M., Hüttmann, I., & Crayne, J. (2023). *Youth lead the way: A youth advisory research board model for climate impact education*. OMSI Engagement Research and Advancement Division. https://omsi.edu/wp-content/uploads/2023/09/A-Youth-Advisory-Research-Board-in-a-science-center_-an-empowering-setting-for-collective-action-final.pdf
- Subedi, K. R. (2021). Determining the sample in qualitative research. *Scholars' Journal*, 4(1), 1–13. <https://doi.org/10.3126/scholars.v4i1.42457>
- Tabunda, A. T., & Mina, C. V. (2022). Community participation in local governance: Basis for enhanced community development programs. *SHS Web of Conferences*, 149, Article 02044. <https://doi.org/10.1051/shsconf/202214902044>
- Tiffany-Kinder, R. (2020). *If you can hear my voice: A narrative inquiry into the professional journey of eight first-year teachers* (Publication No. 2492269411) [Doctoral dissertation, University of Hawai'i at Mānoa]. ProQuest Dissertations & Theses Global.
- Williams, K. S. (2024). Understanding youth empowerment: A youth participatory action research approach. *Qualitative Research in Organizations and Management: An International Journal*, 19(5), 1–34. <https://doi.org/10.1108/QROM-07-2023-2561>
- Wray-Lake, L., & Abrams, L. S. (2020). Pathways to civic engagement among urban youth of color. *Monographs of the Society for Research in Child Development*, 85(2), 7–154. <https://doi.org/10.1111/mono.12415>

THE IMPACT OF SOCIAL INFLUENCE, AMBIVALENT SEXISM, AND SEXUAL CONSENT NORMS ON RAPE-VICTIM BLAMING ATTITUDES: A PREDICTIVE ANALYSIS

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SDGs: **Goal 3 (Good Health and Well-being); Goal 16 (Peace, Justice, and Strong Institution)**

ABSTRACT

This study intended to explore and understand the social and psychological factors that predict rape-victim blaming attitudes of young adults. A descriptive-predictive research design was applied. Descriptive and inferential statistical analyses were used to examine the data collected from 250 participants. The results revealed that ambivalent sexism and sexual consent norms are the predictors of rape-victim blaming attitudes. Moreover, social influence does not predict and has an inverse relationship to rape-victim blaming attitudes. The Independent variables accounted for about 19.8% change. Integrating the results provides much-needed worldviews that create and develop countermeasures for harmful stereotyping and reinforce and add victims' rights, fostering an environment where survivors feel safe to report and seek justice, aligned with SDG 3 and SDG-16. Moreover, a more collective effort to recognize ambivalent sexism and sexual consent allows acceptance and awareness of gender-based violence and harmful stereotypes among genders by challenging traditional norms that align with SDG-5. Thus, this research aims to prevent and reduce wrongful ostracization of victims of rape and focus on perpetrators. The study recommended future research to study the inverse relationship of social influence to rape-victim blaming attitudes and to replicate it on more diverse populations to understand socio-economic and cultural groups.

Keywords: ***Social Influence; Ambivalent Sexism; Sexual Consent; Victim Blaming; Young Adults***

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INTRODUCTION

Victim-blaming occurs across many contexts, such as criminal activity, harassment, and accidents (Anderson & Overby, 2020). Where the blame is placed on the victims rather than perpetrators of harassment, a cultural phenomenon that can cause severe emotional harm to a person who struggles to recover from the assault (Schroeder, 2016). When people hold such an attitude toward victims, it increases the harm they experienced when internalizing these negative judgments. It creates barriers to seeking help (Anderson & Overby, 2020). This is because victims of sexual abuse tend not to seek help and file a report of the unlawful act because of the fear that they will be blamed for what happened to them (Pascual, 2022).

In fact, in densely populated cities, the number of rape cases are high as it is one of the most committed crimes and also a form of domestic abuses, as some rape cases are in the form of relatives taking advantage of their younger relatives and the victims choose to keep their silence and endure rather than being labeled as someone who will be blamed for not standing up for themselves (Lundrigan et al., 2024). They think that women are seeking sexual interaction because they are wearing sexy clothes, which is interpreted as consent. This judgment causes the severity of rape cases and denies the victim's experience and right to seek help (Murray et al., 2023). Moreover, many sexual abuse victims were diagnosed with depression, anxiety, and some are still facing trauma and panic attacks as they are suffering silently and have no one to rely on (Olvara et al., 2021).

Social influence encompasses the norms, beliefs, attitudes, and actions shaping people's thinking and acting (Ruback & Greenberg, 1988). People's perceptions can shape their attitude toward the victim; they conform to what they believe is right rather than their judgment (Tankard & Levy Paluck, 2016). Victims of assault often feel that they have dishonored themselves, their husbands, relatives, or friends (Ait Ali & el Majdoubi, 2024). It is assumed that individuals are likely to adopt the attitudes and behaviors of their social groups. This is because sexism may reinforce rape myths, which are false beliefs that justify rape, such as the idea that victims are responsible for the assault because of their behavior (Gutierrez & Leaper, 2024). Hostile sexism explains how men see women as dangerous and manipulative and how women see men as oppressive and unreasonable, with it going both ways (Barreto & Doyle, 2023). Benevolent sexism is the traditional way of viewing women as needing to be cared for and be an obedient and honest wife. The feeling of having positive and negative takes on things makes it harder to choose one of the options, when one can outweigh another and vice versa (Van Gent et al., 2024).

Furthermore, sexual consent is the voluntary and explicit agreement to engage in sexual activity with a particular person in a specific context (Willis & Jozkowski, 2019). In this framework, sexual activity can only continue if both partners express active interest (Javidi et al., 2022). Although most research views sexual consent as an individual and interpersonal issue, attitudes and behaviors on sexual consent may be related to cultural and social factors. Indeed, sexual consent is associated with traditional sexual scripts, i.e., men as initiators of sex and women as sexual gatekeepers (Hirsch et al., 2019). Studies have found that many men indeed stop sexual advances only when there is a clear and explicit (usually verbal) signal to

stop (Goodcase et al., 2021), which leads to unwanted sexual behaviors (Bogen et al., 2021). In addition, the intentions to respect communication of consent appear to be negatively related to rape myths, i.e., beliefs that serve to deny and justify men's sexual aggression against women (Shafer et al., 2018). The gaps in *"The Distinction Between Observer and Victim Characteristics"*, as literature reviews point out a need to clearly isolate and cross-analyze observer characteristics as these are several key factors that affect victim blaming. Current research on sexual assault fails to adequately isolate observer biases (such as the evaluator's gender, rape myth acceptance, and institutional training) from victim-situational traits (such as intoxication or relationship to the perpetrator), resulting in a conceptual blur that obscures whether victim blaming is primarily driven by an individual's rigid worldview or by localized situational cues. (Van der Bruggen & Grubb, 2014). Public shaming and victim blaming have rapidly migrated online, transforming how secondary victimization occurs. Contemporary literature on digital aggression demonstrates that online victim blaming is an engineered structural phenomenon rather than a collection of isolated incidents; social media architectures actively weaponize human cognitive biases by utilizing engagement-driven algorithms that systematically amplify toxic, crowdsourced victim-blaming narratives for user retention (Olszewski & Lavis, 2025). This research aims to determine if social influence, ambivalent sexism, and sexual consent; norms significantly predict rape-blaming victim attitudes.

