

Original Article

## **Smart Minds, Active Citizens: Exploring the Relationship Between Functional Literacy and Civic Responsibility among College Students**

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### **Abstract**

Functional literacy is essential for responsible citizenship because it enables individuals to understand civic information, interpret policies, and participate effectively in community life. In the Philippines, the gap between basic and functional literacy indicates that many individuals struggle to apply reading and comprehension skills in real-life civic situations. This study examined the relationship between functional literacy and civic responsibility among college students in UM Panabo College, anchored in SDG 4 (Quality Education), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 16 (Peace, Justice, and Strong Institutions). Using a descriptive-correlational design with 100 students, results showed high levels of functional literacy ( $M = 4.35$ ,  $SD = 0.50$ ) and civic responsibility ( $M = 4.46$ ,  $SD = 0.53$ ). A strong positive correlation was observed ( $r = 0.803$ ,  $p = 0.000$ ), indicating that functional literacy is significantly related to civic responsibility. However, due to reliance on self-reported questionnaires and a single-institution sample, causality cannot be inferred. Future studies should employ objective literacy assessments, larger and more diverse samples, and longitudinal or intervention-based designs.

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## **1. Introduction**

Civic responsibilities depend on individuals' ability to comprehend and apply information, making functional literacy essential for understanding policies, following public guidelines, and contributing to community well-being. International research shows that weak literacy hinders young people's ability to interpret civic texts such as ballots and government announcements, while stronger literacy supports responsible behavior and decision-making (Heffron & Dodd, 2021). In the Philippines, the gap between basic literacy (93.1%) and functional literacy (70.8%) reveals that many can read but struggle to understand civic documents (Gronchi & Perini, 2024). College students likewise face challenges in comprehension, affecting civic engagement (Hsu et al., 2021). Locally, youth show high awareness of societal issues but rarely translate this into responsible civic action (Polizzi, 2020), leaving functional literacy unexplored.

International studies emphasize literacy as a foundation of responsible citizenship. Heffron and Dodd (2021) found that literacy interventions improve participation in decision-making. Ferguson and Merga (2021) highlighted literacy's role in building confidence for societal responsibilities, and Polizzi (2020) stressed skills such as evaluating sources and constructing arguments. Yusof (2025) showed that Malaysian university students' civic responsibility is shaped by their ability to understand and apply information, suggesting that functional literacy indirectly supports civic responsibility.

National studies confirm the impact of the literacy gap on civic participation. Gronchi and Perini (2024) noted that weak functional literacy limits citizens' ability to interpret policies. (Hsu et al., 2021) found that many first-year students were at a frustration level in reading comprehension, while Khairunisa and Damayanti (2024) observed poor evaluation of civic information. Ferreira (2025) highlighted the reliance on social media, making critical literacy vital in combating misinformation. Tilahun (2022) showed that integrating literacy practices improves critical thinking, while Avcu et al. (2025) linked stronger literacy to responsible digital behavior and global competence.

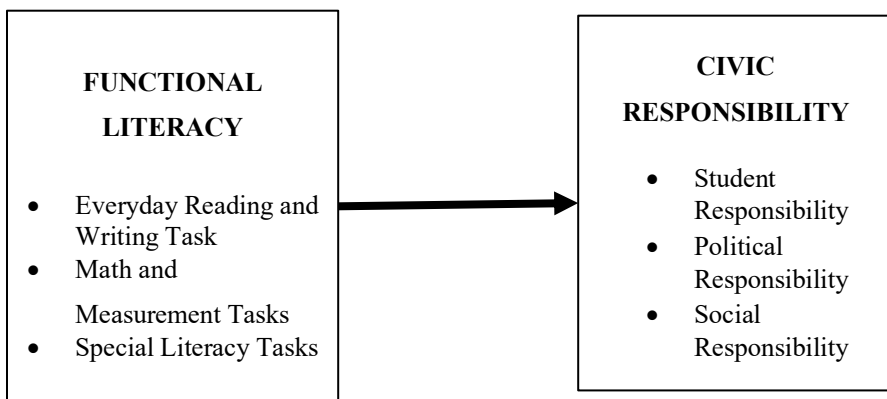
Local research in Davao del Norte reveals similar patterns. Guess and Munger (2023) found a weak but positive link between media literacy and political awareness, while Ajaps and Obiagu (2021) reported high civic awareness but low participation among youth. These findings suggest functional literacy may be the missing link between awareness and responsible civic action.

