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EXAMINING THE INFLUENCE OF ATTITUDES, SOCIAL NORMS, AND PERCEIVED BEHAVIORAL CONTROL ON WASTE MANAGEMENT IMPLEMENTATION

Lovamor R. Pondias
Master of Arts in Education major in Teaching Social Studies

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ABSTRACT

Despite existing laws, poor waste management persists as a significant problem. This study examined the influence of attitudes toward waste management, social norms, and perceived behavioral control on the adoption of waste management practices. Using a descriptive-correlational design involving 300 respondents selected through simple random sampling, the results showed that the predictor variables were significant factors, accounting for 19.8% of the influence on the criterion variable. Further research may be conducted to investigate the remaining 80.2% variance in the criterion variable. To contribute to the realization of Sustainable Development Goals (SDGs) 11 and 12, a public awareness campaign on effective waste management is also strongly recommended.

KEYWORDS: *Influence of Attitudes, Social Norms, Perceived Behavioral Control, Waste Management Implementation*

1. INTRODUCTION

Poor waste management stands as a critical and escalating global challenge. The sheer volume of waste generated now exceeds the capacity of existing waste management systems (Nguyen, 2024), creating a crisis characterized by inefficient collection, inadequate disposal facilities, and insufficient policy enforcement (Küfeoğlu, 2024). The consequences are stark: overflowing landfills, slight landscape, plastic waste chokes oceans, and the delicate balance of biodiversity and ecosystems continues to degrade (Gregson, 2023).

The failure to effectively address poor waste management manifests alarmingly in many countries. In Colombia, the toxic leachate seeping from improperly managed landfills poisons vital water bodies (Escamilla-García, 2024). Turkey grapples with the overwhelming influx of imported plastic waste, straining its local recycling systems (Karasik, 2022). Meanwhile, in Ghana, the uncontrolled dumping of textile waste clogs waterways and contaminates urban environments, posing public health hazards (Ainooson, 2023).

Even in the Philippines, despite the Ecological Solid Waste Management Act 2000 (Jou et al., 2024), poor waste management persists. Numerous local government units (LGUs) struggle with limited resources, insufficient technical expertise, and inadequate infrastructure, which hinder their ability to effectively implement proper waste disposal and recycling programs (Domingo & Manejar, 2021). The increasing number of saturated disposal sites and the pressing need for new ones highlight ongoing challenges in managing the country's increasing waste, directly contradicting the principles of sustainable practices (Mor & Ravindra, 2023).

The detrimental impacts of poor waste management extend to the fundamental elements of the environment: air, water, and soil become receptacles for pollution. Accumulated waste serves as a fertile breeding ground for disease-carrying pests, thereby increasing the risk of illnesses such as dengue, cholera, and respiratory infections (Ichipi, 2023). This dire situation underscores the urgent need for research to address the widespread impacts of inadequate waste management. However, there is a dearth of studies, particularly in the Philippines, which is why this research was pursued.

1.1 Significance of the Study

This study aims to promote sustainable environmental practices and a culture of ecological responsibility. Exploring factors influencing waste management supports SDG 11 (Sustainable Cities and Communities) and SDG 12 (Responsible Consumption and Production). The research aligns with the Holy Cross of Davao's commitment to environmental stewardship, providing insights to improve policies, encourage public participation, and inspire sustainable practices in other communities. It emphasizes the importance of individual and collective responsibility in waste management for a more sustainable future.

1.2. Statement of the Problem

This study examined the significance of attitudes toward waste management, social norms, and perceived behavioral control as factors influencing the implementation of waste management. Specifically, it aimed to achieve the following objectives;

1. To determine the levels of attitude towards waste management in terms of beliefs about the importance of waste segregation and recycling, perception of individual responsibility, and motivation to engage in waste management practices; social norms on waste management in terms of perception of community expectations, influence

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of family, peers, and local leaders and community involvement; perceived behavioral control on waste management in terms of access to resources, knowledge about waste management practices and perceived barriers; and waste management implementation in terms of observed practices, participation level and adherence to local ordinances.