Theoretical Framework

This study was anchored on attribution theory (Weiner, 2019) which explains the human need to condemn others for their mistakes with the knowledge and confidence that the same thing won't happen to them as they would not have done the same things that the victims would have done. Each person's controllability to avoid dangers to themselves has always been looked upon in terms of personal safety and well-being. This theory also explains how things are related in terms of fault (Kotanan & Kronstedt, 2019). Moreover, social influence alongside the theory says and explains that social influence that is gained and given to a person explains that learned behavior from the environment and how influence is acquired might become a predictor and a factor that explains the attitudes and how people judge the situation (Malle, 2022).

Additionally, ambivalent sexism will come to mind. It will affect the decisions, thinking, and judgment of a person who will support or condemn the victim, especially in terms of women victims (Dinçer et al., 2021). Then, sexual consent norms are a grey area in which some may say that the women have given their consent and later rescinded that consent and accused the man of rape, it is a realm of "he said, she said" which the majority will go into the defense of the weaker one which most likely would be the women or young children regarding of sex and gender identity (Jaffe et al., 2021).

Conceptual Framework

The independent variables of this study are social influence, ambivalent sexism, sexual consent, and rape-victim blaming attitudes. The first independent variable is social influence, which relates to the attitudes of people who socially conform to society in fear of being

wrong and being criticized (Frey & Rijt, 2020), is measured through social comparison which is the need to compare oneself to others to gauge and discern if one is adequate that can give self-worth (Suls & Wills, 2024) and social norms which is the standard, or the unwritten rules and regulations that people follow or conform to avoid being labeled as an uninformed and oblivious (Elster, 2020). Moreover, the second independent variable is ambivalent sexism, which relates to the stereotyping of one gender is better than the other (Agadullina et al., 2022), and is measured through hostile sexism which is viewing the female gender as competitors that can manipulate men to gain power other men and vice versa and benevolent sexism that view the female gender as weak, frail, passive and pure, thus justifying the need to protect and provide for them (Bareket & Fiske, 2023).

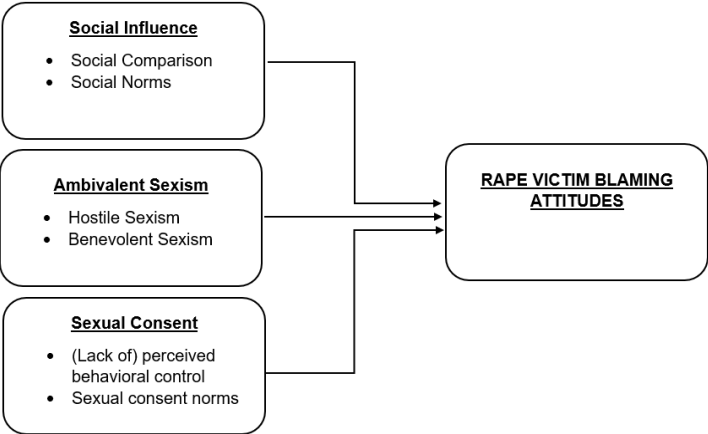


Figure 1. Conceptual Framework of the Study

Furthermore, the third independent variable is Sexual Consent, which relates to the willing of the individual to engage in Procreation which often associated with the female gender which normalizes the man needing consent to engage in any intimate act (Metz et al., 2020), and is measured through (lack of) perceived behavioral control is the thinking of the individual on how hard it is to perform the specific behavior (Ajzen, 2020) and sexual consent norms which are the basics in which a partner of person should adhere to. Motives revolve around (Holmström et al., 2020). The dependent variable is rape-victim blaming attitudes, which relates to how a person sees and interprets a phenomenon where factors may dictate an outcome in which the victim's action or prior actions are partially responsible (Dawtry et al., 2019). The conceptual framework of this study tested the null hypothesis, stating that there was no significant relationship between the independent and dependent variables.

METHODOLOGY

Research Design

The descriptive-predictive design, a quantitative research method, was used in this study. Descriptive-predictive is the relationship between variables and can predict specific patterns caused by the variables (Devi et al., 2023). This quantitative research design is appropriate for collecting relevant data from the target respondents and generating statistical data that can be analyzed using existing and valid methods. This method is chosen to ensure that the study variables cannot be manipulated, which will maintain the study's integrity and validity of the findings (Bhandari, 2022).

This research design helped interpret data and explain or predict the phenomenon of victim blaming. It answered the hypothesis, explained the relationship between the variables, and predicted whether the independent variables explained the dependent variable.

Research Respondents

The research respondents of this study were the young adults aged 18-35 of Panabo City, with some knowledge on rape victim blaming. The respondents were selected through convenience sampling. Convenience sampling was used alongside the nature of the study, due to constraints in accessing young adult populace data, Convenience sampling is used as it is a non-probability sampling technique based on ease of access, this allowed seamless integration in the collection of data (Golzar et al., 2022). The sample was 250 participants; this number offered a margin of error of - 5% at a 95% confidence level (Memon et al., 2020), representing the young adults of Panabo City. The respondents were chosen as young adults are more exposed to this phenomenon. The participants were given the chance to participate or refrain from the study, at any point of the survey, participants were allowed to withdraw their participation. Furthermore, as an adjacent city and a densely populated city, of late the number of rape cases in Panabo city have risen in the past years and until now when it comes to domestic violence cases within the city. Among several domestic abuses, rape has soared from 13.92% to 30.82% which indicates that cases have risen dramatically which in turn explains the incidents, making Panabo city the adequate locale of the study.

Materials and Instrument

The researchers used a 40-item adapted and modified survey as an inquiry device, which gained widespread acceptance as a practical way of drawing out data to answer specific problems in the research. To measure social influence, the researchers adapted the survey questionnaire in the study social influence scale for technology design and transformation of Stibe and Cugelman (2019), which in earlier studies showed consistent results. On the other hand, the researchers also adapted the scale of ambivalent sexism from the study Blame the victim: Key contributors to Victim Culpability Attributions and what this means for survivors of sexual violence in the digital era of Cowley (2024), Another adapted survey questionnaire from *The sexual consent scale-revised: Development, reliability, and preliminary validity* of Humphreys et al. (2010), Then, the researchers adapted and modified survey questionnaire from the study of *Attitudes toward rape among mental health professionals* by Resick and

Jackson (1981), were used to measure the dependent variable rape-victim Blaming Attitudes, some of the items were removed as such items were not related to the study as well some were changed to fit the study.

The survey questionnaire has undergone the rigorous process for validity through a professional social worker who specializes in cases regarding rape and women. It was further validated by another professional social worker, and an advocate for Gender and Development. Pilot testing is the initial test before conducting quantitative research to ensure the instrument is valid (Green, 2020). The researchers conducted a pilot test in Davao City near Panabo City. The test results indicated that the questions produced consistent answers and showed that the items were clear, appropriate, and relevant to the local context. A reliability test was conducted with the help of a statistician; all variables passed the minimum threshold. Reliability was supported by Cronbach's alpha values between .74 and .79, and validity was confirmed through expert review and theoretical alignment. All of these were subjected to a Likert scale of 1-5, with one being strongly disagreed and five being strongly agreed (Robinson, 2023), as seen in Tables 1-4.