Theoretical frameworks such as Social Capital Theory (Putnam, 2000), Civic Voluntarism Model (Goetting & Becker, 2025), and Critical Literacy Theory (Freire, 1970) support the connection between literacy and civic participation. This study addresses the gap in the literature by directly examining whether functional literacy is associated with civic responsibilities among UM Panabo College students.

This study addresses the gap in the literature by directly examining whether functional literacy affects civic responsibilities among UM Panabo College students. Anchored on SDG 4 (Quality Education), SDG 11 (Sustainable Cities), SDG 13 (Climate Action), and SDG 16 (Peace, Justice, and Strong Institutions), it aims to show how literacy empowers students to engage responsibly in civic life. Beneficiaries include local government units, school administrators, teachers, students, and future researchers, all of whom can use the findings to strengthen literacy and civic education initiatives.

**Independent Variable (IV)**

**Dependent Variable (DV)**



**Figure 1.** Relationship between functional literacy and civic responsibility.

This study aimed to determine the relationship between functional literacy and civic responsibilities among college students. Specifically, it sought to: (1) measure the level of functional literacy among college students, (2) assess the extent of civic responsibilities practiced by college students, and (3) analyze the correlation between functional literacy levels and the degree of civic responsibilities among college students.

The study developed a null hypothesis ( $H_0$ ): there is no significant relationship between functional literacy and civic responsibility among college students at UM Panabo College.

## 2. Methodology

The study involved 100 UM Panabo College students selected through quota sampling, a nonprobability sampling method that ensures balanced representation across subgroups (Fulop & Avvisati, 2022). Participants included 25 each from DCJE, DTE, DBAE, and DASE, spanning 1st–4th year levels to capture perspectives across

academic progression. A sample size of 100 was considered sufficient for descriptive correlational designs (Creswell & Creswell, 2018). Inclusion criteria required enrollment during the 2025 academic year, functional literacy, and informed consent. Exclusion criteria applied to non-enrolled individuals, those unable to complete written surveys, or those unwilling to consent. This ensured valid data for assessing functional literacy and civic responsibility.

Two questionnaires were used: one adapted from Hayes & Valentine (1989) with 20 items across three indicators for functional literacy, and another from Naseer et al. (2024) with 50 items across ten indicators for civic responsibility. Both were modified to suit the study context and underwent pilot testing with 30 participants and expert validation. Data analysis employed the mean to assess central tendencies (Hurley & Tenny, 2023) and Pearson's correlation coefficient ( $r$ ) to measure relationships between variables (Okoye & Hosseini 2024). Pearson's  $r$ , ranging from -1 to 1, quantified the strength and direction of the relationship between functional literacy and civic responsibility.

However, the study has the following limitations: reliance on self-reported questionnaires introduces self-serving bias; functional literacy was measured as perception rather than actual skill; a small sample size ( $N=100$ ) from one institution limits generalizability; and common method variance may have inflated correlations.

A descriptive correlational quantitative design was applied to examine the role of functional literacy in civic responsibility (Okunlola & Hendricks, 2022). This design systematically described characteristics without manipulation, exploring natural relationships between variables (Ghanad, 2023). Data collection followed a rigorous process: formal approval was obtained from UM Panabo College authorities, followed by requests to deans and program heads. Participants received detailed explanations of the study's purpose, risks, and confidentiality measures. Written informed consent was obtained, emphasizing voluntary participation and the right to withdraw.

Assessments were administered in controlled, standardized settings to minimize variability. Data cleaning procedures addressed missing values, outliers, and inconsistencies. Statistical analysis included descriptive measures (frequency, percentage, mean, SD) and Pearson's correlation to determine associations (Temizhan et al., 2022).

The study adhered to ethical guidelines for research involving human subjects. Anonymity and confidentiality were strictly maintained, with no personal identifiers collected. Data were securely stored and accessible only to the research team.

### **3. Results**

#### *3.1 Level of Functional Literacy among College Students*

The 20-item questionnaire completed voluntarily by college students serves as the basis for this study's evaluation of their functional literacy at UMPC. The

functional literacy of college students is classified as strongly agree, with a mean of 4.35 and a SD of 0.50, indicating an excellent level of functional literacy that significantly affects them. This indicates that the functional literacy of college students in UMPC is excellent. Students reported high functional literacy (M=4.35) and civic responsibility (M=4.46).