2. To determine the significance of the correlation between attitudes toward waste management, social norms on waste management, perceived behavioral control on waste management, and waste management implementation.
3. To determine the significance of the influence of attitudes toward waste management, social norms on waste management, and perceived behavioral control on waste management on waste management implementation.

1.3. Hypotheses

The following hypotheses were tested at a 0.05 level of significance:

(H0 1): Attitudes toward waste management, social norms on waste management, and perceived behavioral control on waste management are not significantly correlated with waste management implementation.

(H0 2): Attitudes toward waste management, social norms on waste management, and perceived behavioral control on waste management do not significantly influence waste management implementation.

1.4. Theoretical Framework

This study is grounded in the Theory of Planned Behavior (Ajzen, 1988, 1991), which posits that an individual's behavior is directly determined by their intentions and perceived behavioral control. Perceived behavioral control, also known as self-efficacy, refers to the extent to which an individual believes they can perform a particular behavior. Intentions, in turn, are directly predicted by an individual's attitude towards the behavior, subjective norms, and perceived behavioral control (Worthington, 2021).

For this study, a deliberate delimitation was made to exclude behavioral intention and instead focus on the direct influence of the three predictors on waste management implementation. Specifically, attitude towards waste management was operationalized as beliefs concerning the importance of segregation, recycling, responsibility, and motivation (Delbarre, 2024). Subjective norms on waste management included the perceived social expectations and the influence exerted by peers, family, and the broader community regarding waste management practices (Sapawi et al., 2024) Finally, perceived behavioral control on waste management encompasses access to resources, knowledge of proper waste management practices, and perceived barriers hindering ability to implement practices effectively (Raghu & Rodrigues, 2022). The behavioral outcome under investigation refers to the actual implementation of waste management practices, including waste segregation, recycling, and compliance with relevant regulations. This behavioral outcome is understood to be shaped by the interplay of psychological and social elements elucidated by the Theory of Planned Behavior (Knickmeyer, 2020).

1.5. Conceptual Framework

This study's conceptual framework focuses on three predictors: attitudes toward waste management, social norms on waste management, and perceived behavioral control on waste management. The criterion variable is the implementation of waste management.