Table 1
Scale of Measurement for Social Influence

Range of Means	Descriptive Equivalent	Interpretation
4.20-5.00	Very High	Social influence among persons is very evident.
3.40-4.19	High	Social influence among persons is evident.
2.60-3.39	Moderate	Social influence among persons is sometimes evident.
1.80-2.59	Low	Social influence among persons is seldom evident.
1.00-1.79	Very low	Social influence among persons is not evident.

Table 2
Scale of Measurement for Ambivalent Sexism

Range of Means	Descriptive Equivalent	Interpretation
4.20-5.00	Very High	Ambivalent sexism among persons is very evident.
3.40-4.19	High	Ambivalent sexism among persons is evident.
2.60-3.39	Moderate	Ambivalent sexism among persons is sometimes evident.
1.80-2.59	Low	Ambivalent sexism among persons is seldom evident.
1.00-1.79	Very low	Ambivalent sexism among persons is not evident.

Table 3
Scale of Measurement for Sexual Consent Norms

Range of Means	Descriptive Equivalent	Interpretation
4.20-5.00	Very High	Sexual consent norms among persons are very evident.
3.40-4.19	High	Sexual consent norms among persons are evident.
2.60-3.39	Moderate	Sexual consent norms among persons are sometimes evident.
1.80-2.59	Low	Sexual consent norms among persons are seldom evident.
1.00-1.79	Very low	Sexual consent norms among persons are not evident.

Table 4
Scale of Measurement for Rape-Victim Blaming Attitudes

Range of Means	Descriptive Equivalent	Interpretation
4.20-5.00	Very High	Rape-victim blaming attitudes among persons is very evident.
3.40-4.19	High	Rape-victim blaming attitudes among persons is evident.
2.60-3.39	Moderate	Rape-victim blaming attitudes among persons is sometimes evident.
1.80-2.59	Low	Rape-victim blaming attitudes among persons is seldom evident.
1.00-1.79	Very low	Rape-victim blaming attitudes among persons is not evident.

Design and Procedure

This section outlines the research design, data gathering processes, data analysis methods, and the ethical considerations of the study. This study explored how specific social and psychological drivers affect rape-victim blaming attitudes. This study examined the relationships between the independent variables and the dependent variable to see if these predicted rape-victim blaming attitudes.

Data Collection

The researchers used a closed-ended survey questionnaire, which directly offered pre-determined data for options (Baburajan et al., 2022). This questionnaire strictly adhered to a Likert scale model, which collected ordinal data converted into digital data encoded into a secure Excel file.

Data Analysis

The researchers analyzed the data gathered from the survey questionnaires using the measures of mean, standard deviation, correlation, and Regression. To analyze the nominal/ordinal data, descriptive statistics were used to measure the central tendency of the mean for all the variables. The data analysis tool also explained the participants' responses, who generally thought and processed the same way (Mishra et al., 2019).

The researchers used Pearson's r to see if the variables had or did not have significant relationships with each other. Correlational analysis examined the relationship between the multiple independent and dependent variables. The researchers applied a 0.05 significance level for all data analysis stated in the hypothesis (Makowski et al., 2020).

Ethical Considerations

In conducting this research study, the researchers adhered to the ethical considerations of confidentiality, voluntary participation, and informed consent. The data collection prioritized the participants' well-being and rights. Before the data collection, the researchers asked the potential respondents if they would participate in a study survey. Once approval was given, informed consent was provided. They were allowed to withdraw from the study if they wished. No participant was forced to share and answer items in the questionnaire that they deemed sensitive information about themselves. The researcher explained and answered the participants' queries when necessary. Moreso, each participant was assured that the data collected was used exclusively for research purposes; its access was limited to the researchers to uphold confidentiality and its integrity and the safety of each research participant as well as ensuring no personal information would be shared and even the survey questionnaire, in order to maintain anonymity and prevent any forms of harm. Furthermore, the study's findings were based on the data collected, which means that all positive or negative findings would be presented in all forms to ensure transparency and verify the study's validity. Furthermore, in safeguarding the participants' survey responses, the survey was placed inside a secure and locked briefcase.

RESULTS

In Table 5, young adults are partially influenced by others, mainly people around them, but still have the retention of personal judgement. Social pressure is prevalent and existing, but this table shows that it is not strong enough by itself to fully shape or develop victim-blaming attitudes. Social Influence in young adults may be from indirect contributions of the environment, but it is not the main cause of the victim blaming attitudes.

Table 5
Level of Social Influence

Indicators	Mean	SD	Description
Social Comparison	3.16	0.45	Moderate
Social Norms	3.44	0.58	High
Overall Mean	3.30	0.41	Moderate

In Table 6, hostile sexism and benevolent sexism are two sides of coin, ambivalent sexism is the mix of hostile and benevolent sexism. Young adults' have mixed but have restrictive gender beliefs of the biological sex. Ambivalent Sexism beliefs are now normalized and are widely accepted; it is also a major underlying factor which can shape or mold a person's victim-blaming attitudes.

Table 6
Level of Ambivalent Sexism

Indicators	Mean	SD	Description
Hostile Sexism	3.20	0.68	Moderate
Benevolent Sexism	3.87	0.66	High
Overall Mean	3.53	0.55	High

In Table 7, sexual consent norms of young adults recognize the importance of having consent before engaging in intimate actions, though the data shows inconsistency in terms of the identified gaps in understanding what consent is and the application of this in real life situations. The awareness of consent does not ensure nor guarantee protective attitudes and assurance to victims.

Table 7
Level of Sexual Consent Norms

Indicators	Mean	SD	Description
(Lack of) Perceived Behavior Control	3.10	0.74	Moderate
Sexual Consent Norms	3.41	0.71	High
Overall Mean	3.25	0.60	Moderate

In Table 8, rape-victim blaming attitudes are widely known, but it can be seen as being common, normalized and it is social accepted among young adults. Awareness of this attitude is good, but the attitude itself to be socially accepted is concerning which can indicate widespread negativity towards the victims to a point where they are judged and blamed for the incident itself.

Table 8
Level of Rape-Victim Blaming Attitudes

Indicators	Mean	SD	Description
Rape-Victim Blaming Attitudes	3.77	.54	High

Relationship between Social Influence and Rape-Victim Blaming Attitudes

In Table 9, the relationship between social influence and rape-victim blaming attitudes are presented. The relationship between the two variables is significant but has a weak

relationship with the victim blaming attitude of young adults. Social influence contributes to this but cannot be a basis to strongly determine the outcome.