**Table 1.** Level of functional literacy among college students.

<b>Indicator</b>	<b>Mean</b>	<b>SD</b>	<b>Descriptive Equivalent</b>
Everyday Reading and Writing Task	4.40	0.54	Strongly Agree
Math and Measurement Tasks	4.35	0.50	Strongly Agree
Special Literacy Tasks	4.32	0.67	Strongly Agree
Grand Mean	4.35	0.50	Strongly Agree

### 3.2 Extent of Civic Responsibilities Practiced by College Students

This study shows that the students at UM Panabo College are highly responsible in terms of Student Responsibility, Political Responsibility, and Social Responsibility, as evaluated based on the 30-item questions the civic responsibility respondents voluntarily answered. The variable civic responsibility attained a grand mean of 4.46, indicating strong agreement. This indicates that civic responsibility among college students at UM Panabo College is regularly exhibited.

**Table 2.** The extent of civic responsibilities practiced by college students.

<b>Indicator</b>	<b>Mean</b>	<b>SD</b>	<b>Descriptive Equivalent</b>
Student Responsibility	4.41	0.61	Strongly Agree
Political Responsibility	4.42	0.57	Strongly Agree
Social Responsibility	4.56	0.54	Strongly Agree
Grand Mean	4.46	0.53	Strongly Agree

### 3.3 Significant Relationship between Functional Literacy Levels and the Degree of Civic Responsibilities among College Students

The statistical information demonstrating the strong correlation between functional literacy and civic responsibilities is displayed in Table 3. The variable functional literacy has a mean of 4.35 and an SD of 0.50, which corresponds to the descriptive equivalent of very high. However, the mean of the civic responsibilities variable is 4.46, and the SD is 0.53, corresponding to the descriptive equivalent of very high. Moreover, Pearson’s correlation showed a strong positive relationship ( $r = 0.803$ ,  $p = 0.000$ ).

**Table 3.** Significant relationship between functional literacy levels and the degree of civic responsibilities among college students.

Variable	Mean	SD	r-value	p-value	Decision
Functional Literacy	4.35	0.50	0.803	0.000	Ho is rejected
Civic responsibilities	4.46	0.53			

Note:  $R=0.803$   $R^2=0.644$

#### 4. Discussion

The strongest literacy skills were in everyday reading tasks (emails, shopping price comparisons), while weaker areas included understanding lease agreements and coupon use. These weaknesses reflect limited exposure to formal contracts and consumer practices in the Philippine context. Individuals with higher functional literacy are better able to comprehend civic texts and comply with public policies (Heffron & Dodd, 2021). In addition, functional literacy enhances individuals' confidence, especially when engaging with societal issues, enabling them to vote responsibly, evaluate public information, and participate in community initiatives (Polizzi, 2020). Meanwhile, the gap in the Philippines between basic literacy, and functional was wide. Further supporting the idea that many citizens can read but cannot interpret civic documents, ballots, or policy guidelines (Gronchi & Perini, 2024).

As shown in Table 1, the indicator "Everyday Reading and Writing Task" has the highest mean, with a descriptive equivalent of strongly agree, and an overall mean of 4.40 and SD of 0.54. This indicates that college students can perform basic reading and writing tasks and apply these skills to their work every day. Among the ten questions, Item 1 had the highest mean, with the statement "I can easily read and understand emails," with a mean score of 4.64 and a descriptive equivalent of strongly agree. This result shows that college students demonstrate a high level of competency in understanding everyday written communication, specifically emails, which supports enhanced information processing and effective communication in both daily and academic contexts.

Meanwhile, the lowest mean is Item 8, with the statement "I can read and understand rental or apartment lease agreements" which has a mean of 4.25 and the descriptive equivalent of strongly agree. The results from the statement indicate that students may experience difficulty comprehending more complex and formal texts, such as lease agreements and legal texts, but are still able to comprehend them fully.

Functional literacy in the Philippines is hindered by factors such as inadequate learning materials and insufficient teacher training. However, this can be enhanced by utilizing digital tools and by community involvement, suggesting that functional literacy may also be affected by civic responsibilities through community engagement (Nur'aeni, 2023). With limited basic literacy, many students are left vulnerable to misinformation on social media, weakening their ability to critically evaluate information, further eroding their civic literacy, and affecting their engagement with civic responsibilities (Li & Li, 2022). The connection between literacy and civic

participation is neither sufficient nor straightforward, suggesting that literacy itself cannot drive individuals to participate civically; rather, it is only a small portion, and other factors may be the main drivers of civic participation (Karytsas & Theodoropoulou, 2022).