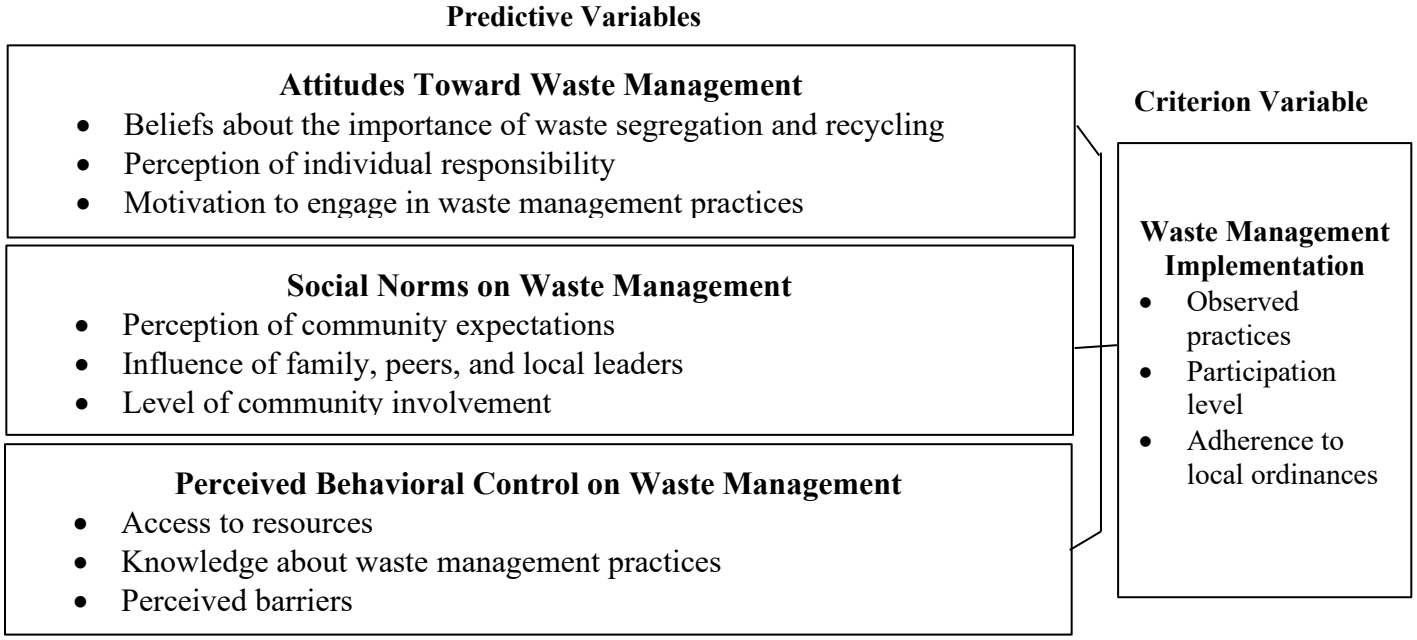

Figure 1: Conceptual Framework of the Study

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2. METHODOLOGY

This chapter details the methods implemented in the study. It encompasses the research design, study location, research participants, research instrument, data collection procedure, data analysis, and ethical considerations.

2.1. Research Design

The study employed a descriptive-correlational design to examine the factors influencing the implementation of waste management. This approach examined the relationships between attitudes, social norms, perceived behavioral control, and the implementation of waste management. The design of the study aligns with previous research by Bautista (2019), which explored the link between awareness and waste management practices among students, and by Sanchez (2023), which examined community awareness and behavior using a similar framework. By adopting a quantitative approach, the study ensured an objective and measurable assessment of these factors, providing valuable insights for enhancing waste management policies and community participation.

2.2. Locale of the Study

This study was conducted in Tagum City, located in Davao del Norte, Philippines. As a growing urban center and regional hub, Tagum City faces challenges in waste management due to its increasing population and expanding economic activities. The study examined factors affecting waste management implementation in the city, aiming to provide insights for improving policies and community projects that promote sustainable waste practices.

2.3. Sample and Sampling Technique

This study employed stratified random sampling to select 300 respondents from various barangays in Tagum City. The sample included residents aged 18 and above, local officials, and waste management staff to ensure diverse perspectives on the implementation of waste management. Residents shared insights into their household waste practices, while local officials contributed their expertise in policy and enforcement. Waste management staff were identified through coordination with local authorities, ensuring the inclusion of those directly handling waste collection and disposal. This approach aimed to enhance understanding and improve waste management policies, while also promoting community participation.

2.4. Research Instrument

A researcher-designed questionnaire was used to assess factors influencing the implementation of waste management. The instrument was validated by a panel of experts and tested for reliability, with all sections showing Cronbach's Alpha values above 0.7, indicating strong internal consistency. The survey comprised four sections: attitudes toward waste management ($\alpha = 0.912$), social norms regarding waste management ($\alpha = 0.899$), perceived behavioral control about waste management ($\alpha = 0.876$), and waste management implementation ($\alpha = 0.934$). Each section evaluated key variables, including beliefs, social influences, perceived ease of action, and actual practices related to the implementation of waste management.

Part I of the survey questionnaire was adapted from the instrument used by Desai (2020) in this study. It consisted of three indicators: beliefs about waste segregation and recycling, perception of individual responsibility, and motivation to implement waste management. There are 15 items in this part, five for each indicator. A five-point Likert scale was used to assess respondents' attitudes toward waste management.

Scale	Means Range	Description	Descriptive Interpretation
5	4.20 – 5.00	Strongly Agree	The attitudes toward waste management are excellent.
4	3.40 – 4.19	Agree	The attitudes toward waste management are very good.
3	2.60 – 3.39	Slightly Agree	The attitudes toward waste management are good.
2	1.80 – 2.59	Disagree	The attitudes toward waste management are poor.
1	1.00 – 1.79	Strongly Disagree	The attitudes toward waste management are very poor.

Part II of the questionnaire intends to gather data for the second independent variable. For this part, the researcher developed items related to social norms on waste management, guided by the Cultural Competence Self-Assessment Checklist by the Central Vancouver Island Multicultural Society, as cited by Argyriadis et al. (2022). Part II comprises 15 items, grouped into three categories based on the indicators, and utilizes a five-point Likert scale.