Table 9
Relationship between Social Influence and Rape-Victim Blaming Attitudes

Variables	r value	p-value	Decision
Social Influence	0.141	0.025	Reject the Null Hypothesis
Rape-Victim Blaming Attitudes			

Relationship between Ambivalent Sexism and Rape-Victim Blaming Attitudes

In Table 10, ambivalent sexism and rape-victim blaming attitudes imply that those higher levels of sexism, whether hostile, benevolent, or ambivalent sexism, can lead to higher levels of victim-blaming attitudes. Young adults' ambivalent sexism is a key driver of victim blaming attitudes, and reducing the ambivalent sexism could significantly prevent or reduce harmful victim-blaming attitudes.

Table 10
Relationship between Ambivalent Sexism and Rape-Victim Blaming Attitudes

Variables	r value	p-value	Decision
Ambivalent Sexism	0.351	0.000	Reject the Null Hypothesis
Rape-Victim Blaming Attitudes			

Relationship between Sexual Consent Norms and Rape-Victim Blaming Attitudes

In Table 11, sexual consent norms of young adults imply that higher consent norms are proportionately associated with higher chances of victim blaming attitudes. Young adults can misinterpret the consent given and will blame victims and hold them responsible if the consent was unclear and vague.

Table 11
Relationship between Sexual Consent Norms and Rape-Victim Blaming Attitudes

Variables	r value	p-value	Decision
Sexual Consent Norms	0.406	0.000	Reject the Null Hypothesis
Rape-Victim Blaming Attitudes			

Influence of Social Influence, Ambivalent Sexism, and Sexual Consent Norms on Rape-Victim Blaming Attitudes

In Table 12, ambivalent sexism and sexual consent norms are the significant predictors and social influence is not. Rape-victim blaming attitudes are mainly influence by the sexist beliefs of both biological genders and the misunderstanding of consent in engaging intimate acts with the opposite biological gender. Social influence of young adults does not weigh or play into these harmful victim blaming attitudes. There is a 19.8% of victim blaming that can be concrete explained by ambivalent sexism and sexual consent norms.

Table 12
Influence of Social Influence Ambivalent Sexism, and Sexual Consent Norms on Rape-Victim Blaming Attitudes

Indicators	Rape-Victim Blaming Attitudes			
	B	β	t	Sig.
Social Influence	-.002	-.001	-.20	.984
Ambivalent Sexism	.204	.206	3.138	.002
Sexual Consent Norms	.280	.310	4.732	.000
	R	R ²	F	P
	.445	.198	20.225	.000

DISCUSSION

Level of Social Influence

The study of Cuno et al. (2024) shows that social comparison serves as a powerful mechanism for promoting behavior change, but depends on the circumstance of the situation, suggesting that social comparison may actually reinforce the ideology of victim blaming that is now common and widespread. Moreover, women's sexuality and constrained criminal justice protection are discussed, demonstrating how societal comparisons affect legal and social treatment of victims. This is sustained by engraved to mind beliefs and institutional structures of the modern world. Double standards of each sexuality shape perception and accountability. Women are expected to conform to restrictive norms of the patriarchal structure of society, in the event of opposing said norms can be seen as a way to shift the blame onto them, or can be understood as a moral regulation of the female side of sexuality. Thus, this indicates that deeply ingrained beliefs and legal structures perpetuate victim-blaming (Hamid, 2021).

Social influence and perpetrators affect victim-blaming attitudes; this shows societal expectations and beliefs contribute to victim-blaming attitudes that victims may avoid disclosure if they anticipate adverse social reactions, this is the socially regulated response, which can be also viewed as the anticipation of others on judging the victim and how they see themselves judging the victims (Catton & Dorahy, 2020). This can collectively carry more expectation and weight, rather than individual comparison which associate with the implicit rules of acceptability.

This data shows that social norms have a more substantial effect than social comparison. However, both still influence how people think and act. Social norms create common expectations that guide individuals to conform to avoid judgment and rejection, which shapes how people make choices. Harmful attitudes can be perceived as socially acceptable or expected which will be a collective responsibility to conform. Recognizing how social norms shape perceptions can help address biases and promote a more supportive environment for victims (McDonald & Crandall, 2015).

Level of Ambivalent Sexism

When people blame victims more, it strengthens the connection between sexism and belief in rape myths. This indicates that victim-blaming makes it easier for people to accept harmful ideas about rape, including the belief that victims are responsible for what happened to them. Their take strengthens the link between sexism and rape myth acceptance of victim blaming, this can act as a justification mechanism, this can lead to normalization that actively deepens and legitimizes sexist beliefs. As a result, people are more likely to justify rape or seen as acceptable in certain situations (Kazmi & Rauf, 2024). Brunelli et al.'s (2025) study found that educational attainment can influence how hostile sexism is expressed within different populations. Being educated and having a professional status does not automatically exclude one from having biases or biased attitudes, the institutional cultures of skepticism can reinforce, rather can challenge these sexist beliefs.

Moreover, backed up by Dhont et al. (2020), who claim that subtle dehumanization of women is associated with greater levels of hostile sexism, showing how societal beliefs about dominance over nature and animals contribute to aggressive sexist attitudes. The linkage of hostile sexism to subtle dehumanization of women suggests that victim blaming is rooted in a worldview that is seen as hierarchical. Benevolent beliefs about nature and social dominance orientation also augmented benevolent sexism, promoting traditional gender roles and protective attitudes that portray women as needing care rather than equality, which only sustain inequality. This demands the need for challenging underlying power structures.

Level of Sexual Consent Norms

Del Mar Sánchez et al. (2023) did more than show a link between sexual objectification and women's lower efficacy in asking for consent; their findings suggest that objectification actively undermines women's perceived behavioral control in sexual situations. When this is combined with rape-supportive attitudes, objectification is not just an individual experience but part of a broader culture that normalizes male entitlement and weakens women's ability to assert boundaries. At the same time, women's continued emphasis on the importance of explicit consent reveals a tension between what they value and what they feel able to practice.

Furthermore, Bogen et al. (2021) and Scoats et al. (2020) highlight inconsistencies between how people define and enact consent. While respondents claim to value consent, Bogen et al. show that some boys treat sexual activity as permissible until a clear verbal "no," which directly conflicts with affirmative consent standards. This narrow understanding shifts responsibility onto potential victims and overlooks nonverbal cues or power imbalances.

Wilson et al. (2022) draw attention to the role of social norms in shaping consent and blame. It was argued that consent is interpreted through gendered scripts rather than neutral rules. At the same time, it shows that adherence to traditional consent norms can legitimize victim-blaming and justify non-consensual encounters.

Level of Rape-Victim Blaming Attitudes

Bohner and Mulder (2020) show that rape victim-blaming attitudes are still deeply rooted in society, reflecting the persistence of rape myths rather than isolated prejudice. These beliefs, false ideas about how “real” victims and rapists behave, legitimize sexual violence by shifting scrutiny onto victims instead of perpetrators. Olvara et al. (2021) highlight the practical impact of this: many survivors remain silent because they anticipate being blamed or judged, which limits disclosure and access to support.

Russell and Hand (2017) argue that such attitudes work by implying that victims could have avoided the assault through different behavior, clothing, or sobriety, thereby individualizing responsibility and obscuring the perpetrator's agency. Grove (2019) links this to lower reporting rates, as fear of blame discourages survivors from going to authorities. Minkler (2020) adds that older adults may frame younger generations' disclosures as “overreactions,” revealing how previous norms of silence and endurance can invalidate contemporary efforts to challenge sexual violence and sustain a culture where victim-blaming remains normalized.