In addition, the indicator “Math and Measurement Tasks” had the second-highest mean, with a descriptive equivalent of strongly agree, and an overall mean of 4.35 and SD of 0.50. This indicates that students demonstrate strong competence in basic mathematical and measurement skills, enabling them to perform numerical tasks accurately in both academic and everyday situations. This indicator has the highest mean in Item 1, with the statement, “I am able to compare prices effectively while shopping in a supermarket,” at 4.53, with the descriptive equivalent of strongly agree. This implies that students can make informed purchasing decisions by effectively comparing prices during everyday shopping. In contrast, the lowest mean was for the third item, “I understand and use coupons correctly when shopping,” with a mean of 4.20, which is very high. This shows that college students can perform basic mathematical and measurement skills, but they may experience some difficulties with practical tasks.

According to Reyna and Brainerd (2023), numeracy skills extend beyond classroom computations and include the ability to interpret prices, compare quantities, and make informed consumer choices in everyday situations. This supports the finding that students demonstrate strong competence in math and measurement tasks, particularly in activities such as comparing prices while shopping, which reflects the practical application of numerical reasoning. Andersen and Weisstein (2026) also conducted price-promotion experiments and found that participants with high mathematical literacy significantly outperformed those with low mathematical literacy in judging discounts and price differences. In other words, consumers who can fluently compute percents and amounts make more accurate shopping decisions.

Furthermore, the indicator “Special Literacy Tasks” has the third-highest mean, with a descriptive equivalent of strongly agree, an overall mean of 4.32, and a SD of 0.67. This indicates that students are highly capable of performing specialized literacy tasks, demonstrating strong reading and writing skills in more advanced or specific contexts. This indicator has the highest mean in Item 3, the statement “I can accurately fill out scholarship or financial aid forms,” with a mean of 4.37 and a descriptive equivalent of strongly agree. This implies that students can effectively complete important academic and financial documents, demonstrating attention to detail and strong practical literacy. In contrast, the lowest mean was in Item 4, with the statement, “I can manage my money effectively, whenever through a bank account, mobile wallet, or other financial tools,” which had a mean of 4.25 and a descriptive equivalent of strongly agree. This shows that college students may have difficulty managing their finances effectively with various tools.

Functional literacy skills, such as understanding instructions, interpreting forms, and applying written information, are essential for handling complex documents, such as financial aid and scholarship forms (Ferguson & Merga, 2021). Students with strong

functional literacy demonstrate better judgment and accuracy in meeting academic and financial requirements (Khairunisa & Damayanti, 2024). However, Ferreira (2025) found that despite having high literacy skills, students may still struggle with financial management due to limited experience and the complexity of digital financial tools.

As shown in Table 2, the perceived effects of civic engagement among UMPC college students are consistently classified as strongly agree, with a mean of 4.46 and an SD of 0.53, indicating that civic responsibility has a significant effect on them. Civic responsibility was strongest in social responsibility ( $M=4.56$ ), particularly environmental stewardship. Political responsibility ( $M=4.42$ ) and student responsibility ( $M = 4.41$ ) were also high.

This finding is supported by studies showing that students who are reported to have high levels of civic engagement and active participation in civic activities have stronger civic attitudes and a greater sense of responsibility (Naz, 2022). In addition, studies show that participation in service-learning and community engagement activities helps students improve their civic responsibility, social awareness, and practical skills, contributing positively not only to themselves but also to their communities and their overall development (Liu, 2026). Collectively, these studies suggest that students who actively engage in civic activities tend to develop stronger civic responsibility and related outcomes.

The third indicator, "Social Responsibility," has the highest mean of 4.56 and an SD of 0.54, corresponding to "strongly agree." This observation explains that the students of UM Panabo College highly value social responsibility and consistently show responsible behavior toward others and the community. The highest mean in this indicator is Item 6, with the statement "All citizens should actively work towards maintaining a clean environment," which has a mean of 4.68 and a descriptive equivalent of very high. This implies that the students understand the importance of keeping the environment clean and are willing to do their part as responsible citizens.