Scale	Means Range	Description	Descriptive Interpretation
5	4.20 – 5.00	Strongly Agree	The social norms on waste management are excellent.
4	3.40 – 4.19	Agree	The social norms on waste management are very good.
3	2.60 – 3.39	Slightly Agree	The social norms on waste management are good.
2	1.80 – 2.59	Disagree	The social norms on waste management are poor.
1	1.00 – 1.79	Strongly Disagree	The social norms on waste management are very poor.

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Part III is for the third independent variable. For this part, the researcher developed a self-made survey questionnaire on perceived behavioral control based on constructs from the Theory of Planned Behavior, adapted to the context of waste management by Ng (2021). The questionnaire includes 15 items under three indicators and uses a five-point Likert scale.

Scale	Means Range	Description	Descriptive Interpretation
5	4.20 – 5.00	Strongly Agree	The perceived behavioral control on waste management is firm.
4	3.40 – 4.19	Agree	This indicates that perceived behavioral control on waste management is strong.
3	2.60 – 3.39	Slightly Agree	This indicates that perceived behavioral control is moderately strong.
2	1.80 – 2.59	Disagree	This indicates that perceived behavioral control is weak.
1	1.00 – 1.79	Strongly Disagree	This indicates that perceived behavioral control is very weak.

Part IV, the final section of the research instrument, focuses on the implementation of waste management, covering segregation practices, government support, community participation, and policy compliance. Ikizoglu (2024) noted that this questionnaire effectively gathers data from diverse respondents, ensuring a clear understanding of factors influencing sustainable waste management.

Scale	Means Range	Description	Descriptive Interpretation
5	4.20 – 5.00	Strongly Agree	The waste management implementation is excellent.
4	3.40 – 4.19	Agree	The waste management implementation is very good.
3	2.60 – 3.39	Slightly Agree	The waste management implementation is good.
2	1.80 – 2.59	Disagree	The waste management implementation is poor.
1	1.00 – 1.79	Strongly Disagree	The implementation of waste management is very poor.

2.5. Data Gathering Procedure

Data collection followed a systematic and ethical process. Approval was secured from the Dean of the Graduate School, and coordination was made with local officials. After SMILE and the panel of validators validated the instrument, it underwent pilot testing. Respondents included residents aged 18 years or older, local officials, and waste management staff, who were randomly selected. Questionnaires were distributed in person over a period of two weeks, with support from community leaders. Informed consent was obtained from each respondent after the data were gathered, and the data were coded and analyzed using statistical tools. Hard copies were securely stored, and electronic data was saved in a password-protected database. All data will be disposed of properly.

2.6. Data Analysis

Quantitative data analysis was employed to investigate the factors influencing the implementation of waste management. Descriptive statistics (mean and standard deviation) described attitudes, social norms, perceived behavioral control, and waste management implementation practices. Pearson's correlation assessed the strength and direction of relationships among these variables. Multiple regression analysis determined the predictive influence of attitudes, social norms, and perceived behavioral control on waste management implementation, offering a clearer understanding of their collective impact on sustainable practices.

2.7. Ethical Considerations

This study was reviewed and approved by the Society for Integrity and Legal Ethics (SMILE) to ensure ethical compliance and the protection of participants. Respondents were fully informed about the study's objectives, procedures, and their rights and provided voluntary consent with the option to withdraw at any time without consequence. Anonymizing responses and storing data in a secure, password-protected database ensures strict confidentiality and data protection. Participants were treated with respect and dignity, and all efforts were made to safeguard their rights throughout the research process. The study adhered to institutional ethical standards and was guided by SMILE's four core principles: Safety, Meaning, Integrity, and Learning Effectiveness. Additionally, AI assistance enhanced the clarity, coherence, and quality of the research narrative.

3. RESULTS

This section presents the study's results, including descriptive, correlation, and regression analyses of attitudes toward waste management, social norms on waste management, perceived behavioral control on waste management, and waste management implementation among Tagum City residents.