Relationship between Social Influence and Rape-Victim Blaming Attitudes

This is supported by Pinciotti and Orcutt (2021), as their study found that there is a significant relationship between Social Influence and Rape-Victim Blaming Attitudes in their study they explain the relationship of these variables are congruent and explains that social influence on people rely on the phenomena that it would not happen to them because the feeling of confidence and their self-control could let them make informed decisions by themselves. This explains external pressure, internalizing a sense of personal invulnerability and control, and that some instances or situations can serve as psychological distancing mechanisms. Failing to exercise control can be at the cost of implicitly blaming the victim.

The study of Gravelin et al. (2019) further strengthens the relationship between the two variables, the individual factors that influence how people see and interpret the situation, along with the situational factors that encompass all from the victim, offender, and nature. An emerging interaction between individual and situational factors suggest that social influence operates through interpretive frameworks where people draw their conclusions from learned concepts to make sense of ambiguous situations. The study of Schwark and Bohner (2019) further supports this claim, stating that Social Influence is evident in that individuals who share the same beliefs have the same values, on which their decisions are based. Like minded groups can highlight group level normalization, where victim blaming is much more accepted than denied, it can be a prejudice and more likely to conform to the group rather than straying away and assigning responsibility to victims.

Relationship between Ambivalent Sexism and Rape-Victim Blaming Attitudes

This is supported by West (2020), as her study found that there is a significant relationship between Ambivalent Sexism and Rape-Victim Blaming Attitudes. Her study further explains that ambivalent sexism plays a massive part in how victims are seen as innocent and vulnerable and can also be seen as a tactic of deceit and manipulation, whichever applies to the situation of the incident. Ambivalent Sexism creates a contradiction and dual framework for judging victims, victim blaming attitudes are more guided by conditional standards. Furthermore, the study of Nisar et al. (2021) strengthens this relationship with evidence regarding seeing victims as targets of sexism and sexist ideology on both sides of the spectrum. Sexism in victim blaming is harsh, as both sexes are against each other and will clash often in terms of ideology and what benefits their sex rather than supporting each other. Sexism functions across both hostile and benevolent dimensions that can insinuate competing gender ideologies that internalizes individuals by their sex, this dynamic reveal that through shared cultural narratives are sustaining victim blaming.

The study of Halicki et al. (2022) explains that benevolent sexism is more targeted at victims of sexual assault rather than those who are part of the hostile sexist. The study claims that sexism is always taken into consideration when deciding the fate of a victim, which may rely on their sex and gender. Benevolent sexism is subtle and accepted, making it more difficult to challenge, this creates a paradox where the same belief system appears to support women but it will support in justifying blaming women also, as a result of the viewpoints and decisions about victims, this victim blaming will be filtered through gendered assumptions of morality, behavior and worth on both sides of the sexism spectrum.

Relationship between Sexual Consent Norms and Rape-Victim Blaming Attitudes

The study of Dowds (2020) further strengthens this relationship, as consent-based intimacy is often apparent in couples and in casual relationships involving intimacy, thus making the need to blame the victim for what happened is utterly subjective and reveals normative beliefs about relationships influence judgements of credibility and blame. This exposes the fundamental instability in how consent is understood in different and across contexts.

This is further supported by Hills et al. (2021), in their study consent is one of the indicators in which the crime is classified as rape or not, the perception of individuals with views on consent vary from relationship such as casual hook ups to steady dating between two individuals. This raises a critical issue: if consent is socially and situationally constructed, then relying on it as the sole criterion for distinguishing rape from non-rape can obscure more subtle forms of coercion variability in perceptions across casual and committed relationships. It is structured by cultural scripts and gender norms that is a part of a broader moral framework that regulates sexuality.

Additionally, the sexual consent to engage in sexual activity is needed for every action made by two concerned parties in order to avoid an instance of rape and resulting to blaming the one gave consent and being labeled as weak and unable to defend themselves. Wilson et al. (2022) explained the relationship as a result of mental health implications, in which they have given consent, in which the victims are victims of their circumstances. There is a nuance that

views to recognize that consent to one act does not apply to subsequent acts, this is not one yes to all but a yes to each situation in which consent is needed to be asked every time, there are violations on autonomy of which consent is perceived to be subsequent consent in engaging act with a partner which would result or stem from ambiguous or pressured situations.

Influence of Social Influence, Ambivalent Sexism, and Sexual Consent Norms on Rape-Victim Blaming Attitudes

From the perspective of Poerwandari et al. (2021), ambivalent sexism significantly affects how victims are seen as objects and how people see these victims as ultimately responsible for their well-being. Benevolent sexism is more seen as protective, but in reality, it is more insidious because it legitimizes the control over women. Those who are benevolent can still blame the victims, as victim blaming does not dwell on hostile actions but can also manifest from positive and normative situations. Additionally, in the study of Rollero and Tartaglia (2019), ambivalent sexism is the cause of good and bad sexist attitudes in which persons take and adapt to their personalities. The hostility towards the opposing gender made the chances of victim blaming more severe and evident. This moralizes the victim behavior and normalizes enforcement and social control in each situation. One situation is when they are seen as inviting danger by wearing revealing clothes or having flirty behavior, even with the present it does not automatically mean that that person would immediately go into wanting intimate relationships and actions.

Moreover, as outlined by Kessel (2020), sexual consent norms are a cruel optimism that is used to facilitate rather than lessen sexual violence and used to deny the victim of injury, stating that the victim and the offender had an agreement. This challenges the liberal assumption that individual autonomy operates freely in all sexual encounters. If consent is extracted within unequal conditions, then its validity becomes questionable. In addition, in the study of Patwardhan (2023), explains that going into an act of ultimate intimacy or in simply "sex", one must have or both must give their consent, if that is not present that means it's essentially rape. Very few cases in between lovers, couples, and casual hookups would result into a rape situation, and in the end the victim is always blamed for letting it happen. This binary may fail to capture gray areas of compliance, pressure, or manipulation, where victims may technically "consent" but lack genuine autonomy.

However, the current social reality of influence and how it affects persons will imply denying that Social Influence, based on the results given, is not a predictor of Rape-Victim Blaming Attitudes, since in reality, people always follow the crowd instead of being left out and seen as a deviant in modern society. According to Pinciotti and Orcutt (2021) Social Influence explains conformity as one of the reasons why people tend to follow in order not to get left out. Individuals may adopt victim blaming attitudes because such attitudes are perceived as socially acceptable or dominant within their peer group. Thus, Social Influence is also considered a predictor along with Ambivalent Sexism and Sexual Consent Norms. This is further supported by the study of Mehta (2025), stating that choices and decisions, and even outlooks and perceptions of individuals, can be molded by social influence and the likes.