On the other hand, the lowest mean is Item 13 with the statement "Every community member should be responsible for helping other members," which has a mean of 4.48, and a descriptive equivalent of strongly agree. This implies that although students strongly agree with helping others in the community, this aspect is slightly less emphasized compared to environmental responsibility.

This finding is supported by local studies showing that although students demonstrate high awareness of civic and social issues, this awareness does not always translate into active community involvement (Ajaps and Obiagu, 2021). This suggests that helping other community members is less emphasized in practice, despite strong agreement in principle. Similarly, Hsu et al. (2021) found that limited functional literacy among college students can hinder active participation in more complex social responsibilities, such as sustained community involvement, despite positive attitudes toward social responsibility.

The "Political Responsibility" indicator has the second-highest overall mean of 4.42 and an SD of 0.57, associated with the descriptive equivalent "strongly agree." The results show that college students generally have a very strong sense of political

responsibility. As Khairunisa and Damayanti (2024) claimed, students with stronger functional literacy skills demonstrate better judgment when evaluating civic information, leading to more responsible civic decisions and participation, which supports the idea of a high sense of political responsibility among those with adequate literacy competencies. The highest mean in this indicator is Item 6 with the statement "Every member of the community must respect the national anthem and the flag," which has a mean of 4.52, corresponding to the descriptive equivalent as very high. It shows that college students have the strongest agreement with the idea that every member of the community must respect the national anthem and the flag.

Many citizens can read but cannot interpret civic documents, ballots, or policy guidelines. Yet, respect for national symbols is a fundamental civic value that may be more universally emphasized even as functional literacy influences deeper engagement (Gronchi & Perini, 2024). In contrast, the lowest mean is for Item 8, which states "Even when the cause is challenging, contributing to the community is important, despite potential disadvantages," with a mean of 4.33 and a descriptive equivalent of strongly agree. It indicates that college students still consider community involvement important, even though they may encounter difficulties.

Based on the study of Ajaps and Obiagu (2021), although youth show high civic awareness, their actual civic participation remains low, suggesting that while the value is recognized, translating it into action may require stronger functional literacy skills to navigate challenges. Additionally, Ferguson and Merga (2021) emphasized that functional literacy skills such as evaluating sources, interpreting arguments, and understanding public discourse are essential for meaningful civic involvement, reinforcing the idea that addressing barriers to participation can strengthen even the less emphasized aspects of political responsibility. When college students and community members hold a strong sense of political responsibility, supported by functional literacy that enables informed engagement, community cohesion, collaborative participation, shared commitment to civic goals, and mutual respect, these qualities will strengthen, helping to achieve collective societal objectives.

The first indicator, "Student Responsibility," is the lowest mean and which indicates strongly agree with an overall mean of 4.41 and a SD of 0.61, suggesting that the students are responsible and actively engaged in fulfilling their academic obligations, which reflect a very high civic responsibility as students' responsibility within the campus. The highest mean in this indicator is for item 2, the statement "I dedicate sufficient time and effort to my education to fulfill my responsibilities as a student," with a mean of 4.52 (strongly agree). This can be interpreted as students prioritizing their academic roles and seeing education as part of their civic responsibility. In the study, Sherazi et al (2026) emphasized that higher education plays an important role in developing students' sense of responsibility and active citizenship, as academic participation helps cultivate civic awareness and democratic values. Similarly, Yusof (2025) found that university students' civic responsibility is influenced by their ability to understand and apply information to real-world problems and academic obligations.

In contrast, the lowest mean is for Item 3, with the statement, “Having a strong personal connection to my community motivates me to take part in its activities and development,” which has a mean of 4.31, with a descriptive equivalent to agree strongly. This means that students who have a strong personal connection to their community participate because it motivates them. This supports the findings of Holmes et al. (2022), who observed that students with stronger connections to their communities are more motivated and active in civic and social activities, supporting the role of personal attachment in civic participation. Additionally, recent analysis found that community-engaged learning has positive effects on students' academic, social, and civic outcomes, showing that students who were trained in community-based learning had their responsibilities trained, thereby significantly impacting social, academic, and civic outcomes (Chittum et al., 2022). This suggests that a student's sense of responsibility is related to their functional literacy and civic responsibilities.

Table 3 indicates that the null hypothesis is rejected, leading to our conclusion that a significant relationship exists between functional literacy and civic responsibilities among college students at UM Panabo College. Other factors such as family background, school culture, socioeconomic status, and prior civic exposure may also contribute. Furthermore, 64.4% of the variance in civic responsibilities can be explained by functional literacy, while the remaining 35.6% is attributable to other factors. These findings suggest that functional literacy significantly influences civic responsibilities.