3.1. Descriptive Analysis

Table 1 presents the results of the descriptive analysis of Tagum City residents' attitudes toward waste management, social norms regarding waste management, perceived behavioral control over waste management, and the implementation of waste management. It includes the mean scores, standard deviations,

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and corresponding descriptive levels, providing insight into the respondents' perspectives and behaviors concerning waste management practices in the community.

The respondents exhibited very high positive attitudes toward waste management, with an overall mean of 4.49 (SD = 0.488). Specifically, beliefs about the importance of waste segregation and recycling (mean = 4.65, SD = 0.476) and perceptions of individual responsibility (mean = 4.66, SD = 0.380) were rated very high, suggesting a strong agreement on the importance of proper waste management. However, the motivation to engage in waste management practices had a slightly lower mean (4.17) and the highest standard deviation (0.770), indicating variability in personal willingness or external challenges that affect active participation.

Social norms regarding waste management were generally rated high (mean = 4.02, SD = 0.482), with the influence of family, peers, and local leaders receiving the highest score (mean = 4.22, SD = 0.578), indicating a strong role of social circles in shaping behavior. The perception of community expectations (mean = 3.76, SD = 0.788) showed more variability, with some respondents feeling more pressure to comply than others.

Table 1. Descriptive Table

Variables	SD	Mean	Descriptive Level
Attitudes Toward Waste Management	***0.488***	***4.49***	***Very High***
Beliefs about the Importance of Waste Segregation and Recycling	0.476	4.65	Very High
Perception of Individual Responsibility	0.380	4.66	Very High
Motivation to Engage in Waste Management Practices	0.770	4.17	High
Social Norms on Waste Management	***0.482***	***4.02***	***High***
Perception of Community Expectations	0.788	3.76	High
Influence of Family, Peers, and Local Leaders	0.578	4.22	Very High
Community Involvement	0.533	4.07	High
Perceived Behavioral Control on Waste Management	***0.566***	***3.81***	***High***
Access to Resources	0.919	3.49	High
Knowledge about Waste Management Practices	0.551	4.68	Very High
Perceived Barriers	0.996	3.27	Moderate
Waste Management Implementation	***0.455***	***3.84***	***High***
Observed Practices	0.684	3.94	High
Participation Level	0.461	3.72	High
Adherence to Local Ordinances	0.554	3.85	High

Regarding perceived behavioral control on waste management, the overall mean was 3.81 (SD = 0.566), indicating that most respondents felt capable of engaging in waste management. However, access to resources (mean = 3.49, SD = 0.919) revealed a significant range in experiences, with some respondents having adequate facilities for waste disposal while others struggled with inadequate resources. Knowledge about waste management practices (mean = 4.68, SD = 0.551) was the highest-rated factor, suggesting that most respondents are well-informed. Perceived barriers (mean = 3.27, SD = 0.996) exhibited considerable variation, reflecting obstacles such as a lack of waste collection services or limited policy enforcement.

Regarding the implementation of waste management practices, the overall mean was 3.84 (SD = 0.455), indicating that while waste management implementations are being observed, improvements are still needed. Observed practices (mean = 3.94, SD = 0.684) and adherence to local ordinances (mean = 3.85, SD = 0.554) were rated high, showing that waste management behaviors are primarily practiced and regulations are generally followed. However, the participation level (mean = 3.72, SD = 0.461) received a slightly lower rating, indicating consistency in participation across respondents and suggesting some room for increased engagement.

3.2. Correlation Analysis

Table 2 presents the results of the correlation analysis between the independent variables—attitudes toward waste management, social norms on waste management, and perceived behavioral control on waste management—and the dependent variable, waste management implementation. It includes the correlation coefficients and corresponding p-values, providing insight into the strength and direction of the relationships between the identified psychological and social factors and the

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implementation of waste management practices in the community.

The correlation results examine the relationships between attitudes toward waste management, social norms regarding waste management, perceived behavioral control over waste management, and the implementation of waste management. Attitudes toward waste management yielded a correlation coefficient of 0.377 with a p-value of 0.000, indicating a significant relationship. Social norms related to waste management had a correlation coefficient of 0.209 and a p-value of 0.000, also showing a significant relationship. Perceived behavioral control had a correlation coefficient of 0.299 with a p-value of 0.000, reflecting a significant association. All variables have p-values less than 0.05, which indicates statistically significant relationships with waste management implementation.