These results are aligned with Weiner's (2019) Attribution Theory which states that the focus of causality in which both internal and external aspects of the individual are seen as

the cause of the event, the controllability of the situation ultimately relies on the individuals perceived control over their own choices without garnering the results and consequences, all of the social and psychological factors in the study and how these variables relates to the impact on motivation and behavior of others in relation to the individuals own as a baseline on which the person will take into consideration and build upon. Attribution processes operationalize these biases by translating them into judgments of responsibility. Because of this, what may appear as “control” or “choice” is often limited or influenced by these pressures. The theory explains stability and controllability in any situation that can have an outcome or effect. It is explained through 3 factors: internal/external (dimensions), stability, and controllability.

Conclusion

Based on the findings of the study, rape-victim blaming attitudes among young adults in Panabo City were found to be high. This suggests that victim-blaming remains a concerning attitude among the respondents and may reflect the continued presence of harmful beliefs surrounding rape, gender roles, and responsibility. Although the respondents showed moderate levels of social influence and sexual consent norms, and a high level of ambivalent sexism, the results indicate that not all of these factors equally explain rape-victim blaming attitudes.

The study found that social influence has a significant but weak relationship with rape-victim blaming attitudes. However, when tested together with the other variables, social influence did not significantly predict rape-victim blaming attitudes. This means that while young adults may be affected by social norms, peer beliefs, and the views of people around them, these influences alone do not strongly explain why they develop victim-blaming attitudes. This finding suggests that victim-blaming may be more deeply connected to personal beliefs about gender and consent rather than social pressure alone.

Ambivalent sexism was found to be a significant predictor of rape-victim blaming attitudes. This implies that both hostile and benevolent sexist beliefs may contribute to how young adults judge victims of rape. When people hold traditional or biased views about men and women, they may be more likely to question the victim’s behavior, character, or decisions instead of placing full responsibility on the perpetrator. This shows that sexism continues to shape harmful attitudes toward victims, even when it appears in subtle or socially accepted forms.

Sexual consent norms were also found to be a significant predictor of rape-victim blaming attitudes. This result suggests that misunderstandings or inconsistent beliefs about consent may influence how young adults interpret rape situations. Although awareness of consent may be present, it does not always lead to supportive attitudes toward victims. Some individuals may still blame victims when consent is perceived as unclear, withdrawn, or misunderstood. This highlights the need for stronger education on the meaning of consent, especially the idea that consent must be clear, voluntary, specific, and continuous.

Overall, the independent variables accounted for 19.8% of the variation in rape-victim blaming attitudes. This means that ambivalent sexism and sexual consent norms help explain part of why young adults may develop victim-blaming attitudes, but other factors may also be involved. The findings support the importance of addressing gender stereotypes, rape myths,

and misconceptions about consent in order to reduce victim-blaming. These efforts are aligned with SDG 3, which promotes health and well-being, and SDG 16, which promotes justice and strong institutions. By challenging harmful beliefs and strengthening awareness of victims' rights, communities can help create a safer and more supportive environment where survivors are not silenced, judged, or blamed for the violence committed against them.

Recommendations

Focusing on forensic analysis, identifying biases in victim-blaming, and applying research-based crime prevention strategies. Development of gender-responsive policies and public education campaigns. These initiatives must underline that victim blaming upholds silence and restricts survivors from seeking help. Resolving this issue at the policy level, such efforts can shape national discourse and promote a more supportive environment for survivors. Incorporate age-appropriate modules into health and social science classes for elementary and high school students to encourage early awareness and critical thinking on gender biases. For future researchers, it is recommended to explore other factors that may affect rape victim-blaming attitudes, such as culture, media influence, personal experiences, and social beliefs. Future studies may also include a wider range of participants and examine possible interventions that can help reduce victim-blaming and create a more supportive environment for survivors.

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REFERENCES

- Agadullina, E., Lovakov, A., Balezina, M., & Gulevich, O. A. (2022). Ambivalent sexism and violence toward women: A meta-analysis. *European Journal of Social Psychology*, 52, 819–859. <https://doi.org/10.1002/ejsp.2855>

- Ait Ali, S., & El Majdoubi, I. (2024). Sex crimes and victim blaming: How to stop it. *Journal of Gender, Culture and Society*, 4(1), 60–68. <https://doi.org/10.32996/jgcs.2024.4.1.8>
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314–324. <https://doi.org/10.1002/hbe2.195>
- Anderson, G., & Overby, R. (2020). The impact of rape myths and current events on the well-being of sexual violence survivors. *Violence Against Women*, 27. <https://doi.org/10.1177/1077801220913634>
- Baburajan, V., Silva, J. A., & Pereira, F. C. (2022). Open vs. closed-ended questions in attitudinal surveys—Comparing, combining, and interpreting using natural language processing. *Transportation Research Part C: Emerging Technologies*, 137, 103589. <https://doi.org/10.1016/j.trc.2022.103589>
- Bareket, O., & Fiske, S. T. (2023). A systematic review of the ambivalent sexism literature: Hostile sexism protects men's power; benevolent sexism guards traditional gender roles. *Psychological Bulletin*, 149(11–12), 637–698. <https://doi.org/10.1037/bul0000400>
- Barreto, M., & Doyle, D. M. (2023). Benevolent and hostile sexism in a shifting global context. *Nature Reviews Psychology*, 2(2), 98–111. <https://doi.org/10.1038/s44159-022-00162-5>
- Bhandari, P. (2022). A note on survey research methods levels of measurement: Foundational basis for quantitative analysis of survey data. *Dhulagiri Journal of Sociology and Anthropology*, 16(1), 122–126. <https://doi.org/10.3126/dsaj.v16i01.50932>
- Bogen, K. W., Kuo, C., Orchowski, L. M., & Righi, M. K. (2021). A qualitative analysis of beliefs about sexual consent among high school students. *Journal of Interpersonal Violence*, 36(15–16), NP8290–NP8316. <https://doi.org/10.1177/0886260519842855>
- Bohner, G., & Mulder, E. (2020). Negative third-party reactions to male and female victims of rape: The influence of harm and normativity concerns. *Journal of Interpersonal Violence*, 37(9–10), NP6055–NP6083. <https://doi.org/10.1177/0886260520966675>
- Brunelli, A., Cleva, M., Montalti, M., Nanni, S., Piraccini, A. M., & Sgarra, D. (2025). Hostile and benevolent sexism: Prioritizing prevention strategies through a cross-sectional study in a northern Italian city. *Societies*, 15(3), 61. <https://doi.org/10.3390/soc15030061>
- Catton, A. K. H., & Dorahy, M. J. (2020). Blame attributions against heterosexual male victims of sexual coercion: Effects of gender, social influence, and perceptions of distress. *Journal of Interpersonal Violence*, 37(9–10), NP7014–NP7033. <https://doi.org/10.1177/0886260520966677>