Shaw (2023) argues that literacy should be understood as a fundamental component of active citizenship rather than a basic skill that enables people to fulfill civic duties. The author demonstrates that people use their daily reading skills to access information and use digital technologies to practice their rights and create social change. The citizenship education program needs to treat students as active partners who help build understanding within their social groups, rather than seeing them as passive information recipients. Blandina (2023) states that university students who develop civic literacy and social empathy skills will become more active in civic engagement and community service. The study found these skills vital for developing social responsibility, as students need to go beyond their academic studies to solve social problems. The research demonstrates that educational institutions serve as essential environments that help students develop their capabilities to become active members of their communities. In the study by Farrell et al. (2022), literacy education continues throughout a person's life because it serves as a fundamental requirement for active citizenship, which people practice across all life stages. The authors maintain that educational programs should be developed according to the particular requirements of each community's residents. The research demonstrates that people need functional literacy skills to understand their rights and responsibilities, enabling them to participate fully in society.

## **5. Conclusion**

Based on the statistical analysis of the research findings, here are the following conclusions: (1) the level of functional literacy among college students in UM Panabo College has a grand mean of 4.35 and a  $SD = 0.50$ , corresponding to the descriptive equivalent of strongly agree, indicating that the respondents consistently demonstrate strong functional literacy skills in everyday reading and writing, mathematical and measurement tasks, and special literacy tasks; (2) the extent of civic responsibilities practiced by the respondents has a grand mean of 4.46 and a  $SD = 0.53$ , which correlates to the descriptive equivalent as strongly agree, signifies that college students regularly exhibit student, political, and social responsibilities; and (3) the  $r$ -value between functional literacy and civic responsibilities is 0.803 with a  $p$ -value of 0.000, which is lower than the 0.05 level of significance. This result leads to the rejection of the null hypothesis, indicating that a strong and significant relationship exists between functional literacy and civic responsibilities among college students at UM Panabo College. Hence, functional literacy is positively associated with civic responsibility among UM Panabo College students. While the relationship is statistically strong, it should be interpreted as correlational rather than causal. The findings highlight the importance of integrating literacy development with civic education, but results must be read cautiously due to methodological limitations. Future research should use standardized literacy tests, expand to larger, more diverse populations, and employ regression or longitudinal designs to clarify the mechanisms underlying this association.

The researchers made several recommendations based on the study's findings and conclusions. LGUs should develop community programs that integrate functional literacy development with civic awareness campaigns, but avoid assuming direct causation. LGUs, policy-makers, academic institutions, and community leaders should plan outreach programs for Panabo City and the Davao Region that combine enhancing comprehension and critical analysis skills with civic education on topics such as interpreting ballots and government documents. Programs may include workshops, reading drives, public forums, and activities that allow students to apply their skills to real community concerns.

Academic institutions should encourage interdisciplinary civic projects that allow students to apply literacy skills in real contexts. School administrations could promote partnerships, such as between language/communication and social/political science departments to create research-based community initiatives aligned with local youth needs. Teachers can apply learner-centered strategies that connect functional literacy skills to real-life civic contexts. Teachers can adopt approaches such as debates on local issues, analysis of policy documents, community-based research, and reflective writing to strengthen both literacy skills and civic engagement.

Students should engage in leadership opportunities that promote social responsibility and community development. Students should be encouraged to take on roles in schools, organizations, and community groups, including organizing volunteer

programs, leading awareness campaigns, or initiating improvement projects. Future researchers should design studies with objective literacy measures, larger samples, and controlled variables to strengthen evidence. The study can serve as a foundation for future researchers to explore related variables, test interventions, or expand to other institutions or regions in the Philippines.

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### **Conflict of Interest Statement**

The authors declare that they have no relevant financial or non-financial interests to disclose. No author has received employment, consultancies, honoraria, stock ownership, paid expert testimony, or holds patent applications related to the subject of this research. Likewise, none of the authors hold memberships in organizations, advocacy groups, or government boards that could create dual loyalties or bias in interpreting the results.

This study was conducted independently, and no external entity influenced the design, data collection, analysis, or reporting of the findings. The absence of conflicts ensures that the conclusions presented reflect the authors' unbiased interpretation of the data and uphold the integrity of the scientific process.

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