Table 2. Correlation Table

	Waste Management Implementation (DV)			
Independent Variables (IV)	**r**	**p-value**	**Decision on Ho @ 0.05 level of significance**	**Interpretation**
Attitudes Toward Waste Management	0.377	0.000	Reject Ho	Significant
Social Norms Related to Waste Management	0.209	0.000	Reject Ho	Significant
Perceived Behavioral Control	0.299	0.000	Reject Ho	Significant

3.3. Regression Analysis

Table 3 presents the results of the multiple linear regression analysis, highlighting the predictive power of attitudes, social norms, and perceived behavioral control on the implementation of waste management. The table includes unstandardized and standardized coefficients, t-values, significance levels, and overall model fit statistics (R, R^2, F-value, and p-value), emphasizing the extent to which these independent variables collectively influence waste management implementation.

Table 3. Regression Table

	Waste Management Implementation (DV)						
	Unstandardized Coefficients		**Standardized Coefficients**				
	B	**Std. Error**	**Beta**	**T**	**Sig.**	**Decision on Ho**	**interpretation**
Constant	1.531	0.283		5.414	0.000		
Attitudes Toward Waste Management	0.283	0.051	0.304	5.565	0.000	Reject Ho	Significant
Social Norms on Waste Management	0.105	0.051	0.111	2.075	0.039	Reject Ho	Significant
Perceived Behavioral Control on Waste Management	0.162	0.044	0.201	3.706	0.000	Reject Ho	Significant

$R = 0.445$; $R^2 = 0.198$; F-value = 24.360; p-value = 0.000

The model accounts for 19.8% of the variance in waste management implementation ($R^2 = 0.198$) and demonstrates a significant overall fit ($F = 24.360$, $p = 0.000$). Attitudes toward waste management exhibit the most potent positive effect ($B = 0.283$, $p = 0.000$), underscoring the importance of fostering more favorable attitudes for better waste management implementation. Perceived behavioral control also exhibits a significant effect ($B = 0.162$, $p < 0.001$), indicating that individuals with higher perceived control are more likely to engage in waste management activities. Social norms on waste management have a weaker yet significant effect ($B = 0.105$, $p = 0.039$), indicating a lesser influence than the other variables. All predictors are statistically significant, as their p-values are below the 0.05 threshold.

3.4. Summary of Findings

The following summarizes the key findings of this study, providing a comprehensive understanding of the factors influencing waste management implementation in Tagum City.

1. The attitude towards waste management was excellent; social norms regarding waste management were also excellent;

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perceived behavioral control over waste management was very strong; and waste management implementation was very effective.
2. Attitudes toward waste management, social norms regarding waste management, and perceived behavioral control over waste management were significantly correlated with the implementation of waste management.
3. Attitudes toward waste management, social norms on waste management, and perceived behavioral control on waste management significantly influenced waste management implementation, reinforcing the study's key point.

4. DISCUSSIONS

This chapter examines the interpretation of the study's findings regarding the influence of attitudes, social norms, and perceived behavioral control on the implementation of waste management in Tagum City. By integrating theoretical constructs with participants' responses, this discussion aims to provide a more comprehensive understanding of the behavioral factors influencing waste management practices within a specific urban context.

The results clearly indicated that attitude toward waste management positively influenced program implementation. The strong agreement among respondents regarding the importance, benefits, and necessity of proper waste segregation and disposal aligns with Ajzen's (1991) assertion that individuals holding favorable evaluations of a behavior are more likely to engage in it. The finding resonates with the work of Baconguis (2021), who emphasizes the crucial role of a positive environmental attitude among community members in promoting compliance with Republic Act 9003. Furthermore, it corroborates the findings of Chen and Tung (2019) and Wang et al. (2021), which demonstrated that individuals with favorable environmental attitudes are more inclined to adopt in sustainable waste management practices.