- Cowley, S. N. (2024). *Blame the victim: Key contributors to victim culpability attributions and what this means for survivors of sexual violence in the digital era* [Master's thesis, University of Otago]. University of Otago Research Repository. <https://hdl.handle.net/10523/16469>
- Cuno, R., Hoppen, T. H., Lemmel, F., Morina, N., Nelson, J., & Schlechter, P. (2024). Social comparison as a behaviour change technique: A systematic review and meta-analysis of randomised controlled trials across scientific disciplines. *Research Square*. <https://doi.org/10.21203/rs.3.rs-3978095/v1>
- Dawtry, R. J., Cozzolino, P. J., & Callan, M. J. (2019). I blame therefore it was: Rape myth acceptance, victim blaming, and memory reconstruction. *Personality and Social Psychology Bulletin*, 45(8), 1269–1282. <https://doi.org/10.1177/0146167218816135>
- Del Mar Sánchez-Fuentes, M., Granados, R., Gómez-Berrocal, C., Moyano, N., Parra, S. M., & Quílez-Robres, A. (2023). Shall we establish sexual consent or would you feel weird? Sexual objectification and rape-supportive attitudes as predictors of how sex is negotiated in men and women. *Sexuality & Culture*, 27(5), 1679–1696. <https://doi.org/10.1007/s12119-023-10075-5>
- Devi, B., Lepcha, N., & Basnet, S. (2023). Application of correlational research design in nursing and medical research. *Journal of Xi'an Shiyou University (Natural Sciences Edition)*, 65, 60–69. <https://doi.org/10.17605/OSF.IO/YRZ68>
- Dhont, K., & Salmen, A. (2020). Hostile and benevolent sexism: The differential roles of human supremacy beliefs, women's connection to nature, and the dehumanization of women. *Group Processes & Intergroup Relations*, 24(7), 1053–1076. <https://doi.org/10.1177/1368430220920713>
- Dinçer, F., Kenan, S., & Çınar, S. E. (2021). Ambivalent sexism, interpersonal relationships and attributional complexity of school counselors in Istanbul. *Anadolu Journal of Educational Sciences International*, 11(1), 323–339. <https://doi.org/10.18039/ajesi.807641>
- Dowds, E. (2020). Towards a contextual definition of rape: Consent, coercion and constructive force. *The Modern Law Review*, 83(1), 35–63. <https://doi.org/10.1111/1468-2230.12491>
- Elster, J. (2020). Social norms and economic theory. In *Social norms and economic theory*. https://doi.org/10.1007/978-1-349-62965-7_20
- Frey, V., & van de Rijt, A. (2021). Social influence undermines the wisdom of the crowd in sequential decision making. *Management Science*, 67(7), 4273–4286. <https://doi.org/10.1287/mnsc.2020.3713>

- Golzar, J., Noor, S., & Tajik, O. (2022). Convenience sampling. *International Journal of Education & Language Studies*, 1(2), 72–77. <https://doi.org/10.22034/ijels.2022.162981>
- Goodcase, E. T., Spencer, C. M., & Toews, M. L. (2021). Who understands consent? A latent profile analysis of college students' attitudes toward consent. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260519853407>
- Gravelin, C. R., Biernat, M., & Bucher, C. E. (2019). Blaming the victim of acquaintance rape: Individual, situational, and sociocultural factors. *Frontiers in Psychology*, 9, 2422. <https://doi.org/10.3389/fpsyg.2018.02422>
- Green, R. (2020). Pilot testing: Why and how we trial. In *The Routledge handbook of second language acquisition and language testing* (pp. 115–124). Routledge. <https://doi.org/10.4324/9780429260539-9>
- Grove, L. C. (2019). *Managing just world beliefs in an unjust world for victims of sexual violence* [Doctoral dissertation, University of Montana]. Graduate Student Theses, Dissertations, & Professional Papers. <https://scholarworks.umt.edu/etd/11446>
- Gutierrez, B. C., & Leaper, C. (2024). Linking ambivalent sexism to violence-against-women attitudes and behaviors: A three-level meta-analytic review. *Sexuality & Culture*, 28, 851–882. <https://doi.org/10.1007/s12119-023-10122-7>
- Halicki, K. T., Hauser, R., & Wänke, M. (2023). When she is standing left, she might be blamed: Responsibility attribution for sexualized violence moderated by rape myth acceptance and benevolent sexism. *Violence Against Women*, 29(2), 300–320. <https://doi.org/10.1177/10778012221095016>
- Hamid, H. B. B. A. (2021). Exploring victim blaming attitudes in cases of rape and sexual violence: The relationship with patriarchy. *Malaysian Journal of Social Sciences and Humanities*, 6(11), 273–284. <https://doi.org/10.47405/mjssh.v6i11.1169>
- Hills, P. J., Pleva, M., Seib, E., & Cole, T. (2021). Understanding how university students use perceptions of consent, wantedness, and pleasure in labeling rape. *Archives of Sexual Behavior*, 50, 247–262. <https://doi.org/10.1007/s10508-020-01789-2>
- Hirsch, J. S., Khan, S. R., Wamboldt, A., & Mellins, C. A. (2019). Social dimensions of sexual consent among cisgender heterosexual college students: Insights from ethnographic research. *Journal of Adolescent Health*, 64(1), 26–35. <https://doi.org/10.1016/j.jadohealth.2018.06.011>
- Holmström, C., Plantin, L., & Elmerstig, E. (2020). Complexities of sexual consent: Young people's reasoning in a Swedish context. *Psychology & Sexuality*, 11(4), 342–357. <https://doi.org/10.1080/19419899.2019.1690567>

- Humphreys, T. P., & Brousseau, M. M. (2010). The Sexual Consent Scale—Revised: Development, reliability, and preliminary validity. *The Journal of Sex Research*, 47(5), 420–428. <https://doi.org/10.1080/00224490903151358>
- Jaffe, A. E., Steel, A. L., DiLillo, D., Messman-Moore, T. L., & Gratz, K. L. (2021). Characterizing sexual violence in intimate relationships: An examination of blame attributions and rape acknowledgment. *Journal of Interpersonal Violence*, 36(1–2), 469–490. <https://doi.org/10.1177/0886260517734865>
- Javidi, H., Widman, L., Evans-Paulson, R., & Lipsey, N. (2022). Internal consent, affirmative external consent, and sexual satisfaction among young adults. *The Journal of Sex Research*, 1–11. <https://doi.org/10.1080/00224499.2021.2013474>
- Kazmi, S. M. A., & Rauf, K. (2024). “A no means no”: Rape myth acceptance, victim blaming and hostile sexism as predictors of acceptance towards rape on a date among Pakistani adults. *The Journal of Forensic Psychiatry & Psychology*, 35(2), 171–190. <https://doi.org/10.1080/14789949.2023.2267964>
- Kessel, A. (2020). The cruel optimism of sexual consent. *Contemporary Political Theory*, 19, 359–380. <https://doi.org/10.1057/s41296-019-00356-5>
- Kotanen, R., & Kronstedt, J. (2019). Attribution of responsibility for sexual crimes beyond individual actors: Construction of responsibility of offenders, victims and society in laypersons' explanations. *International Review of Victimology*, 25(3), 358–374. <https://doi.org/10.1177/0269758018817164>
- Lundrigan, S., Weir, R., Newton, A., Agudelo, K., & Dhami, M. (2024). Patterns and predictors of stranger rape locations. *European Journal on Criminal Policy and Research*, 30(1), 181–209. <https://doi.org/10.1007/s10610-023-09565-5>
- Makowski, D., Ben-Shachar, M. S., Patil, I., & Lüdtke, D. (2020). Methods and algorithms for correlation analysis in R. *Journal of Open Source Software*, 5(51), 2306. <https://doi.org/10.21105/joss.02306>
- Malle, B. F. (2022). Attribution theories. In D. Chadee (Ed.), *Theories in social psychology* (2nd ed.).
- McDonald, R. I., & Crandall, C. S. (2015). Social norms and social influence. *Current Opinion in Behavioral Sciences*, 3, 147–151. <https://doi.org/10.1016/j.cobeha.2015.04.006>
- Memon, M. A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2), i–xx. [https://doi.org/10.47263/JASEM.4\(2\)01](https://doi.org/10.47263/JASEM.4(2)01)

- Metz, J., Myers, K., & Wallace, P. (2020). "Rape is a man's issue": Gender and power in the era of affirmative sexual consent. *Journal of Gender Studies*, 30(1), 52–65. <https://doi.org/10.1080/09589236.2020.1815665>
- Minkler, M. (2020). "Generational equity" and the new victim blaming. In *Critical perspectives on aging* (pp. 67–80). Routledge. <https://doi.org/10.4324/9780429274352-6>
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67–72. https://doi.org/10.4103/aca.ACA_157_18
- Murray, C., Calderón, C., & Bahamondes, J. (2023). Modern rape myths: Justifying victim and perpetrator blame in sexual violence. *International Journal of Environmental Research and Public Health*, 20(3), Article 1663. <https://doi.org/10.3390/ijerph20031663>
- Nisar, S., Zafar, K., Batool, I., Ishfaq, M., Fatima, H., Fatima, K., & Arshad, R. (2021). Ambivalent sexism towards women and acceptance of rape myths among university students. *Saudi Journal of Humanities and Social Sciences*, 6(2), 90–95.
- Olszewski, N., & Lavis, T. (2025). Victim blaming on social media: How user comments impact perceptions. *Psychiatry, Psychology and Law*, 1–14. <https://doi.org/10.1080/13218719.2025.2570383>
- Olvara, A. G., Abolidor, A. L. M., Alvarez, D. R. J., Dacanay, M. N., & Escalante, R. (2021). *Victim blaming culture in the Philippines: A hindering factor to the unresolved battles of sexual abused individuals* [Research paper]. Our Lady of Perpetual Succor College.
- Pascual, A. (2020, June 26). Stop "victim-blaming." *BusinessMirror*. <https://businessmirror.com.ph/2020/06/26/stop-victim-blaming/>
- Patwardhan, S. (2023). *Consent, blame, and sex* [Doctoral dissertation].
- Pinciotti, C. M., & Orcutt, H. K. (2021). Understanding gender differences in rape victim blaming: The power of social influence and just world beliefs. *Journal of Interpersonal Violence*, 36(1–2), 255–275. <https://doi.org/10.1177/0886260517725736>
- Poerwandari, E. K., Utami, C. P., & Primasari, I. (2021). Ambivalent sexism and sexual objectification of women as predictors of rape myth acceptance among male college students in Greater Jakarta. *Current Psychology*, 40, 5909–5918. <https://doi.org/10.1007/s12144-020-01049-1>
- Resick, P. A., & Jackson, T. L. (1981). Attitudes toward rape among mental health professionals. *American Journal of Community Psychology*, 9(4), 481–490. <https://doi.org/10.1007/BF00896385>

- Robinson, J. (2023). Likert scale. In F. Maggino (Ed.), *Encyclopedia of quality of life and well-being research*. Springer. https://doi.org/10.1007/978-3-031-17299-1_1654
- Rollero, C., & Tartaglia, S. (2019). The effect of sexism and rape myths on victim blame. *Sexuality & Culture*, 23(1), 209–219. <https://doi.org/10.1007/s12119-018-9549-8>
- Ruback, R. B., & Greenberg, M. S. (1988). *Social influence and crime victim decision making*. Office of Justice Programs. <https://www.ojp.gov/>
- Russell, K. J., & Hand, C. J. (2017). Rape myth acceptance, victim blame attribution and just world beliefs: A rapid evidence assessment. *Aggression and Violent Behavior*, 37, 153–160. <https://doi.org/10.1016/j.avb.2017.10.008>
- Schroeder, M. (2016, April 19). The psychological impact of victim blaming and how to stop it. *U.S. News & World Report*. <https://www.usnews.com/>
- Schwark, S., & Bohner, G. (2019). Sexual violence—“victim” or “survivor”: News images affect explicit and implicit judgments of blame. *Violence Against Women*, 25(12), 1491–1509. <https://doi.org/10.1177/1077801218820205>
- Scoats, R., Stirling, J., & Wignall, L. (2020). UK university students' perceptions and negotiations of sexual consent. *Psychology & Sexuality*, 13(3), 474–486. <https://doi.org/10.1080/19419899.2020.1868992>
- Shafer, A., Ortiz, R. R., Thompson, B., & Huemmer, J. (2018). The role of hypermasculinity, token resistance, rape myth, and assertive sexual consent communication among college men. *Journal of Adolescent Health*, 62(3), S44–S50. <https://doi.org/10.1016/j.jadohealth.2017.10.015>
- Stibe, A., & Cugelman, B. (2019). Social influence scale for technology design and transformation. In *Lecture Notes in Computer Science* (pp. 561–577). Springer. https://doi.org/10.1007/978-3-030-29387-1_3
- Suls, J., & Wills, T. A. (Eds.). (2024). *Social comparison: Contemporary theory and research*. Taylor & Francis.
- Tankard, M. E., & Paluck, E. L. (2016). Norm perception as a vehicle for social change. *Social Issues and Policy Review*, 10(1), 181–211. <https://doi.org/10.1111/sipr.12022>
- Van der Bruggen, M., & Grubb, A. (2014). A review of the literature relating to rape victim blaming: An analysis of the impact of observer and victim characteristics on attribution of blame in rape cases. *Aggression and Violent Behavior*, 19(5), 523–531. <https://doi.org/10.1016/j.avb.2014.07.008>

- Van Gent, M. J., Onwezen, M. C., Renes, R. J., & Handgraaf, M. J. J. (2024). Betwixt and between: The role of ambivalence in environmental behaviours: A systematic review. *Journal of Environmental Psychology*. <https://doi.org/10.1016/j.jenvp.2024.102311>
- Weiner, B. (2019). Whither attribution theory? *Journal of Organizational Behavior*, 40(5). <https://doi.org/10.1002/job.2398>
- West, R. (2020). *Ambivalent sexism: Why do victims get blamed?* [Undergraduate honors thesis, Otterbein University]. Otterbein University Digital Commons. https://digitalcommons.otterbein.edu/stu_honor/112
- Willis, M., & Jozkowski, K. N. (2019). Sexual precedent's effect on sexual consent communication. *Archives of Sexual Behavior*, 48(6), 1723–1734. <https://doi.org/10.1007/s10508-018-1348-7>
- Wilson, L. C., Farley, A., & Horton, S. F. (2022). The impact of victim blaming and locus of control on mental health outcomes among female sexual assault survivors. *Violence Against Women*, 28(15–16), 3785–3800. <https://doi.org/10.1177/10778012221088304>