Regarding subjective norms, the study found that social expectations from peers, community leaders, and institutions had a moderate influence on participants' waste management behaviors. This suggests that the perceived expectation of significant others and the broader community plays a role in motivating individuals to comply with practices. These findings align with Dela Cruz's (2022) argument regarding the vital role of community influence in sustaining environmental practices and support the findings by Zhang et al. (2019), who emphasized the impact of perceived social pressure on increasing waste sorting behavior. However, this study also noted variation in the strength of social influence across different barangays and Local Government Units (LGUs), indicating potential local leadership engagement and community role modeling. This presents a slight divergence from the findings of Li et al. (2020), who suggested that community-led models consistently lead to higher participation rates.

Perceived behavioral control emerged as a more complex but critical factor of waste implementation. While respondents expressed confidence in managing household waste, a significant portion cited limitation such as a lack of access to necessary facilities and an irregular waste collection schedule. These perceived barriers diminished individuals' sense of control, thereby hindering the translation of positive attitudes into actual behavior. This finding supports the work of Yu et al. (2022), which shows that even with high behavioral intention, the absence of supportive infrastructure can undermine actual compliance. Similarly, these results align with Ma et al. (2020) and Xu et al. (2021), who found that residents' engagement in environmental behavior improves when they feel empowered by the availability of resources, adequate support, and clear guidelines.

Synthesizing these findings suggests the interplay of the different variables. A positive attitude can foster a greater sense of community support and motivate individuals to seek out and utilize available resources. For instance, residents with strong environmental attitudes may actively encourage others to adopt proper practices, thereby shaping local social norms and contributing to improved implementation conditions. Conversely, variation in social norms and perceived behavioral control across different communities with similar attitudes may explain disparities in compliance levels.

The study's predictive variables—attitudes toward waste management, social norms, and perceived behavioral control — are key factors in understanding the implementation of waste management in Tagum City. The significant positive influence of favorable attitudes on residents' disposal behavior is consistent with prior research by Chen and Tung (2019), and Wang et al. (2021). Similarly, the crucial role of community expectations and the influence of social networks in promoting proper waste disposal practices, as highlighted by Zhang et al. (2019) and Li et al. (2020), is reinforced by the findings of this study. Furthermore, the significant impact of access to resources on residents' confidence and ability in proper waste management, as demonstrated by Ma et al. (2020) and Xu et al. (2021), underscores the importance of perceived behavior control.

Regarding the criterion variable of waste management implementation, the study's findings indicate general active participation among residents in waste management activities, although the level of compliance with ordinances varies. This observation aligns with the conclusion of Liu et al. (2019) and Chen et al. (2020), who emphasized the essential roles of public education, regulatory enforcement, and community engagement in achieving waste management outcomes.

This study confirms that positive attitudes, strong social norms, and perceived behavioral control all contribute to improved waste management practices; however, external factors such as resource availability and policy enforcement continue to influence outcomes. A comprehensive approach that incorporates community engagement, education, and government support is essential for implementing sustainable waste management practices.

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4.1. Conclusion

Based on the study's findings within the context of Tagum City, it is concluded that attitudes towards waste management, social norms regarding waste management, and perceived behavioral control over waste management are significant factors influencing the implementation of waste management. These three factors collectively account for 19.8% of the variance in waste management. This conclusion supports the Theory of Planned Behavior, which posits that behavior is directly influenced by an individual's intentions and perceived control over their behavior. Perceived behavioral control, also referred to as self-efficacy, reflects the extent to which an individual believes they have control over performing a behavior, directly predicting their attitude towards the behavior, subjective norms, and perceived behavioral control.

4.2. Recommendations

In light of the study's conclusion, future research should explore additional predictive variables such as environmental literacy, access to infrastructure, economic incentives, enforcement of regulations, and cultural beliefs to explain the remaining 80.2 percent variance in waste management implementation. These factors can provide a deeper understanding of what drives effective community-based waste practices. There is also a need to implement comprehensive public awareness campaigns to promote proper waste disposal, recycling, and environmental responsibility. Efforts such as school programs, media outreach, and community partnerships can help strengthen civic engagement and public accountability. These actions support the achievement of Sustainable Development Goals 11 and 12 by promoting more sustainable and livable communities.

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